ALAEA

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Australian Licenced Aircraft Engineers Association Submission to the Minister for Infrastructure, Transport, Regional Development and Local Government – on a National Aviation Policy Statement

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About the ALAEA

The ALAEA is an organisation founded in 1960 to advance the professional, technical and industrial interests of Aircraft Maintenance Engineers who are licensed by the Civil Aviation Safety Authority (CASA) to certify for work performed on aircraft within Australia. Currently the ALAEA has 4000 members employed in all sectors of the industry – in the major airlines as well as in regional operations and the general aviation sector.

The Australian Licenced Aircraft Engineers Association (ALAEA) is the professional and industrial employee organisation representing Licenced Aircraft Maintenance Engineers and in certain respects unlicenced aircraft maintenance engineers and other airline technical staff.

The ALAEA is the only aircraft maintenance union specifically and only representing aviation industry maintenance personnel. Our membership of approximately 3500 includes a number of; Licenced Aircraft Engineers who are owners of their own aircraft maintenance businesses, contractors and employees.

The ALAEA appreciates the opportunity to assist the Minister in his consultation over the new National Aviation Policy and encourages the Government to recognise the importance of maintaining the high standard of aircraft maintenance performed in Australia and its fundamental role as the primary factor in ensuring aircraft are safe to fly (airworthiness) and Australia's enviable safety record is maintained.

The motto of the ALAEA is:

"To undertake, supervise and certify for the safety of all who fly"

The ALAEA has a vested interest in advancing the aircraft aviation industry's maintenance operations, preserving and enhancing safety standards, preserving and increasing the availability of skilled labour and maintaining worlds best practice in competency based trade training.

Introduction

1) *"Australia has a world-renowned record of aviation safety and security. Catering for the growth of the industry while furthering the safety and security of Australia's aviation industry will be a continuing challenge for industry and the Australian Government into the future."*[1]

2) The aviation industry in Australia is more noticed through its pilots, air traffic controllers, flight attendants and airlines and not so much its maintenance personnel. This phenomenon is probably due to the public impression gained through the glamorisation and portrayal of such occupations by moviemakers and other media.

3) Unfortunately, due to such an impression, sometimes the economic, technological and safety contribution that the engineering part of the industry makes is given second or third priority by Governments and the public. For whilst the roles of pilots, flight crew and other aviation stakeholders are important in their own right in their contribution to the safety of the travelling Australian public and the economy, unless the container they fly in is maintained to the appropriate standard of airworthiness the roles they play may never "get off the ground" so to speak.

4) The aviation industry maintenance sector particularly in heavy maintenance of large aircraft has contributed large amounts of capital, employment, training, and wages to the Australian economy resulting in a significant economic multiplier both in skills resources and financial value.

5) The ALAEA agrees with the Minister's words in his Introduction to the "Issues Paper" *where he* stated: *"The aviation sector is an essential part of the efficient operation of the Australian economy.* We would add to that the significance of the aviation industry to the defence of Australia.

6) "*The sustainable development of our aviation industry largely depends upon private investment and the effective management of the businesses which make up the sector."*

7) *"Governments play a vital role ensuring appropriate policy and regulatory frameworks are in place, with settings that support the development of the sector consistent with the broad objectives of efficiency, safety, security and environmental responsibility."*

[1] "Towards a National Aviation Policy Statement-Issues Paper" April 2008, Commonwealth Department of Infrastructure, Transport, Regional Development and Local Government.

8) We agree with the above statements by the Minister as well and that is why it is important that to gain the optimum benefit for the national interest from aviation, “maintenance of aircraft” must be addressed in the policy.

9) The ALAEA believes the “national interest” as such is more than economical benefit. There are other factors to consider such as the strategic defence considerations, the environment and safety factors. On that basis one should not ignore the other aviation industry being the defence-based industry. Alternately the civil aviation sector needs to be considered as part of Australia’s defence capability.

10) The National Aviation Policy should take a holistic approach and consider the “aviation industry” as including the defence-based sector. Such an approach should optimise the skills base, future training opportunities for young Australians and Australia’s defence capability in the national interest.

11) In this submission “light maintenance” means the inspection, repair and maintenance of aircraft that are in operational service and generally consists of the work done between flights sometimes referred to as “line maintenance”.

12) In this submission “heavy maintenance” means the inspection, repair and maintenance of aircraft that are taken out of operational service and generally consists of the work done between the aircraft being taken out of service and released to service. It is normally scheduled but may arise from unforeseen circumstances. Some Heavy Maintenance checks e.g. “D” Check for B747 aircraft may be approximately 45,000 manhours or more and involve the complete dismantling back to the airframe and reassembly of the aircraft.

13) In this submission where “Qantas” is referred to it includes its Australian based subsidiaries e.g. Jetstar, Sunstate etc.

Executive Summary

(Note: The following references to paragraphs within the document are a guide only as some topics overlap it is recommended the document be read as whole.)

The ALAEA recommends:

- "Aviation maintenance" should be recognised within the policy as an essential building block of the airworthiness of aircraft hence the safety of the public. (see paragraphs 8 to 10 and

- "Aviation maintenance" should be recognised within the policy as an essential tool in reducing and managing carbon emissions. (see paragraphs 216 to 227)

- The policy should state that it is essential aircraft light and heavy maintenance capabilities be consolidated and maintained within Australia. (see paragraphs 18 to 25 and 87 to 88)

- The policy contains a statement that the Commonwealth Government's spending on Government contracts and domestic air travel will be fair and equitable and allocated on a formula basis. The formula will take into account the domestic market share of the relevant airline, its capacity to feed that market by its international operations, its contribution to employing Australian based workforce, its workforce training commitment including apprentices, its commitment to the light and heavy maintenance of aircraft within Australia and the price of the service. (see paragraphs 14 to 25)

- The policy contain a statement that airlines who use Australian airspace are expected to maximise their contribution to the Australian economy by establishing and maintaining maintenance capabilities within Australia employing Australian based workers and to comply with Australian aviation maintenance standards. (see paragraphs 26 to 38)

- The policy contain a statement recognising the important role Qantas has played as the national airline, its contribution to the economy and the Government's interest in keeping Qantas as an Australian based airline and that its core aircraft maintenance for each aircraft type it operates must be performed and kept within Australia. (see paragraphs 31, 38, 46 to 88)

- The policy contains a statement that regulatory reform will not lower Australian standards of competence, certification, maintenance and/or safety. (see paragraphs 155 to 167 and 184 to 192)

- The policy contains a statement that the statutory 'systems of maintenance' schemes, certification standards, competency requirements, in civil and military aviation will be consistent and aligned. (see paragraphs 107 to 122)

- The policy contain a statement that the construction or development or redevelopment of any airport must contain reserved space for the construction of maintenance facilities (e.g. hangar space, aircraft washing facilities, engine run bays) to at least cater for the light maintenance of the aircraft traffic through the airport. (see paragraphs 123 to 129 and 224 to 225)

- The policy contains a statement that the Commonwealth Government supports the establishment and growth of group or co-operative training arrangement's (including maintenance training) in the aviation industry and will assist parties establish and manage such schemes through appropriate funding and incentives. (see paragraphs 89 to 106)

- The policy contain a statement that the regulator (CASA) will communicate to persons with responsibilities under the CAA or it's Regulations within a relevant corporation any concerns, problems or alleged breaches arising from an inspection, audit, accident or incident. (see paragraphs 168 to 175)

- The policy contain a statement that the regulator (CASA) will maintain a strict regime of inspection, audit and ensure compliance with the CAA and it's Regulations and the Schemes and other arrangements required by the legislation without regard to commercial or political influences. (see paragraphs 168 to 181 and185 to 193)

- The policy contains a statement that the Government will continue to remain party to the ICAO standards whilst recognising they are the global minimum standard and where Australian standards are better or higher they will be maintained. (see paragraphs 184 to 192)

- The policy contain a statement that an airline that performs light and heavy maintenance of its aircraft within Australia will be given carbon credits in recognition that the efficiency of airframe and engines is being maintained to the acceptable Australian standard so as to maximise fuel burn efficiency hence contributing to reduce carbon emissions. (see paragraphs 218 to 229)

The Australian Aviation Industry

11) The aviation industry in regard to maintenance is currently segmented into sub groups mainly by legacy concepts and the structure of relevant statutes such as the Civil Aviation Act 1988. There is the Regular Passenger Transport Sector mainly catering for mass passenger movement on large jet aircraft, regional airlines and 'general aviation'(GA). Ironically there are differing standards of compliance, maintenance quality, competence and the perception of risk to safety for each sector.

12) Whilst the potential for a huge catastrophe exists if RPT aircraft ever crash, it is what is known as the 'general aviation' sector that has the most incidents and accidents and yet we see the vocal lobby groups from the GA sector calling for less regulation and scrutiny rather than more.

13) Also it is somewhat ironic that it is easy to associate a potential air crash with the catastrophe of loss of life of those on board with little consideration for those that it may fall on, when in fact the potential for a massive disaster is if an aircraft crashed into a heavily populated area. Hence the issues of whom and what can fly in what airspace and what level of maintenance and scrutiny should be applied to the various users of airspace.

14) Australia's international and domestic aviation sector is dominated by Qantas. It has been given pre-imminence from the very simple fact it was owned by the public as a Government owned airline. The Qantas corporatisation and privatisation was achieved through considerable Government funding (the public purse), something which is easily forgotten in today's media spin on the importance of the obligation to shareholders. The trade-off for that kick-along was the Qantas Sale Act 1992, which is designed to preserve Qantas as the national carrier and Australia's international aviation flagship and the economic benefit that brings.

15) The Qantas Sale Act 1992 keeps the Qantas name as an Australian brand, obliges Qantas to be Australian controlled, obliges Qantas to maintain the majority of its operations (including aircraft maintenance) within Australia. However despite these obligations the Qantas Sale Act is deficient in that it effectively allows Qantas to 'offshore' up to 50% of its total operations.

16) This may well mean there is no restriction on it sending all its "maintenance" offshore as it does not make up 50% of its "operations". Going with that work, is the economic benefit

that brings and contribution to Australia's defence capability in the national interest effectively lost to Australia.

17) For example Qantas has recently purchased the A380 aircraft to replace its B747 fleet. It has entered into a joint venture in Malaysia to maintain the A380. There is no Qantas commitment currently to having an A380 heavy maintenance capability in Australia. If Qantas does not do so then the opportunity for Australian apprentices and trainees to train and work on what is the world's most advanced civil aircraft technology will severely be diminished if not lost altogether and the contribution to the Australian economy lost.

18) Qantas quotes its contribution to the national interest in terms of "Access Economics estimates that every additional $1 million in revenue generated by the Qantas Group results in an additional $2.1 million in Australian output – of which $1.1 million represents flow on benefits to non-aviation related activity – and an additional 8.4 jobs including (both aviation and non-aviation jobs)". Applying this in reverse it appears that for every $2.1 million dollars lost 8.4 employment opportunities are lost."

19) In regard to Licenced Aircraft Engineers at Qantas it employed approximately 2001 in March 2005 and in June 2008 employed approximately 1587. A loss of 414 positions, which equates to approximately $38 million in salaries lost to be spent in the economy. In addition it has increased its outsourcing of heavy maintenance work overseas from 2% in 2002 to approximately 20% of its maintenance programme in 2008, which approximately equates to between $40 and $50 million dollars of work performed overseas.

20) This means that somewhere between $78 and $88 million has been lost to the Australian economy and applying Qantas own quote from Access Economics this results in a negative impact between 595 to 672 flow on jobs in the aviation and non-aviation sector, in addition to the jobs lost at Qantas itself, 414.

21) There is no doubt Qantas has a significant influence on the national interest in monetary terms either way. The Qantas Sale Act 1992 should remain in place but be amended to specifically address retaining its core aircraft maintenance work both light and heavy maintenance within Australia.

22) Whilst we have used Qantas as an example it is important to realise that Virgin Blue does not have the same obligations to act in the national interest placed upon it as Qantas. Nor does any other international carrier flying in and out of Australia. In fact Virgin Blue does not act in the national interest to the level that Qantas does as it sends all its heavy maintenance economic benefit overseas to Malaysia and New Zealand.

23) Qantas, because of inputs into the economy, particularly in aircraft maintenance, and maintaining a highly developed skill base of aircraft maintenance expertise should be provided with concessions for taxation and preferential Government contract treatment over Virgin Blue or any other such airline.

24) Alternately if Qantas were released from its obligations under the Qantas Sale Act to align with Virgin Blues status then the danger is the lowest common denominator prevails and all aircraft work maybe lost to overseas maintenance providers and that is not in the national interest, therefore not an option.

25) It is however in the national interest to optimise the contribution by airlines such as Virgin Blue up to the standard required of Qantas.

- Do Australia's international air services policies serve Australia's national interest and balance the need to have an Australian based industry with robust competition from international competitors?

26) The answer to the above is simply "no". The above comments on Qantas and Virgin Blue illustrates the economic importance to the national interest of performing of maintenance on aircraft in Australia by any airline and Government policy should be aimed at maximising the maintenance opportunity hence the economic multiplier, on aircraft that travel to and from and within Australia from overseas ports. Such an approach would in effect ensure those aircraft were at least maintained to Australian standards of airworthiness compliance and as safe to fly over Australian population as Australian compliant aircraft and maintain the Australian skill base.

- How might the Australian Government best ensure all international airlines flying into Australia maintain the highest of safety standards? How might the Australian Government most effectively monitor and enforce safety standards of airlines that lease aircraft rather than operating their own aircraft?

27) See above 26). Approvals to fly in and out of Australia should require each airline to be subject to the CAA whilst in Australian airspace including maintenance provisions of the Act and its Regulations.

28) To that extent overseas based and maintained aircraft should be required to undergo inspection and transit checks by Australian trained and Licenced aircraft engineers. Any defects found to be rectified before flying by an Australian registered CAR30 certificate holder.

29) Those that lease aircraft do so on two basis for maintenance purposes. A commercial arrangement for a full lease whereby the maintenance responsibility rests with the aircraft

owner or a commercial arrangement whereby the operator of the aircraft rather than the owner maintains the aircraft. In either case for an Australian registered aircraft a CAR30 Certificated organisation or person must maintain them.

30) For overseas based aircraft see 27) and 28) above.

- What should our negotiating priorities and approach be in the future?

31) It is the ALAEA's view that an airline that maximises its contribution to the Australian national interest should be given preferential treatment in access over one that doesn't. That is why as long as Qantas does not send its core heavy and light maintenance work overseas it should be given protection from competition on its prime routes in and out of Australia.

- How might the Australian Government continue to develop improved competition and access to services while maintaining appropriate levels of aviation safety and security?

32) See above 26) 27) and 28).

- How will new routes, technology and business structures change the profile of Australia's aviation market? Given Australia's evolving aviation sector, to which markets should the Australian Government seek improved access?

33) See above 17). The most accessible routes to Australia will be in South East Asia and China however such accessibility will encourage in aircraft maintenance joint ventures as mentioned in 17) above and could see all Australian heavy maintenance being performed overseas. If so whilst an airline if Australian based may see increased profits the benefit to the national interest may be minimal as that airline spends more of its money overseas. The Australian tourism industry may benefit but the aircraft maintenance industry may see its demise.

- Are the current restrictions on foreign airlines accessing the domestic market appropriate?
- Should we be encouraging more international airlines to operate from Australia to third markets?

34) The ALAEA believes the current restrictions on foreign airlines are almost appropriate. Foreign airlines should be required to have an Australian CASA approval based on complying with Australian aircraft maintenance regulation and employ Australian based and qualified aircraft maintenance engineers to ensure such compliance.

35) In addition should a foreign airline wish full access to Australian domestic routes it must perform some of its operational maintenance checks, light and heavy maintenance of those aircraft within Australia employing Australian engineers.

- Does the deregulated domestic airline market remain the best model for delivery of Australia's interstate air services? Are there any constraints on the ability of Australian-owned airlines to remain competitive with foreign-owned airlines in the Australian market?
- Do the existing criteria strike the right balance between allowing Australian airlines to access global investment markets and promoting an Australian-based aviation industry?

36) The ALAEA believes that if the Government policy were to continue supporting a deregulated domestic airline market it needs to identify and determine what the gain or loss would be to the national interest and in its considerations it should examine the economic multipliers of each sector of the domestic industry including the maintenance sector.

37) In any case foreign-owned airlines as a condition of access to Australian routes should be obligated to optimise their contribution to the Australian economy and aviation industry by being required to train and employ Australian based labour including engineers and have their light and heavy maintenance of aircraft performed within Australia in accordance with Australian law.

38) The Qantas Sale Act if it were to be amended to allow Qantas greater opportunity to attract investment then more specific obligations should be placed on Qantas in regard to keeping the majority of it's operations within Australia. Toward that aim its maintenance of aircraft must be performed within Australia and outsourcing of maintenance overseas be restricted.

Addressing Skills Needs In The Aviation Industry

- What strategies should the industry adopt to attract, retain and plan for their future skills needs to remain competitive in a tight labour market, and how can these be improved?
- What are the long-term training needs for the Australian aviation industry? Where will the future pressures lie? How do we ensure the industry remains internationally competitive in retaining key staff and in attracting new entrants to the workforce?

39) The following commencing at 39) are extracts from the ALAEA's *"Submission to the Senate Committee for Employment, Workplace Relations and Education Inquiry into Workforce Challenges In the Transport Industry"* March 2007.

40) Since the writing of the following Qantas has increased the outsourcing of heavy maintenance checks to overseas maintenance repair organisations from approximately 2% in 2002 to approximately 20% in 2008. The ALAEA estimates the cost to be between $40 and $50 million. Qantas has acknowledged to the ALAEA that it is approximately 270 aircraft engineers' positions short of meeting its workload for the year.

41) Virgin Blue outsource 100% of its aircraft fleet's heavy maintenance checks to overseas organisations, according to media reports approximately $30 million in B777 work p.a., and approximately 48 B737 aircraft to air New Zealand at an approximate value of $20 million p.a. The ALAEA estimates that Virgin is approximately 250 aircraft engineers short of meeting its heavy maintenance workload.

42) ***'"Line Maintenance" and "Heavy Maintenance" Trade Training Resources***

43) Operating airlines in Australia have two basic types of aircraft maintenance resources. Line Maintenance and Heavy Maintenance.

44) Line Maintenance is the maintenance required and performed on aircraft whilst the aircraft is in service flying between destinations on a day- to-day basis. It consists mainly of inspection and minor maintenance repair to keep an aircraft airworthy. There is little trade training opportunity in a Line Maintenance environment.

45) Light/Heavy Maintenance involves major inspection, repair and replacement of components and airframe usually in a hangar or fixed environment in short or long periods whilst the aircraft is out of service. Heavy Maintenance is usually supported by significant

component workshops. Such work is more conducive to quality apprenticeship training and has been the mainstay of trade labour supply hence LAMES.

46) "Heavy Engineering - Good Training Resource – National Interest

47) It is recognized that some LAMEs may have gained their training and accreditation by other means rather than through the heavy maintenance path. However, the importance of the relationship between an efficient heavy maintenance operation and its consequential effects on the line maintenance environment is often overlooked in today's modern aviation industry and to do so ignores many fundamental principals in the developmental and educational processes required to produce aircraft maintenance engineers both in Australia and worldwide.

48) The heavy maintenance operations of Australia's major airlines allow our engineers to develop the skills and techniques that are used extensively in the line maintenance environment. These skills must be learnt and developed and must form the basic building blocks of knowledge experience that are relied on everyday.

49) Heavy maintenance by its very existence provides engineers with the opportunity to examine and experience in minute detail the mechanical, structural and avionic systems that together constitute highly complex RPT aircraft.

50) It is in such an environment that the necessary safety culture has time to develop and be nurtured into a fundamental cornerstone of an engineer's future life. The ethos that "near enough is never good enough" has to be learnt and the consequences for its neglect understood by the engineer or the apprentice.

51) It would not be unreasonable to suggest that such schemes enjoy the support of the majority of practicing engineers currently employed in the Australian aviation industry and should form a compulsory part of the education and training of all prospective aircraft maintenance engineers in this country.

52) General aviation engineers enjoy the luxury of a constant intermix of exposure to the heavy maintenance and line maintenance environments and their expertise benefits from such exposure. During the heavy maintenance phase they have the ability to experience the aircraft in its most fundamental forms and its most basic components. Knowledge gained here can then be translated into an effective, troubleshooting, decision making process in the line environment because the systems and their interrelationships are

understood and appreciated in the necessary detail to ensure safety while meeting airline schedules.

53) *Indeed anecdotal evidence from at least one of Australia's major airlines tends to suggest that heavy maintenance engineers are highly regarded and actively sought to fill line maintenance vacancies both within Australian line stations and in foreign ports as station engineers and technical representatives.*

54) *The heavy maintenance operation exposes engineers to tasks and techniques not seen in the line environment. Maintenance documentation such as structural repair manuals and technical drawings become part of the maintenance engineer's way of life and the information that they contain can be used in making decisions effecting the current and future maintenance operations applied to aircraft.*

55) *Any maintenance system that condones the education of maintenance personnel without an adequate grounding in the fundamentals of heavy maintenance risks producing a workforce whose skills and experience is severely restricted and can often hinder the maintenance process. An analogy to this is the case of General Practitioner doctors, could they do their role effectively if in their training they had never looked at a body and its internal workings and components?*

56) *Line maintenance LAMEs often have occasion to consult with heavy maintenance personnel concerning a line maintenance task as their exposure to certain tasks is less detailed than heavy maintenance LAMEs. They have the current knowledge on the most appropriate process to accomplish certain tasks because they are exposed to them on an ongoing basis. Without this opportunity to confer Line maintenance LAMEs work becomes progressively more difficult to perform and time consuming and consequently more expensive to the operator.*

57) *Australia currently has well established heavy maintenance bases for aircraft. There are thousands of people employed in the heavy maintenance sector. Unfortunately Licenced Engineers positions have decreased in recent years.*

58) *The ALAEA is aware that major airlines have an increasing demand and workload for heavy maintenance whilst there is a growing shortage of the appropriately skilled labour in Australia. The major carriers are investigating ways to cope now and in the future with their heavy maintenance needs including such options as heavy maintenance being conducted off shore.*

59) Such moves have resulted in significant job losses in Australia and a severe diminution of the core aviation expertise in Australia. One of the flow on effects maybe that in the future the appropriate qualified people would have to be imported into Australia for both heavy and line maintenance where in essence we should be seen as a bona fide source of expertise, that is, an exporter. In fact, currently, Australian airlines and maintenance providers e.g. Forstaff Aviation Avalon are sourcing an increased amount of labour from overseas.

60) It is the ALAEA's view that it is in the National Interest for Heavy Maintenance of aircraft to be maintained, enhanced and developed in Australia.

61) The Government should ensure by the appropriate legislation that airlines providing services in Australia and from Australia contribute to the maintenance of expertise in Australia.

62) Severe disincentives should be put in place to guard against moving heavy maintenance out of Australia. Airlines who have Heavy Maintenance operations have been the mainstay resource for apprenticeship trade and Licence training.

63) Whilst ever Australia has Heavy Maintenance facilities there will be an apprenticeship training resource for the airline/aircraft industry.

64) In looking at the above issues questions it is important to be cognizant of the history in maintenance training capability.

65) "Restructure of the Airline/Aircraft Industry – Detrimental to Training of Skilled Labour?

66) A significant and major driver of Licenced Aircraft Engineers skills shortage is the structure of the market place, economy and the trend toward contracting out. In the late 80's prior to privatisation and corporatisation the industry consisted of two Government Airlines i.e. Qantas and Australian Airlines, one private major Airline i.e. Ansett a number of regional and charter airlines (e.g. Hazleton, Eastern, Sunstate, General Aviation (GA) being the smaller aircraft operators) and the Commonwealth Aircraft Corporation later to be renamed AASTAS being an aircraft manufacturing and repair organisation also existed.

67) The Government organisations Qantas, Australian, Dept of Defence, AASTAS all had significant intakes of apprentices and trades training programmes partly

because there existed a need to replace labour, a sense of public service to the wider community to provide training and job opportunities for school leavers and it seemed like the right thing to do at the time.

68) *Private industry in a way was "embarrassed" into keeping their apprenticeship and trade training numbers up as significant public pressure could be brought in the market place against a player who wasn't doing the right thing by the community whose standard was in fact set by the Government entities and the two airline policy. Whilst the public through Government effectively owned the major airlines in Australia the majority of apprenticeship and trade training in the airline/aircraft industry was funded by the public.*

69) *In the early 90's Qantas and Australian were privatised and merged resulting in approximately 4000 redundancies not all in trades areas. ASTAAS closed its doors after dwindling profitability and continual industrial unrest. What were three separate apprentice training organisations all significant employers in numbers terms of apprentices became one. The apprentice intake was reduced accordingly over the following years as Qantas embarked on cost cutting programmes and enhancing profitability for the merged entity "Qantas". Qantas was then corporatised and publicly floated on the share market.*

70) *With effectively, the two previous apprentice training resources being halved, that entity being exposed to the nuances of the fluctuating share market, the need to continually raise profits to attract shareholders, the resulting continual cost cutting and need to renew the 'fleet' saw less of a "desire" to fund "non-core business".*

71) *Unfortunately, providing apprenticeship training and young people employment opportunity is considered as "non-core business" by corporations. Whilst the Qantas Sale Act placed obligations on the corporation to maintain its business management operations in Australia it did not provide obligations to maintain apprenticeship and trade training positions.*

72) *During the above period successive Governments cut back Defence funding for apprenticeship intake but Ansett, Qantas and the regional airlines still maintained a level of apprenticeship intake. The Government Defence Depts. also set about contracting out maintenance, hence trade training opportunities.*

73) *In 2000 Virgin Blue Airlines entered the Australian airways market. It contracted a subsidiary of Flight West Airlines in Queensland "Jet Care Pty Ltd" to maintain its aircraft. The FlightWest group of companies considering their relative size was a significant contributor to apprenticeship opportunity numbers.*

74) *In 2001 Ansett Airlines ceased operations, including some its associated regional airline companies and FlightWest. A significant number of apprenticeship training opportunities were lost.*

75) *Some of Ansett's apprentices who had not finished training were taken on by Qantas with a subsequent lowering of an already low Qantas apprentice intake. Jet Care continued to exist and was later purchased by Patrick Corporation but its apprenticeship training was relatively insignificant compared with the size of the aircraft fleet it maintained for Virgin Blue. Virgin Blue's subsidiary maintenance company Virgin Tech is also an insignificant provider of apprentice training resources as both organisations are ostensibly Line Maintenance providers. Within a 9-year period the industry saw a major decline in apprenticeship training opportunities and resources.*

76) *Despite major financial incentives provide by the Queensland Government Virgin Blue has not come anywhere near the apprenticeship training opportunity levels of Ansett or Qantas. Whilst Virgin Blue derives almost all of its income from Australia it continues to outsource its heavy maintenance of aircraft to New Zealand denying employment opportunities for young people in Australia. This has left Qantas as the only major provider of apprenticeship training with a significant trade training resource capability.*

77) *Qantas has established major Heavy Maintenance facilities in Brisbane and Avalon Victoria but with subsequent closures of Heavy Maintenance in Sydney.*

78) *New airlines entering the Australian market do not generally train Australian apprentices.*

79) *In effect, the moderator in the supply of labour, which used to be the Government operations has been marginalized.*

80) *There now exists a massive inequity in the training and supply of skilled labour.*

81) *The supply heavily relies on Qantas who are unlikely to train surplus labour to their needs. An inequity is created when other operators who do not contribute to the supply of skilled labour poach Qantas's skilled labour and the burden then continues to fall on the major operator as they have to put on more apprentices/trainees to cater for the attrition.*

82) *Whilst the industry suffered a significant restructuring the major airlines are using more and contracting out. For example Qantas outsourcing of heavy maintenance aircraft work overseas has steadily increased over the past five years. In March 2006 Qantas made redundant approximately 400 aircraft engineer positions in Sydney, 256 being Licenced Aircraft Maintenance Engineers as a result of a cost cutting campaign. In Qantas Board's and engineering management's view this option was the lesser of two evils in that some factions within Qantas supported the total offshoring of Qantas Heavy Maintenance to other MROs as recommended by to it by consultants Seabury Airline Planning Group.*

83) *Overseas MROs performing work on Australian aircraft do not train Australian Apprentices as there is no obligation to and it would make them less competitive.*

84) *Similarly local maintenance contractors to Australian or overseas Airlines operating in Australia do not have the incentive or obligation to provide training opportunities for Australian apprentices.*

85) *A further restructuring of the industry may occur if and when Qantas is bought by the overseas funded (hence controlled) private equity consortium. Such private equity consortiums are known for cost cutting, asset stripping and sell offs. If this happens the only Australian airline/aircraft industry apprentice training resource will more than likely cease to exist in any significant format.*

86) *With Qantas now 30,000 manhours short of meeting its Heavy Maintenance workload a drive in Qantas to reduce costs further, catalysing further outsourcing it is unlikely such a consortium would spend money on increasing the workforce, replace capital and equipment or replace the skills necessary to maintain a Heavy Maintenance operation in Australia at all. Then no major apprenticeship training resources will exist in the aircraft industry in Australia.*

87) *Herein lies a fundamental matter of public interest for the Government to address.* ***Is it in the national interest to maintain an aircraft heavy maintenance hence trade training capability in Australia or not?***

88) The ALAEA's view is that it is in the national interest to do so for the following reasons:

a. Australian quality of training, trade competence and quality of workmanship in the aircraft maintenance industry is known worldwide for it's high standard and directly correlates to Australia world leading aircraft safety record.

b. Supply of suitably qualified and competent overseas labour cannot be guaranteed

c. Australia from a defence strategic viewpoint needs to have a capability to maintain aircraft.

d. Aircraft maintenance is at the forefront of technological development hence the generator of high technology skilled labour supply.

e. Airline/aircraft maintenance is a significant contributor to GDP

f. Australia has the potential to become a net exporter of labour services for aircraft maintenance industry worldwide

g. It is detrimental to the Australian balance of payments to become a net importer of aircraft maintenance labour services i.e. if we offshore aircraft maintenance overseas because of inadequate Australian labour supply it becomes an import cost.

h. Aircraft Heavy Maintenance is the training resource and environment that provides the appropriate quality training experience and competency."

- Are proposals such as a national industry run flying school to train flying instructors worth investigating and, if so, how might such a school operate?
- How should the Australian Government and industry work together to ensure the needs of the aviation industry are taken into account in its broader skills framework?

89) The following is an extract from the ALAEA's *"Submission to the Senate Committee for Employment, Workplace Relations and Education Inquiry into Workforce Challenges In*

the Transport Industry" March 2007 and goes to addressing the above question but in regard to maintenance training.

90) "Industry Training Co-operation and Coordination

91) The industry already has a number of CASA approved Training Providers for example see Appendix 3. Currently these resources do not provide a coordinated response to skills demand particularly for new apprentices/trainees. Once approved by CASA they basically run their own show and are subject to the financial constraints and business philosophy of the owning company or airline.

92) The Association believes that the lack of new industry entrants is reaching a critical level and as such future training should be consolidated and coordinated on a national basis to ensure a steady flow of skilled aviation personnel and maintain Australia's competitive expertise in aviation engineering and avoid the "Catch 22 training decay" syndrome.

93) However to do this would either require a large incentive (financial subsidy) type approach or alternately a disincentive (regulatory) approach.

94) The ALAEA proposes a hybrid approach to bring equity in providing the supply of competent labour. Such approach is similar to the carbon banking concept for greenhouse emissions. In other words you get rewarded for training and punished if you don't.

95) Such similar systems were considered by the NSW Government in 1980-82 in regard to the coal industry whereby it proposed to place obligations on coal companies seeking new leases to train a quota of apprentices to alleviate the skills shortage at the time and poaching of trade labour thus driving up labour costs by competing coal companies. Such a disincentive approach resulted in the NSW Colliery Proprietors establishing the NSW Coal Industry Group Apprenticeship Scheme which trained approximately 400 apprentices from 1982 to 1988. In other words individual coal companies pooled resources to overcome the proposed disincentive. Without such a "stick" type approach it is unlikely that the industry would have done anything to contribute to averting the looming trade skills shortage at large.

96) Such an approach is now needed for the Aviation industry to correct the inequity in supply of training resources and the demise of Government contribution to aircraft industry trade training.

97) Any aircraft operator who wishes to operate into Australia should be required by regulation to train and hire Australian labour.

98) The Civil Aviation Act 1988 should be amended to enable regulations to be made to require an aircraft operator to either train or facilitate the training of aircraft maintenance engineers through the Australian vocational training system.

99) Number of trainee quotas should be established depending on the size of the operation and a dollar value for the quota. Should the operator not meet the quota then they would be required to pay to an approved Aircraft Maintenance Vocational Training provider the dollar value so set for the shortfall in the quota.

100) The approved Aircraft Maintenance Vocational Training provider would then be obligated to use such money contributed to provide training positions for Aircraft Maintenance apprentices/trainees. For example Qantas performs heavy maintenance work and has apprentice training resources in Australia. Virgin Blue sends its heavy maintenance offshore and trains a very small number of apprentices given the size of Virgin's aircraft fleet. The quota for Virgin is say 40 apprentices it can only cater for 20 in its or its contractors Line Maintenance operation given its lack of desire to perform heavy maintenance on its aircraft in Australia it would then have to pay Qantas or another approved Aircraft Maintenance Vocational Training provider the balance of the dollar value of the quota and Qantas would then train the balance of the apprentices. There would be no obligation on either party to employ the apprentices once completed their time.

101) Conjunctively an industry Group Training Scheme could be established by co-operation of the CASA approved training providers to take responsibility for the Employment of apprentices and trainees in the aviation industry under contracts of training (apprenticeships) and would use industry stakeholders to provide the practical requirements of the apprenticeship.

102) The Joint Venture would offer trainees to all industry operators, particularly those who:

a. *are reluctant to employ trainees up to a full four year term for economic reasons or fluctuating workloads*

b. *are reluctant to employ due to previous problems*

c. *have restricted training facilities*

d. *operate specialised processes and are unable to fully train in the breadth of skills necessary to reach trade standard.*

103) *The trainees would be equipped with their tools, overalls, safety boots and glasses, and the joint venture would arrange workers compensation, taxation, superannuation, sick leave, annual leave, TAFE fees and attendance.*

104) *Following completion of their training, the Industry Group Scheme would place trainees in the employment of operators who have a need for trained personnel. Participant operators in the scheme would have first priority in employing graduating apprentices.*

105) *The joint venture scheme would take the responsibility of recruiting, and converting the qualifications of persons qualified in allied trades. Practical experience and placement after training would be in the same terms as above.*

106) *The venture could co-ordinate the employment, conversion of qualification, and training of foreign trained aviation personnel."*

Other Innovations to Maintain and Increase the Skills Base

107) As a former part of the British Empire, Australia followed British traditions, both in apprentice training and LAME licensing such that the licence reflected trade alignments and training streams. They preserved this pattern in RAAF training and for forty plus years after WW2 the RAAF trained apprentices for the service and they became the backbone of the RAAF maintenance teams. This type of traditional training was closely aligned with the civil sector and the skills were portable.

108) Former RAAF service people now members of the ALAEA report that in the early 1990's the RAAF traditional apprentice system was abandoned in favour of a task training regime and in the view of a substantial number of service men and women, reduced the standard of competence to an all time low such that current graduates from such training lack appropriate skills and experience and need a large amount of retraining for employment in the civil sector.

109) In 2008, the RAAF has moved to upgrade their training facilities and recruitment training at Wagga and hopefully is addressing the problem. The standard of training and competency RAAF aircraft maintenance personnel has a major influence on their employability in the civil sector and anecdotal reports received by the ALAEA claim that many ex-RAAF personnel are virtually unemployable in the civil arena at this time without substantial retraining and competency assessment.

110) As stated above 66) and 67) the Commonwealth Government up until 1990's effectively funded the training of aircraft engineering apprentices. Its only direct funding of aircraft engineering apprentices now exists in the ADF. However the training in the defence forces and in the civil arena are different in content and competency, particularly in Licensing.

111) Such differences emanate from two factors firstly the educational component and secondly the experiential practical component of the training.

112) The Australian Training Qualification Framework (AQTF) needs to be the central reference point to ensure that the skills and qualifications that currently exist within the civil aviation sector can benchmark the standards for the entire industry (military included).

113) But in doing so the AQTF competencies for aviation skills need to be developed to be more closely aligned with other allied industries to allow for migration from and to other industries as nation wide economic circumstances dictate.

114) The aviation industry, MERSITAB and the Civil Aviation Safety Authority have also identified that the required skill level for an industry qualified Licenced aircraft engineer is at the Associate Diploma level of AQTF level 5. CASA were given the direction by the Standards Consultative Committee to request that the government review and increase the funded training hours (additional 100) to facilitate this, however this direction was never followed up and thus funding has not been increased nor indeed standardised across the country. Such inaction has effectively diluted the training content back to AQF4 trade qualification, which is a move by CASA to reduce the skills content of training within the trade of Aeroskills to match current funding arrangements. Rather than seeking the funding to adjust to the skills training required.

115) Currently CASA oversees the civil aviation sector which is required by the CAA 1988 to have in place "systems of maintenance" pursuant to CAR30. Such systems of maintenance are independently audited and inspected by CASA for compliance.

116) The military aviation sector has its own internal systems of maintenance and in effect are not independently audited. The record of incidents in regard to military aircraft is relatively high compared to the civilian sector.

117) Greater contracting out of military aviation contracts has seen circumstances arise which illustrate the differing standards. For example the ALAEA has had to represent a Licenced engineer who had been dismissed by a contractor to the RAAF after the RAAF revoked the engineers access because he was "causing trouble'. The trouble being that the engineer in question had over 50 years experience as a Licenced engineer in the civilian sector and had a higher standard of attention to detail, respect of legislation and systems of maintenance and stuck to them rigorously. Such diligence did not suit the hierarchy of "rank" versus the independence of the Licenced engineer and the system of maintenance. The Licenced engineer had pointed out in correspondence to the RAAF his concerns and in effect was dismissed for it. The ALAEA on behalf of the Licenced engineer settled the dismissal matter with the employer. However such a case goes to illustrate the differing standards between the civil sector and the military sector in aircraft maintenance.

118) The military systems of aircraft maintenance should be brought into line with current civil practices to allow that standardisation to occur. One reason for this is to enable greater use of civilian facilities to carry out maintenance and modifications on military aircraft thus

developing, widening and retaining the skills base in Australia for such work. These are skills which are vital for the security of Australia.

119) In a further alignment CASA should have the authority to conduct audits of the military 'systems of maintenance' which should be brought under a similar regulation and format as per CAR30.

120) The issues of confidentiality and national security can be overcome by binding the delegated CASA inspectors to the relevant obligations and any problems arising from the inspection and audit would be reported to the Minister for Transport and the Minister for Defence. Similarly the ATSB should be the independent investigator of accidents and incidents.

121) An engineer trained in the military should have the recognised skills and competence to transfer to the civil sector following release from service with minimum retraining.

122) Currently the differences in systems of maintenance and hierarchical supervision within the military appear to have suppressed that development. In the current climate of skills shortages it is tempting to overlook the deficits in training and competence to allow fast tracking of skill recognition from military to civil, however this does not correct the underlying problem of standardised training and competence.

Airport planning and development

- How can the regulatory regime better ensure non-aeronautical developments do not compromise the aeronautical requirements of airlines and airports?

123) In regard to maintenance, maintenance jobs and the Australian aircraft engineering skill base is impacted on by the number of active maintenance facilities and organisations there are. Such facilities cannot exist unless located where aircraft are or can get to. Therefore the catering for aircraft maintenance needs at airports is essential.

124) Their should be a co-ordinated strategy for the development of airports with essential or mandatory criteria being set through the mechanism of the Airports Act, Airport Master Plans and Major Development Plans. The plans should establish priority for development and infrastructure in that aeronautical related activities should have priority so that "non-aeronautical investment does not prejudice either the safety of the airport and its operations or the long-term development of aeronautical uses on the site".

125) One of the mandatory criteria should be the setting aside of appropriate land and infrastructure reserved for the construction of maintenance facilities.

126) The provision of such facilities and continued access to them by maintenance repair organisations is crucial to continued employment of engineering personnel. For example the proposed incursion of Qantas maintenance facilities by expanding terminal space at Sydney Airport by SIAC was reportedly a major "trigger" point for the closure of Qantas' 747-400 Heavy Maintenance facility with the loss of 400 aviation jobs including 270 highly skilled Licenced Aircraft Engineers.

127) To counter such loss of maintenance capability the Government may consider the merits of building the facilities and leasing back to Australian maintenance providers on long term arrangements. Terms of leases could include such factors as numbers of employees employed within the facility in a maintenance function. The more employees the cheaper the lease.

128) The size and scope of such airport allocation should be established relative to the aircraft movements and tenancies of operators.

129) The standards of such facilities are already subject to CASA scrutiny and approval and that should be maintained.

Safety Regulation and Regulatory Reform

- Are there ways in which the approach to Safety Management Systems could be enhanced?

130) The US -FAA propose to audit repair stations twice a year so they are increasing their surveillance on the industry while CASA and the operators appear to be moving towards a SMS system which seems destined to become de facto surveillance much along the lines of self regulation, a long term goal of many operators as they will be able to introduce commercial considerations into the oversight of safety. History has shown that self regulation does not work in the preservation of air safety.

131) If the concept and implementation of Safety Management Systems (SMS) is an essential one for aviation safety, then without sufficient resources and effort put into ensuring compliance and best practice at the output end there is a real danger that the SMS benefits will be face value only.

132) A successful SMS will ensure that companies strive for continuous improvement in safety and should drastically reduce the need to investigate accidents "after the event" as the SMS should highlight and manage the risks prior to occurrence.

133) It has been shown that compliance audits of some maintenance providers systems of maintenance (particularly overseas providers that can limit the safety regulators access to their facilities) can give a clean bill of health and a "tick in the box" but that when actually audited at ground level by either the customer or the safety regulator it is shown vividly that the SMS isn't functioning.

134) There needs to be strong surveillance and enforcement for an SMS to work all the way through an organisation. For example if you look at road safety much legislation has been made, education available and advertising campaigns about dangerous practices such as speeding and drink driving, but they are accompanied by strong tools such as Speed Cameras and Random Breath Testing units to actually encourage and maintain compliance.

135) Also the Qld Coal Mines Safety Act 1999 contains provisions which require the owners, and/or operators of mines to put in place safety management systems and to ensure those systems are complied with[2]. The penalties for a breach includes large monetary

[2] Qld Coal Mines Safety and Health Act 1999 s.40

fines and in the case of fatalities imprisonment.[3] The system of accountability within this Act is purposely designed to lift the corporate veil and sheet home to those who hold the purse-strings the responsibility and accountability for ensuring a safe system and environment for work.

136) That Act also provides for inspections by the Mines Dept. “Inspectors” and by “Site Safety & Health Representatives”[4].

137) The Site Safety & Health Representatives are employees of the operator and elected by employees but their appointment may be revoked on certain conditions by the Minister. They must hold appropriate competencies, have authority under the Act and are in effect another level of inspection and assurance that the SMS is being complied with.

138) Such a system needs to be considered for aviation to ensure that once in place SMS are actually practically adhered to and are not just a mere “paper wall” subject to desk audits, which have proven to be ineffective.

139) The obvious set of competencies to be such a site ‘check” inspector for aviation maintenance purposes is that of a Licenced Aircraft Maintenance Engineer and the appropriate legislation should be put in place to introduce such a system and include suitable protections in employment for the ‘check’ inspector.

140) Such a system would help alleviate the audit and inspection load on CASA and place the cost burden back on the operator whilst maintaining the necessary level of airworthiness.

- Should the governance arrangements for CASA be strengthened to better support the role of the safety regulator?

141) The ALAEA notes there is some discussion on the appointment of a CASA Board which the ALAEA would support providing there are representatives on the Board of those employee organisations whose members hold statutory duties under the CAA e.g. Licenced Aircraft Maintenance Engineers.

142) Obviously in regard to legislation it would be appropriate for CASA’s and the industry stakeholders views to be taken into account by the legislators with appropriate comprehensive consultation.

- How can CASA strengthen the way it relates to industry while meeting the community expectations of a firm regulator?

[3] Qld Coal Mines Safety and Health Act 1999 s.34
[4] Qld Coal Mines Safety and Health Act 1999 Division 2

143) Whilst CASA is a stakeholder in the industry it compromises its policing role of the Act by also being the vanguard of regulatory reform. Such an approach has CASA focusing on things that "might be" and not on the "present" inspection, audit and enforcement of the Act.

144) Such an approach has minimised the day-to-day practical performance of the inspection audit and enforcement function to the extent that CASA is currently perceived by LAMEs as a toothless tiger and not a firm regulator.

145) Licenced Aircraft Maintenance Engineers (LAMEs) are by the nature of their work and statutory obligations the primary frontline enforcers of appropriate, competent aircraft inspection, repair and maintenance and as such CASA should be obligated to act in regard to deficiencies identified by LAMEs. Currently that is not the case and it should be.

146) CASA appears to favour a higher priority for the economic impact of action it may take rather than the safety impact. This may be because of a cognisance of globalisation, competitive market forces, cost pressures and a desire to stay "onside" with major airlines.

147) Such factors should not override or compromise the primary responsibility of CASA to administer and enforce the relevant legislation to ensure the safety of the Australian travelling public.

148) CASA should cease to be the administrative support and driver of regulatory reform and that function should be allocated elsewhere. Maybe the ATSB is the appropriate body as it independently investigates and identifies deficiencies within the system in its current role and from that could drive the necessary regulatory reform.

- How can the Australian Government and industry ensure CASA completes its long-running regulatory reform process as soon as possible, to give clarity to industry and to clear the way for new approaches to meeting the regulatory challenge?

149) The driver of the regulatory reform process has been in the guise of "harmonisation" which is a subsequent effect of "globalisation".

150) CASA has embarked upon an ambitious agenda of competency harmonisation with Europe (EASA), which is somewhat ironic considering that *"APEC -- the Asia Pacific Economic Cooperation forum -- provides one model for establishing a regional approach to international air service. The U.S. and six other nations are parties to a multilateral aviation agreement that establishes one large open aviation market between the parties,*

and that creates a fresh, new approach to the legal framework for international air services. Significantly, the agreement is open to accession by both APEC and non-APEC economies, thereby creating a streamlined mechanism for expanding commercial aviation opportunities beyond a bilateral or even regional context."(Shane J.N. 2003)[5]*.* And the major potential for Australian airlines growth lies in Southeast Asia and China.

151) CASA appears to favour a higher priority for the economic impact of action it may take rather than the safety impact. This may be because of a cognisance of globalisation, competitive market forces, cost pressures and a desire to stay "onside" with major airlines. Such factors should not override or compromise the primary responsibility of CASA to administer and enforce the relevant legislation to ensure the safety of the Australian travelling public.

152) In the ALAEA's view, CASA's role is not one of surreptitious regulatory reform by being shy to act to enforce the current legislation.

153) Regulatory reform rests rightfully with the legislature.

154) CASA's primary role is to administer and enforce whatever the legislation may be at the time. There is a distinct conflict of interest in CASA driving the regulation reform/deregulation agenda as doing so creates a culture of looking at enforcement of prospective legislation rather than effectively performing their present duties.

155) In regard to aircraft maintenance CASA should not be restricted to being an informal instrument of deregulation. It has a necessary role of effectively policing the aviation industry and ensuring that commercial factors do not undermine safety standards.

156) CASA should audit, validate systems of maintenance for compliance by practical inspection and enforce the regulatory standards, for it not to do so, it in effect deregulates the aviation industry. Toward that aim the resources necessary to perform such functions need to be provided and maintained as the industry grows.

157) There is no doubt that Australian Licenced aircraft engineers are the most sought after in the western Pacific rim nation's maintenance repair organisations and command far larger salaries in lower tax environments than Australia. They are employed in Malaysia, Singapore and Hong Kong.

[5] "Aviation Policy: Looking Back And Looking Forward" Remarks of Jeffrey N. Shane, Under Secretary for Policy Department of Transportation USA, American Bar Association Forum on Air and Space Law Washington, D.C. November 6, 2003.

158) Qantas safety record is recognised as world's best practice and that is because of the skills base of its workforce in particular the maintenance work force. In effect the Australian training and licensing system has been shown to produce the desired results and we are the leaders in the western Pacific Rim nations.

159) The EASA system was designed to weld together a mix of national standards that existed in Europe, some of doubtful heritage and some with quite high standards. This amalgam does not transfer well to a system like Australia's, which has long been regarded as the best in the world. It is inevitable that EASA will drift to the lowest common denominator as they try to address conflicting national interests. The previous JARS system failed in Europe, what if this one does also?

160) Australia will be worse off as we try to adjust a very high standard to a reduced level of involvement by the regulator. In the case of the B3 licence for general aviation aircraft engineers, CASA touted our alignment with the EASA standard; there was no B3 licence standard when they decided to align with it.

161) By deliberately excluding the representatives of LAMES on the assessment team in Europe they embarked on an ad hoc patchwork arrangement where they simply copied what they wanted and left out what they did not want. The result is the CASA B3 does not align with the EASA B3.

162) The B3 licence is considered by the practical maintenance industry as a useless qualification, unable to be economically utilised and virtually semi-skilled. Most employers would prefer an AME with a conventional apprenticeship over the narrow band trained B3. The argument for harmonisation with Europe is unsound as the European B3 covers balloons.

163) Traditional trade training alignment with the licence system has remained in the civil aviation industry until the recent introduction by CASA of the EASA system. The upheaval in training and licensing caused by that introduction has been accompanied by CASA abandoning its role as the standard setter for licensing and handing the control and setting of examinations to the private, for profit, sector.

164) This increase in cost for the candidate will further discourage entrants into an already struggling industry, the ill considered B3 licence proposal also plans to de-skill and narrow band train the proposed B3 apprentice such that they will have to pay for 31 modules of additional training to achieve what in the past was contained in the apprenticeship. Some industry estimates have reached $150,000 to do them all.

165) CASA only proposes to paper audit the system, they do not intend to check the standard and will issue licence endorsements based on the training organisations recommendations, one can readily see the financial imperative for companies to declare a pass for the candidate. Few, if any, employers would wish to hire such a person and few prospective apprentices would want to incur such a cost burden based on current remuneration rates in the industry.

166) The current regulatory reform regarding Licensing alignment with EASA could quickly be brought to finality by ceasing any further alignment and leaving the “A” and “B3” licence concept out and leaving in its place the current Licensing and competency arrangements. I.e. the completion of the current “Basics” modules and examination and issuing of Licences by CASA.

167) Such an arrangement under the existing system will not require the development of new resources or an additional cost burden on the GA sector or smaller airlines for the GA sector and with that process ceased CASA can devote more of its time to inspection, audit and compliance.

168) The EASA system already adopted in regard to B1 and B2 Licence levels, which will cater for the competency requirements of the A380 and any other new aircraft and are by their nature deliverable by the aircraft operators, should be retained.

169) In essence we do what Australia has been good at historically and that is using the best parts of a foreign system and discard the ineffective.

- What steps should be taken to ensure Australia maintains a high standard of aviation safety in the context of global developments?

170) The ALAEA is alarmed at a continuing trend which sees airline and aviation companies, operating in an intensely cost-competitive global environment, pushing regulatory boundaries unchecked, in order to cut costs and often at the expense of sensible safety risk management.

171) The Government and CASA are subject to political lobbying by airlines who invariably endeavour to persuade the regulator and administrator to consider airlines economic viability when making legislation or enforcement decisions, however the ATSB’s independence in accident/incident investigations does not appear to be subject to such pressures and any changes, if any, should attempt to maintain and reinforce that independence from influence.

172) The stringent Australian standards are based on the minimum global standards set by ICAO. It must not be overlooked that ICAO sets a “minimum” standard not an ambit or maximum standard. Australia has no difficulty under its current legislative regime and administration thereof in meeting the minimum. Australia’s aviation safety record is where it is because of the standards we have set which in all respects appear to be currently at least the minimum if not above it. Any diminution in Australian standards can only lead to an increase to the risk factors involved. It is difficult to see how a lowering of standards would decrease any risk to safety.

173) CASA has to get back to focussing on the basics of, inspection, audit, ensuring compliance and ensuring competency. These functions are the ones that ensure Australia maintains its high standards.

174) LAMEs rely on trust in the veracity and integrity of systems of maintenance required by legislation to Certify for aircraft airworthiness as it is impossible for one LAME to be able to ensure every little maintenance task has been completed by all those working on aircraft. They rely on trust in the maintenance system and the competence for those performing the maintenance and those who have certified for that particular work to effect a certification for release to service. Other than that if they suspect they cannot trust the work has been done competently then they should not certify that the aircraft is safe to fly. The trust is maintained by belief that the administrator and enforcer of the legislation (hence system of maintenance) are carrying out their roles effectively and competently. That belief is maintained and reinforced by the open disclosure of information without fear or favour to ensure the integrity of the “aviation safety system” exists.

175) Hence the importance of the persistent movement to eliminate risk and maintain trust and belief in the systems of maintenance is the availability of the appropriate information, without it there will be no progress. If the information cannot be gathered because of fear of retribution then eventually the trust and belief in the “aviation safety system” exists no longer, minor incidents will not be reported, causes of accidents will not be determined and a critical mass of risk will eventuate. That would not be a desirable situation to be in.

176) Going with the above, the information must be publicly available if not to the public at large at least to those who hold a statutory responsibility. The results of CASA audits and inspections must be made available to those it concerns. That is, it must be made available to LAME employees of the organisation inspected or audited and CASA should do that.

177) The constant push by airline operators to remove the independence of Certification for airworthiness by LAMEs so they can apply commercial imperatives to a release to service of an aircraft must be avoided at all costs.

178) Companies do not release an aircraft to service, “competent authorised people” do so that decision must be made totally independently and supported by the regulator.

179) In regard to growing use of overseas maintenance providers, the ALAEA does not support such outsourcing however it may be a necessary evil to tolerate in limited form. Of major concern arising from harsh experience with Qantas outsourcing of maintenance overseas has been the issues of quality of work and compliance with Australian standards for approved maintenance systems.

180) Whilst CASA has given approval for certain overseas maintenance repair organisation to work on Australian aircraft it has failed dismally to ensure the standard of work complies with Australian standards. In fact it is impossible for CASA to do so.

181) Qantas has eventually recognised there are ‘issues” with quality of work and outsourcing and in consultation with the ALAEA has introduced a system of “Customer Required Inspections” to ensure not only compliance with Australian standards but compliance with the commercial contract as well. In addition appropriate numbers of Licenced engineers on the type of aircraft being repaired to supervise the check and perform the CRIs have been negotiated, determined and put in place.

182) CRIs are performed at designated times during a check for identified airworthiness items and are done by Qantas employed, Licenced Australian trained and based engineers, who are authorised under the Qantas system of maintenance, to inspect and Certify for airworthiness Qantas aircraft.

183) The CAA 1988 and the CASRs should have a mandatory regime for CRIs and a requirement for the contract to be supervised by an appropriate number of Licenced engineers on the type of aircraft being repaired, for any Australian registered aircraft being maintained in an overseas facility.

- What issues should a 21st century aviation regulator be focussed on?

184) Globalisation and the push for access to more and freer markets and the desire of corporations to continually reduce costs and increase profits will inevitably put pressure on maintaining appropriate standards of maintenance, training hence safety.

185) Such pressure is already manifested by the push for “deregulation”.

186) In such an environment the role of Governments hence regulators becomes even more important to ensure appropriate standards of maintenance hence safety are maintained. The Government should continue to remain party to the ICAO standards whilst recognising they are the global minimum standard and where Australian standards are better or higher they will be maintained

187) Whilst the onus is being shifted onto corporations to put in place safety management systems it is an imperative part of the regime for maintaining appropriate standards that corporations at the highest level are held accountable and responsible for their actions.

188) Therefore the role of the regulator needs to be more focussed on ensuring compliance and ensuring appropriate levels of competency and the labour resources to perform the appropriate standards of maintenance are in place.

189) This can only be done by more rigorous and more frequent inspection and audit regimes that drill down to the essential proof that what is stated in a safety management system and system of maintenance is actually being done.

190) The regulator may have the ultimate “stick” of prosecution to impose penalties but it is surely better to ensure the systems are working by communicating any identified breaches, problems or concerns to the people at the forefront of compliance, and those people are Licenced aircraft engineers and pilots.

191) The regulator must in the future become more open in regard to communicating its audit and inspection results. Sometimes such inspections and audits highlight corporate management’s incompetence hence the problems are covered up and not communicated to those at the forefront of compliance. In addition an audit or inspector may inadvertently miss something, which may be known to the people at the forefront of compliance and such omissions could be corrected and dealt with.

192) In essence the regulator in the future needs to be more diligent and stronger in its resolve to ensure compliance and more resilient to commercial considerations in what may well be a minimal regulatory regime.

- What changes could be made to improve how Australia’s aviation safety agencies work together?

193) The ALAEA made substantial submissions on this issue in *"Australian Licenced Aircraft Engineers Association Submission to the Minister for Infrastructure, Transport, Regional Development and Local Government – Comments on the Miller Report on Aviation Safety Agency Relations April 2008"* the following are taken from it.

194) *"The ATSB has been a primary mover in adopting and maintaining worlds best practice in reporting and investigating aviation safety accidents/incidents based on the foundations of facilitating confidential reporting and investigation input. It's resources and authority should not be diminished and its modus operandi should be maintained. "*

195) *The aviation maintenance legislative regime provides a system of inspection, repair and service based on ensuring competence of those who perform such functions, ensuring adequate systems of maintenance, service and inspection are put in place and that they adhered to. The purpose being to achieve a regime where there are no significant incidents or accidents. It is important to take into account that this has been achieved in Australia by being cognizant of the information derived from the data of past incidents and accidents and then acting in a positive manner to ensure deficiencies in practice, procedure, competency, administration and legislation is changed to further minimise risk to all those who fly.*

196) *The important cornerstone of this persistent movement to eliminate risk is the availability of the information, without it there will be no progress.*

197) ***"2.3 Source of the alleged ATSB CASA Deficient Relationship or Conflict?***

Paragraph 20.2 of the Report refers to the "immediate catalyst" for the review being a letter from the Queensland State Coroner to the Minister in regard to the ATSB CASA relationship which in part states, "I have detected a degree of animosity that I consider inimical to a productive, collaborative focus on air safety."

It is the ALAEA's view derived from experience in dealing with both the respective agencies that the deficiencies or conflict does not arise from the respective legislation but in fact is result of the inability of CASA to respect and understand the fundamental role of the ATSB in principle.

198) *Paragraph 7.11 of the report makes the comment "accident and incident investigation is only one component of the aviation safety system by which Australia seeks to improve aviation safety" this of course is a statement of fact. It is important to define the ATSB component role and the CASA roles in principle within the overall regime.*

199) *CASA is primarily the statutory authority charged with 'prevention' of incidents and accidents by the legislation, (the Civil Aviation Act 1988 and its Regulations). It theoretically does so by ensuring the requirements of the legislation are met through administrative mechanisms of:*

- *ensuring aircraft operators, (and AOC holders) put in place approved schemes of compliance;*
- *approving such schemes to a ensure they meet the standards;*
- *auditing such schemes to ensure compliance;*
- *and in the past[6] performing practical inspection to ensure what may appear as compliant in a desk audit is actually happening in practice.*

200) *The practical effect of the ATSB role is one of investigation of incidents or accidents, which has the subsequent effect of providing an "audit" of the prevention system. The ATSB's role therefore by natural progression, logically and rightfully so produces a "policing" of the efficacy, integrity and effectiveness of the "prevention" mechanism i.e. the Civil Aviation legislation and those it encompasses and the activity or otherwise of CASA. The ALAEA believes this to be a desirable effect that should not be compromised.*

201) *The ALAEA suspects a culture within CASA of resistance to conceding to and implementing ATSB recommendations as to adopt them may be an admittance that CASA was or is deficient in its operation.*

202) *The Coroner's detected "degree of animosity" between the ATSB and CASA in the ALAEA's view emanates from CASA's perception of a threat of critique, disclosure of it's poor performance, lack of effectiveness, deficient resources and ineptness should that be shown to be the case through the information derived from an accident/incident investigation.*

203) *The Report fails to recognise the human factors involved in the dynamics of co-operation between the ATSB and CASA and the individual cogs they are in the "aviation safety system" machinery. It is the ALAEA's view that the ICAO conventions or TSI Act is not the cause of the alleged "animosity" it is more a lack of acceptance by CASA that the TSI Act and the ATSB role does and will have the effect of "policing" CASA's relative effectiveness and performance. This is a fact that CASA should willingly accept rather than resist, because it is desirable to have prudent oversight of the effectiveness of the "aviation safety system's" "prevention" mechanisms.*

204) *"Therefore trying to address the problems flagged by the Coroner by fiddling with the application of the ICAO conventions, legislations and avoiding confronting the real problem, by watering down the confidentiality of the accident/incident investigation or somehow enhancing CASA's access to the accident data rather than the information, will not address the "animosity" but may in fact have the reverse effect of increasing it, by shifting it to the ATSB side of the equation and at worst compromise the effectiveness of the ATSB hence the "aviation safety system"."*

205) In summary CASA should inspect, audit, ensure compliance and competency and the ATSB carry on as it has done but take on the role of regulatory reform.

- What steps can the aviation industry as a whole take to ensure it maintains safety standards as it grows and diversifies?

206) In regards to the safe maintenance of aircraft a standardisation of skills and qualifications is required across the entire industry. This includes civil aviation, military, recreational and sports aviation. The standards need to be applied to all persons involved with the maintenance and servicing of aircraft – be that the engineer or pilot.

207) The Australian Training Qualification Framework (AQTF) needs to be the central reference point to ensure that the skills and qualifications that currently exist within the civil aviation sector can benchmark the standards for the entire industry.

208) The military systems of aircraft maintenance should be brought into line with current civil practices to allow that standardisation to occur. One reason for this is to enable greater use of civilian facilities to carry out maintenance and modifications on military aircraft thus developing and retaining the skills base in Australia for such work. These are skills which are vital for the security of Australia

209) An engineer trained in the military should have the recognised skills and competence to transfer to the civil sector following release from service with minimum retraining.

210) Currently the differences in systems of maintenance and hierarchical supervision within the military appear to have suppressed that development. In the current climate of skills shortages it is tempting to overlook the deficits in training and competence to allow fast tracking of skill recognition from military to civil, however this does not correct the underlying problem of standardised training.

[6] The ALAEA has concerns that CASA is becoming totally reliant on "desk" (or paper) audits to ensure compliance and systematically reducing resources that enabled practical inspection to ensure that what is in the "paper" is actually happening or not.

- Is self-administration a key factor in the growth of recreational aviation? Is there more scope for some parts of the industry to self-administer? What are the opportunities and risks for the industry, regulators and the community in greater 'self-administration?

211) Australia currently runs a parallel system of maintenance for those in the recreational and sports aviation sectors. It is self-regulated and sets it own standards for maintainers. This is in essence to reduce costs to the owners of these light "hobby" craft by allowing them to perform their own maintenance. However there is no set standard of competence for such people to build and maintain their aircraft.

212) Once again the standards for maintenance competence should be aligned with the AQTF. This will give transparent and definite skill levels and competence for those who wish to maintain their own hobby aircraft. Serious consideration should be given not only for the pilot's safety but also for those who they may impact on the ground.

213) Australia also currently runs a system that a pilot as young as 16 years of age can perform basic servicing and maintenance tasks on aircraft known as "Schedule 8" maintenance with no prior training or demonstration of competence. This has been justified within the aviation community and Civil Aviation Safety Authority with the reasoning that a pilot would not do anything to endanger their own safety.

214) The logic of this argument falls short on the basis that if not properly trained the pilot may not know that what they are doing is incorrect or dangerous. The sensible solution is to require any person that carries out maintenance or servicing on an aircraft to be assessed against a known standard and have that assessment documented and endorsed. In the case of a pilot the "maintenance" endorsement should be on the pilot licence.

215) There is an unsatisfactory practice in Australian aviation of people maintaining or servicing aircraft without being trained or qualified and without recording the work that was carried out. These people will probably never cease these current practices so it is essential to deal with problem at the source.

216) Training at the pilot training level for new pilots and retrospective training or recognition of competence for current pilots with an endorsement on their licences combined with rigorous cross checking of aircraft log books and strict enforcement of the rules is required to bring about the necessary changes in behaviour.

217) In the current system a Licenced engineer that fails to properly carry out or record work done on an aircraft not only risks heavy fines but also risks their licence and livelihood. A pilot in the same circumstances also risks being fined but their licence remains intact.

Aviation Emissions and Climate Change

- Aviation emissions and climate change. What practical steps can the aviation industry take right now to reduce greenhouse gas emissions? Are carbon offset schemes enough?
- What measures should the aviation industry be taking in the short-medium term to reduce emissions, such as clean engine technology and clean aviation fuels?
- Given the international nature of aviation, what opportunities are there to minimise greenhouse emissions and trade emission permits through emission trading schemes?

218) *"Like many industries highly dependent on energy use, the aviation industry faces challenges in meeting its environmental responsibilities and minimising its greenhouse gas emissions. Aviation contributes approximately two per cent of global carbon dioxide emissions but the growth of the aviation industry means that contribution will probably increase."*[7] *(Shane, J.N. 2003)*

219) *"The aviation industry is experiencing record growth globally. It is moving the equivalent of 1/3rd of the world's population each year across the world. Airbus and Boeing have record sales, and two of the fastest growing economies in the world — China and India — are on track to build 100 new airports in the next decade to meet demand.*

At the same time, just as aviation is knitting together the world, redefining what opportunity and what neighbour means, concern has grown about its contribution to greenhouse gas emissions and potential impacts on climate change. Aircraft emissions remain a central environmental concern and challenge as they contribute to global climate change and impact the local air quality near airports, and thus could slow the growth of aviation and the benefits it brings to our nation.

The fastest means of reducing aviation emissions is to reduce the amount of fuel that is burned."[8] (Elwell, D. 2008) (Our emphasis added)

220) It has been commonly acknowledged that the appropriate regular maintenance of engines and fuel systems contributes to the minimisation of carbon dioxide emissions. Such

[7] "Aviation Policy: Looking Back And Looking Forward" Remarks of Jeffrey N. Shane, Under Secretary for Policy Department of Transportation USA, American Bar Association Forum on Air and Space Law Washington, D.C. November 6, 2003.

maintenance ensures that amount of fuel burnt produces the optimum efficiency in power. Hence if an engine is running at its optimum it does not need to burn as much fuel to produce the required power for flight.

221) Other maintenance factors affect the fuel burn efficiency. For example, the tolerances of the fairing of an aircraft's external panels and the tolerance of adjustment of an aircraft's flight control surfaces, dirt and grime (extra weight) can contribute significantly to fuel burn.

222) Australia's current high standards of maintenance ensure that adjustments are carried out to the highest tolerances even if not required by the aircraft manufacturers, a practice that is not always adopted by third party maintenance providers due to extra manhours required for extra adjustments.

223) The cleanliness of both an aircraft's exterior surfaces and internal compartments, which affect both aerodynamic drag and weight. Whilst soap and water style external cleaning is carried out on a regular basis the efficient buff and polish of the fuselage and the deep cleaning of aircraft cabins and cargo to remove excess weight needs sufficient downtime and facilities to accomplish properly and as such these are usually carried out in conjunction with a major maintenance check.

224) Therefore the importance lies of ensuring appropriate standards of maintenance are carried out and the appropriate facilities are available e.g. aircraft cleaning facilities, engine run bays.

225) Those airlines that do contribute to the appropriate maintenance of aircraft within Australia by having an engine maintenance, airframe and skin repair facilities should be given recognition (credit) for their contribution to reducing fuel emissions by their appropriate on shore maintenance.

226) It is proposed that the replacement of older aircraft by newer more fuel-efficient aircraft will contribute to emission minimisation. If so then airlines that replace old fleet should be given credit for their contribution to reducing fuel emissions. However the draw back is that aircraft are now being manufactured from more hydrocarbon based materials

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[8] Statement of Dan Elwell, Assistant Administrator for Aviation Policy, Planning, and Environment, Before the House Transportation and Infrastructure Committee, Subcommittee on Aviation on Aviation Emissions USA 6th May 2008

(composites) combined with aluminium, which are both high-energy consumers in the making of the hydrocarbon compounds or smelting aluminium. In effect and on a holistic approach they may have created more carbon dioxide emissions in their manufacture than they will ever recoup by being more fuel-efficient.

227) There maybe an argument that the keeping of old airframes in service, refitting with newer technology, with more efficient fuel burning engines or indeed alternate less polluting fuel burning engines, reduces primary energy consumption in smelting more aluminium or making of hydrocarbon based composites.

228) In any case efforts to reduce carbon dioxide emissions as discussed above should be recognised by giving of carbon credits.

229) Such an incentive will give those that do, an incentive over those that don't, have Australian heavy maintenance operations.

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