



Australian and International Pilots ' Association

Towards a National Aviation Policy Statement

**Submission
July 2008**

PROFESSIONAL
STANDARDS
FOR PILOTS 

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Foreword by the AIPA President



The Australian aviation industry is at a crossroads. Airlines face challenges to their economic viability in the context of increasing fuel prices, globalisation of the industry, a shortage of skilled personnel and a growing concern for aviation's impact on the environment.

In these circumstances, the Australian Government's commitment to developing a National Aviation Policy Statement is most welcome.

Australia's airline pilots see themselves as key stakeholders in ensuring that the future of aviation not only looks to issues surrounding economic sustainability but places safety and the maintenance of traditionally higher Australian standards as centrepieces of the National Aviation Policy Statement.

In doing this, AIPA sounds a warning that Australia's already liberalised aviation market is highly competitive and that greater competitive pressures on operators will almost inevitably lead to a reduction in safety margins. Commercial pressures to reduce costs *can* impact safe operating practices.

Another serious challenge faced by Australian aviation is attracting, training and retaining sufficient skilled personnel and particularly, pilots. AIPA proposes a bold plan to coordinate pilot and workforce planning by bringing together Government, industry and airline pilots to draw on their combined knowledge and strength. In addition, AIPA proposes that the experience currently locked up in Qantas mainline be unlocked for the benefit of the travelling public by introducing a Group Opportunity Allocation List.

Finally, AIPA believes that ownership issues surrounding the national flag-carrier . Qantas . and the Qantas Group need to be clarified and amendments made to the *Qantas Sale Act*.

Some of the ideas in this submission are big, some of them controversial. But one thing is certain, we must have the courage and determination to safeguard Australia's world-class industry now and into the future.

A handwritten signature in black ink, appearing to read 'Ian Woods'.

Captain Ian Woods
AIPA President

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Executive Summary

Key Messages

International air services

- Future negotiating priorities must explicitly consider the likely impact of open skies agreements on industry employees and the stability of the industry.
- Cater for closer commercial relationships between airlines in the form of equity alliances rather than mergers.
- Promote competition but ensure adequate aviation safety safeguards are in place.

Domestic air services and airline ownership

- Market forces alone will not produce satisfactory aviation industry and safety outcomes.
- Retain foreign international airlines' restricted access to the domestic market as the current level of competition, quality and frequency of services in the domestic market is sufficient.
- Amend the *Qantas Sale Act* to increase the aggregate equity held by foreign airlines to 49 per cent, with a maximum held by a single foreign airline to 24.5 per cent.
- Amend the *Qantas Sale Act* to prevent the situation where the Qantas Group may be dependent on majority foreign-owned subsidiaries for its aircraft, freight services or brand loyalty programme.
- Restore the original spirit and intent of the *Qantas Sale Act* by amendments ensuring that subsidiaries, such as Jetstar, are subject to the Act.

International airlines' safety operating standards

- Use bilateral Air Service Agreements to promote, or in certain circumstances require, international airlines flying into Australia comply with Australian standards and recommendations where they exceed ICAO minimums.
- Ensure Australia's bilateral agreements provide for enhanced safety accreditation processes where mutual recognition of safety certification appears to be inadequate.

The pilot shortage, pilot training and future pilot demand

- Ensure competitive pressures and the current shortage does not reduce pilot operating and licensing standards from Australia's best practice to global minimum standards.
- Tackle the pilot shortage through a multi-faceted approach, combining both short and long-term measures.
- Attract greater interest in flying as a profession and expand FEE-HELP and other schemes to cover flight training, reducing upfront training costs.
- Improve the utilisation and career path of pilots within the Qantas Group via removing the artificial barriers between mainline, QantasLink and Jetstar.
- Establish a national body comprising industry, Government and pilot representatives, dedicated to overseeing safety in professional aviation through administering pilot training and certification standards.

- Encourage airlines to address underinvestment in training and adopt a longer term focus through offering scholarships that subsidise the cost of full-time flight training.

Aviation Safety and Security

- Ensure competition policy is balanced by regulatory vigilance and sufficient resources for safety compliance to guarantee existing safety standards are not undermined.
- National aviation policy must provide CASA with the necessary compliance enforcement systems, resources and independence from industry to play the role of an effective balancing weight.
- In line with shift toward outcome based regulation, CASA's resource focus must more fully transition from their traditional role of prescriptive oversight to one emphasising safety vigilance and systems compliance auditing.
- Safeguard and protect Australia's world's-best aviation safety standards from being replaced by the global minimum standard.

The impact of non-aeronautical and off-airport developments on the aeronautical requirements of airlines and airports

- Guarantee that aeronautical requirements of airports and airlines take precedence over non-aeronautical developments of airports.
- Ensure Australia subscribes to the world best practice (ICAO Recommendations) with regards to aeronautical developments.
- Establish an airport industry working group to investigate the issue of mechanical turbulence and develop appropriate standards as a world first.

Airport capacity

- Establish an Airport Consultative Committee comprising industry, Government, professional pilots and other stakeholders to facilitate safe and efficient aeronautical airport developments, review operations and assess future needs.
- Develop a secondary airport for regional and domestic operator use and thereby release capacity at Sydney airport for high capacity domestic and international flights.
- Introduce new technology in the form of a category II or III instrument landing system or Global Navigation Satellite System technology to airports periodically closed due to weather below minima such as Sydney and Canberra (Melbourne's introduction is already scheduled).

Air Traffic Management

- Modernise the Australian Air Traffic Management (**ATM**) system to effectively and efficiently handle the forecast traffic growth in the medium to long term.
- Utilise satellite based communication, navigation and surveillance technology in the course of modernising the ATM infrastructure.
- Endorse the ATM Strategic Plan issues paper *Air Traffic Management 07 – A Strategic Vision for Australia* developed by the Australian Strategic Air Traffic Management Group in December 2007.
- Develop a programme to attract, train and retain air traffic controllers similar to that proposed by AIPA for pilots.

Development of an Environmentally Responsible Aviation Sector

- Adopt measures which reduce aviation's environmental footprint such as continuous descent approaches, more efficient fuel consumption, reduced noise emissions and improved airframe and engine technology.
- Contribute greater resources to promoting voluntary carbon offset schemes.
- Promote the establishment of an emissions trading scheme but allow for a phased introduction.
- Ensure an Australian emission trading scheme is part of a global solution.

Australian and International Pilots' Association

The Australian and International Pilots Association (**AIPA**) is the professional Association representing pilots and flight engineers employed by Qantas Airways Limited and its wholly owned subsidiaries (**the Qantas Group**) in domestic and international airline operations.

AIPA represents over 2,300 professional air transport flight crew and is the largest professional body of airline pilots in Australia. AIPA's membership comprises Training Captains, Captains, First Officers, Second Officers and Flight Engineer Officers.

AIPA takes an active stake in the Australian aviation industry through participating in a wide range of Government, legislative and regulatory inquiries and development processes. Internationally, AIPA members are recognised as among the most experienced flight crew in the world and AIPA is an active member of the global pilot body, the International Federation of Air Line Pilots Associations (**IFALPA**). A number of AIPA pilots hold IFALPA executive positions.

The Professional Pilot's Role

Australia's airline pilots play a key role in ensuring the safe operation of Australian airlines. In addition to safety oversight, AIPA believes pilots play a broader quality assurance role through upholding professional standards and screening both the introduction of new technology and operating procedures. However the pilot's primary responsibility lies on the flight deck. According to the Civil Aviation Regulations 1988,

- (1) A pilot in command of an aircraft is responsible for:
- (a) the start, continuation, diversion and end of a flight by the aircraft; and
 - (b) the operation and safety of the aircraft during flight time; and
 - (c) the safety of persons and cargo carried on the aircraft; and
 - (d) the conduct and safety of members of the crew on the aircraft.
- (2A) A pilot in command must discharge his or her responsibility under paragraph
- (2) (a) in accordance with:
- (i) any information, instructions or directions, relating to the start, continuation, diversion or end of a flight, that are made available, or issued, under the Act or these Regulations; and
 - (ii) if applicable, the operations manual provided by the operator of the aircraft.
- (3) The pilot in command shall have final authority as to the disposition of the aircraft while he or she is in command and for the maintenance of discipline by all persons on board.

The duties of pilot in command are also set out in the Convention on International Civil Aviation (**Chicago Convention 1944**); International Civil Aviation Organisation (**ICAO**) Annex 6 . Operation of Aircraft - Part I - International Commercial Air Transport . Aeroplanes. Annex 6 states:

The pilot-in-command shall be responsible for the safety of all crew members, passengers and cargo on board when the doors are closed. The pilot-in-command shall also be responsible for the operation and safety of the

aeroplane from the moment the aeroplane is ready to move for the purpose of taking off until the moment it finally comes to rest at the end of the flight and the engine(s) used as primary propulsion units are shut down.+

Both the Australian civil aviation legislation and Chicago Convention 1944 standards clearly define the pilot in command's role as being responsible for the safe conduct of a flight. All other considerations, such as the efficient operation of the aircraft, are secondary to the pilot's primary mission of safety.

The Australian Aviation Industry

Aviation Today

The aviation industry today is a very different industry to what it used to be. Previously, the industry was characterised by relative stability and a high degree of external regulation at the state level through state ownership of national flag carriers and government regulated market access.

Today's aviation industry is characterised by dynamic change, liberal market access and large mega-carriers who are members of global alliances. External regulation has been increasingly shed in favour of self-regulation under the control of individual companies. Competition regulation has struggled with the challenges of an increasingly global industry.

Such a regulatory shift has important implications for aviation industry employees, the operational and economic behaviour of airlines and the way civil aviation is managed.

In a more liberal regulatory environment, increased competition has hastened the drive to increase labour performance at lower costs. Aviation industry employees are increasingly being asked to perform their tasks more productively, more flexibly and with remuneration only matching inflation. In an environment where the majority of operating costs are fixed, in the short term at least, and rapidly rising fuel costs, the area of labour costs has become the focus.

Consequently, labour terms and conditions have become the focus of airlines' cost cutting initiatives, challenging the comparatively high labour standards which the industry has maintained. In turn, this challenge has potentially undermined the service and safety quality standards which have been integral to the orderly and safe development of the industry.

Further, these cost cutting initiatives now dictate much of how airlines do their business and have the potential to reduce airlines' investments in safety. The financial impact of competition reduces profit margins and potentially the incentive for airlines to undertake actions that enhance the safety of their operations.

In this context, AIPA has developed a response to selected questions raised by the National Aviation Policy issues document.

International Air Services

Need for negotiation priorities to broadly reflect the industry's interests

Since 1999, the Australian Government has pursued liberal aviation policies aimed at exposing Australia's domestic and international air services to increased competition.¹ Australia, for example, is one of the few countries that allows foreign

¹ See *International Air Services* media release by The Hon John Anderson, MP, 3 June 1999. http://www.minister.infrastructure.gov.au/ja/releases/1999/june/a79_1999.htm

persons, including foreign airlines, to acquire up to 49 per cent of the equity of an Australian international airline (except Qantas), and up to 100 per cent of the equity in an Australian domestic airline.

The adoption of liberal international air services policies has generated increased competition and growth in the sector, but at the expense of stability. The industry has shifted from one characterised by comparative stability to a position typified by rapid and dynamic change, where traditionally high safety standards are increasing under cost based pressures. The rapid demise of Ansett and the dislocation of some 20,000 employees is an example of the industry's new volatility and of this type of rapid change.

In the context of a more dynamic industry, Australia's international air service policies should seek to reflect the broad interests of the aviation industry.

Recommendations

- Explicit consideration should be given to the interests of industry stakeholders such as aviation industry employees when negotiating Air Service Arrangements (ASAs).
- Explicit consideration should also be given to ensuring the Australian aviation industry continues as a viable and safe industry, noting that orderly and safe development can be lessened by a more competitive air services market when negotiating ASAs.
- Future negotiating priorities must consider the likely impact of open skies+ agreements on industry employees' well being and the stability of the industry, not just on airline interests and the tourism sector.

Market forces alone will fail to produce satisfactory aviation industry and safety outcomes

Australia's air transport system is a critical national infrastructure asset. Ensuring a viable Australian aviation sector has industry and nation-wide economic and social benefits. Yet left to market forces alone, the airline industry will not produce satisfactory outcomes in the market for air services. A completely deregulated market is undesirable; some level of regulation and some barriers to entry are necessary.

Because many aviation safety decisions are not visible to the public, airlines take unobservable actions in the course of running their businesses that affect the likelihood of an accident, otherwise known as the problem of moral hazard. Consumers of aviation services are typically unable to distinguish between high quality (in terms of safety) and low quality airlines because they lack information regarding airline safety actions.

There is also a close relationship between competition and aviation safety. Without effective and independent safety regulation, increased competition has the potential to reduce safety levels as a consequence of reduced profitability. Financial performance can impact on airline safety through competition reducing profit margins and forcing airlines to adopt less safe practices.

Overall, an airline's safety performance is a function of two sets of factors - safety investments and operating conditions.

Safety investments consist of the airline's actions undertaken to enhance the safety of its operations. Examples include more regular maintenance scheduling, training programmes that qualify pilots at levels above those required by international (ICAO) standards, using newer aircraft that feature more advanced safety technology, maintaining a younger fleet etc. Airlines determine their safety investment level through balancing the benefits of reduced accident or incident risk against the cost of additional safety-enhancing investment.

Operating conditions relate to the environment in which an airline operates and cover such factors as weather, air traffic control technology and airport quality variations.

So an airline's performance is only partly attributable to its chosen level of safety investment although a key contributor.

In a more competitive, deregulated aviation environment, the level and quality of an airline's safety investment will come under increased pressure. First, reduced profitability and pressures to reduce costs can lead to less than optimal practices in aircraft maintenance and operations from a safety perspective.

In response to competitive pressures from Low Cost Carriers (**LCCs**), major airlines are seeking to restructure their business to cut costs and compete in a deregulated environment. Through restructuring their businesses, major airlines have defined core and non-core business with the intention of outsourcing non-core business.

In Europe, British Airways took the lead in outsourcing non-core activities such as catering, vehicle management and maintenance. As a consequence, a service that was once under the operational control of a single management became decentralised and dispersed. In a number of airlines today, these non-core services are now managed through complex and removed contractual arrangements. Yet the primary responsibility for safety rests with the operator.

In North America, the US Government has taken an active interest in airlines' increased outsourcing of maintenance, repair and overhaul services. A recent Congressional report expressed concern over the extent to which US airlines are outsourcing such work to third-party certificated repair stations and other facilities, both domestically and offshore.²

The Congressional report noted that contracting out maintenance to third-party repair stations has escalated, with outsourced maintenance costs now accounting for more than 50 per cent of air carriers' total maintenance costs.³ Airlines have pursued outsourcing, both domestically and internationally, as a way of reducing costs.

Through contracting with foreign repair stations, airlines have substituted their relatively high maintenance labour costs with lower labour costs in foreign countries. As a cost reduction strategy, it has been most effective.

² Fischer, John W., Elias, Bart and Kirk, Robert, S., *U.S. Airline Industry: Issues and Role of Congress*, Congressional Research Service Report for Congress, April 30, 2008,

³ Fischer, John W., Elias, Bart and Kirk, Robert, S., (2008, 16)

This trend in airline maintenance practice is viewed as a concern by Congress for two reasons.

First, the qualifications (and thereby competency) of maintenance personnel actually undertaking the work has been brought into question. In the US, contracted maintenance workers are often not required to obtain Federal Aviation Administration (**FAA**) certification and the screening and selection process for these workers has been described as minimal.⁴ The completion of maintenance work by unqualified maintenance personnel potentially results in work of a lower standard and represents a lesser safety investment by the airline.

Second, the adequacy of supervision and the ability of the FAA to conduct effective regulatory oversight is lessened by such outsourcing practices. In the US, subcontracted maintenance work can be carried out at a non-certified facility. The improper rigging of elevator control cables by subcontracted maintenance workers at a non-certified facility led to the accident of a US Airways commuter flight in 2003.

The accident's investigation prompted the Department of Transport Office of Inspector General to audit the airline's use of non-certified facilities. The audit revealed that while these facilities operate outside the scope of regulations pertaining to certified repair facilities, there are no specific limitations regarding the type and scope of work they perform, and maintenance performed at these facilities is largely unmonitored by FAA inspectors.⁵

The trend to increasingly outsource maintenance work and the reduction in regulatory oversight has considerable safety implications for airlines in the US.

In the Australian context, Australia's proximity to Asia has made the option of outsourcing work to foreign maintenance repair and overhaul (**MRO**) organisations increasingly attractive. According to Ken Cannane, Australian MRO Business Association executive director and former head of CASA airworthiness,

The cost of maintenance done in Asia is less than two thirds of what it is here. At this current moment, we're heading for the departure of all large aircraft maintenance overseas.⁶

Similar to the North American trend, Australian airlines aim to substitute their higher maintenance labour costs with the somewhat lower labour costs of foreign MROs. This trend raises issues regarding the competency of those undertaking the work, the ratio of licensed aircraft maintenance engineers supervising/certifying work conducted by non-licensed personnel and the ability of CASA to adequately regulate the work.

Whilst airlines may reduce maintenance costs through outsourcing, there is a potential for reduction in both the quality of work undertaken and the skills base of Australian airline maintenance workers.

Similarly, with regard to effective safety oversight by the regulator, the completion of maintenance work offshore significantly increases the oversight costs and inspection

⁴ Corty, Bart. 'Aviation Contracted Maintenance Workers, Are They Safe Enough?'; Aviation Maintenance, July 2006, cited in Fischer, John W., Elias, Bart and Kirk, Robert, S., (2008, 17)

⁵ Fischer, John W., Elias, Bart and Kirk, Robert, S., (2008, 17)

⁶ Phelan, Paul (2008, 17) *Local MRO regulation needs urgent review*, Aviation Business Asia Pacific. June/July 2008.

facilitation. The cost of conducting an onsite overseas audit of foreign MROs is higher than local oversight and is likely to be less frequent and potentially less comprehensive.

Recommendations

- The Australian Government review the outsourcing of maintenance and ensure that there is no diminution in safety.
- Where foreign MROs conduct work on Australian registered airline transport category aircraft, the Australian Government must ensure CASA has the necessary resources to effectively and regularly inspect safety compliance.
- The Australian Government should establish a mechanism to consider the effect on the skills base of Australian airline maintenance workers of such outsourcing.

Case Study – How commercial pressures to reduce costs can impact safe operating practices



Qantas 747 Overrun in Bangkok, Thailand, September 1999

On 23 September 1999, a Qantas Boeing 747 aircraft overran a runway while landing at Bangkok International Airport, Thailand. The overrun occurred after the aircraft landed long and aquaplaned on a runway that had been affected by water after very heavy rain.

During the landing, the aircraft tyres aquaplaned on the water-affected runway, limiting the wheelbrakes effectiveness to about one third of that for a dry runway. ~~On~~ such conditions and without reverse thrust, there was no prospect of the crew

stopping the aircraft in the runway distance remaining after touchdown⁷ and the aircraft overran the runway by 220 metre.

In the course of examining the aircraft's performance on the runway, the Australian Transport Safety Bureau (ATSB) said

It became evident that flaps 25/idle reverse thrust landing procedure used by the crew (and which was the preferred company procedure) was not appropriate for operations on to water-affected runways. The appropriate approach/landing procedure was flaps 30/full reverse thrust. This had the characteristics of a lower approach speed, of being easier to fly in terms of speed control and runway aim point (for most company pilots), and of providing maximum aerodynamic drag after touchdown when the effectiveness of the wheelbrakes could be reduced because of aquaplaning. Had this configuration been used, the overrun would most probably have been avoided.⁸

The investigation revealed that Qantas had revised its standard landing procedure from flap 30/full reverse thrust to flap 25/idle reverse thrust in December 1996. Why had Qantas implemented such a change?

According to the ATSB's investigation, the

aim of the new procedure was to reduce costs (e.g. brake maintenance, noise levy charges at Sydney Airport, and thrust reverser maintenance) without affecting safety levels.⁹

According to Qantas, the total savings were estimated to be in the order of \$1,640,000 per annum.¹⁰

When Boeing was asked to comment specifically on the flaps 25/idle reverse procedure in the course of its evaluation by Qantas and prior to introduction, Boeing said it did not consider the practice to be unsafe despite reducing existing performance margins. But Boeing added that

As there is a human factors issue of developing a habit pattern of not using reverse thrust beyond the idle detent if the reverse idle technique is adopted, it should be taught as the exception rather than the rule.¹¹

The Qantas 747 overrun incident highlights how the level of an airline's safety investment can come under increasing pressure to reduce costs. And these pressures have a direct bearing on the airline's safety performance. Were Qantas operating in a less competitive environment, would the accident still have occurred? There is no answer to this hypothetical question. But what we do know is that the overrun would most probably have been avoided had the flaps 30/full reverse thrust configuration been used according to the ATSB.

⁷ Australian Transport Safety Bureau *Investigation Report* 199904538 Boeing 747-438, VH-OJH Bangkok, Thailand, 23 September 1999, page vi.

⁸ Australian Transport Safety Bureau *op cit* (1999, vi).

⁹ Australian Transport Safety Bureau *op cit* (1999, vi).

¹⁰ Australian Transport Safety Bureau *op cit* (1999, 146).

¹¹ Australian Transport Safety Bureau *op cit* (1999, 37).

The rise of new business structures

Operational alliances are preferable to mergers

In today's competitive operating environment, airlines are continually searching for ways in which to lower operating costs. Global alliances have emerged as a way of allowing alliance partners to gain access to a more comprehensive route network and enjoy economies of scale and, even more importantly, economies of scope that would otherwise be unobtainable. Yet these alliances have also highlighted their airline members' inferior or superior performance and provided reference points against which alliance members can be benchmarked.

The development of global alliances therefore has the potential to intensify the focus on operating costs, particularly labour costs. With labour costs representing only a fifth of airline operating costs in Asia compared to around a third among Western carriers¹², there are pressures to align labour costs with those of Asian and LCCs.

These pressures are particularly evident in the areas of aircraft maintenance and ground handling services. Here the threat of outsourcing is used as a vehicle to benchmark company services against those available from third party providers. The idea being that all operations must be costed at market price, defined as the price at which the same or better quality service can be purchased elsewhere.

The effect on the industry is to increase the separation between core and non-core business whilst reducing stability. Aviation industry employees' terms and conditions repeatedly come under scrutiny as a result. There is also the risk that these non-core services are taken off-shore, thereby reducing the capability and size of the Australian aviation sector.

In the event that key services such as aircraft maintenance and overhaul were outsourced to offshore entities, there is an inherent risk that safety standards could decline.

In terms of industry structures, global alliances have the potential to drive considerable change. While the proponents of mergers will always laud their benefits,¹³ it is quite uncertain as to whether consolidation actually delivers them. Operational alliances however, may deliver many of the benefits of a merger but without the integration challenges, commercial risks and costs of a merger.

In the Australian context, Qantas has unsuccessfully sought to establish closer commercial relationships with Air New Zealand and Singapore Airlines. Perhaps more commercially and politically attractive outcome from a competition policy perspective is a closer operational relationship between alliance partners.¹⁴

¹² Oum, T. and Yu, C. (1998) *Winning Airlines: Productivity and Cost Competitiveness of the World's Major Airlines*, Boston: Kluwer.

¹³ In the US, Richard Anderson, Chief Executive of Delta Air Lines recently commented on the proposed merger of Delta and NorthWest saying that 'we are creating America's leading airline . an airline that is financially secure, able to invest in our employees and our customers, and built to thrive in an increasingly competitive marketplace.' Delta Air Lines Press release 'Delta Air Lines, Northwest Airlines Combining to Create America's Premier Global Airline', April 14, 2008.

¹⁴ Hall, James, *Qantas keen to stretch wings*, The Australian Financial Review, 17 March 2008, Page: 64.

AIPA takes the view that closer commercial relationships between alliance partners can be beneficial where the alliance strengthened local carriers and improved their relative competitiveness. For example, one such relationship could be a three-way equity alliance between Qantas, British Airways and American Airlines.

How do we ensure all international airlines operate safely into Australia?

Continue with the bilateral system and use bilateral agreements to address less safe operators

Under the bilateral agreements in the form of Air Service Agreements (**ASAs**), the Australian Government has been able to monitor and oversee the safety investments by foreign airlines entering Australia. Through the granting of access rights, the Australian Government is able to stipulate acceptable operating conditions for foreign airlines flying to, in and beyond Australia. Foreign airlines cannot operate in Australia without a foreign Air Operators Certificate issued by the Civil Aviation Safety Authority (**CASA**).

Recommendation

- The Australian Government use safety clauses within bilateral ASAs to promote, or in certain circumstances require, international airlines flying into Australia comply with Australian standards and recommendations where they exceed ICAO Standards and Recommended Practices (**SARPS**).

The Australian Government must take all reasonable steps to ensure international airlines comply with the Australian standards (legislation) and recommendations (advisory material) where they are higher than the global ICAO minimums. Indeed, much of Australia's aviation system is built on standards higher than those required by ICAO.

AIPA advocates the Australian Government leverage this approach in the course of negotiating bilateral agreements. For example, under the recently negotiated Australia-United States ASA,

any airlines wishing to take up the commercial opportunities available under the new arrangements would need to obtain relevant regulatory requirements before commencing operations, including meeting Australia's stringent aviation safety and security requirements.¹⁵

In addition, any movement away from a bilateral to a multilateral system may lessen Australia's ability to oversee the operating practices of countries' individual airlines. AIPA therefore advocates Australia continue to focus on the bilateral system to ensure international airlines operating into Australia meet acceptable safety standards.

¹⁵ See 'Historic Australia-United States 'Open Skies' Aviation Agreement Reached', media release by The Hon Anthony Albanese, MP, 15 February 2008. http://www.minister.infrastructure.gov.au/aa/releases/2008/February/AA012_2008.htm

Recommendations

- With the exception of gaining improved access to the largest markets such as the European Community, traditional ASAs or liberalised Bermuda II style agreements should continue to form the basis of reciprocal Australian market access negotiations.
- Where mutual recognition of safety certification appears to be inadequate, Australia's bilateral agreements must provide for enhanced safety accreditation processes.

Current access to Australia's domestic market and beyond is sufficient

In view of the level of competition, quality and frequency of services in the domestic market, there is no need to increase foreign international airlines' access to the domestic market. Any further increase may engender a destructive level of competition that undermines industry viability, employment conditions and existing safety standards.

Under the current policy, foreign persons (including foreign airlines) can acquire up to 49 per cent of the equity of an Australian international airline, other than Qantas, and up to 100 per cent of the equity in an Australian domestic airline unless deemed contrary to the national interest. This policy is remarkably liberal and has now facilitated the entry of two LCCs (Virgin Blue and Tiger Airways) in the domestic market.

AIPA agrees with the generally held view that granting cabotage rights would bring marginal economic benefits,¹⁶ but maintains it would come at the risk of introducing significant instability. While the current policy has facilitated greater competition in the domestic market, it has had a comparable effect to granting cabotage rights. Hence there is very little to be gained from such a move whilst the costs may well be high.

With regard to beyond services, there are already a number of airlines who have been granted beyond rights (fifth freedom) such as Emirates. These rights have been granted as part of a negotiated ASA and must be viewed in the context of the overall agreement.

In the most recent Australia-United States ASA, the agreement allows cargo only services to operate from the other country to a third country, without the need to pass through that airline's home country.

AIPA is comfortable with seventh freedom rights being granted for cargo only services. As Australia is an end of line destination, beyond rights are valuable from the point of view of providing access back to high per capita income countries such as the US, Singapore and Hong Kong. These are primary destinations for Australian carriers and there is already sufficient competition on these routes. In the case of the Pacific route, following the recently negotiated Australia-United States ASA, there will be increased competition on this route and beyond.

¹⁶ See Productivity Commission, *International Air Services*, Report No. 2, 11 September 1998.

The subject of granting rights to Singapore Airlines on the Pacific route has drawn considerable discussion. To date, the Australian Government has determined that it is in the national interest to restrict access to Australian and US airlines. AIPA strongly supports this decision.

AIPA contends that seventh freedom rights should not be granted to foreign airlines except where comparable market access (by route value) can be gained for Australian international airlines.

Domestic Air Services

Retain the current foreign ownership restrictions but allow greater aggregate foreign airline ownership

The deregulated domestic airline market is constrained by its size and the geographic distribution of the Australian population. The routes flown, frequency and product offering are determined by airlines' commercial considerations and aviation infrastructure (e.g. take-off and landing slots).

In this deregulated market, certain routes may not be flown, or flown only during certain periods, because they lack financial viability. AIPA believes the Australian Government cannot re-regulate the market and direct what routes should be flown and with what frequency.

With regard to access to global investment markets and the ownership of Australian airlines, there are a number of relevant considerations.

At present, Australian Government policy allows aggregate equity held by all foreign persons (including foreign airlines) to total 49 per cent of Qantas. Aggregate equity held by foreign airlines only is limited to 35 per cent and equity held by a single foreign person or foreign airline is limited to 25 per cent.

In the case of other Australian international airlines, there is a limit on aggregate equity held by all foreign persons, including foreign airlines, of 49 per cent.

For Australian domestic carriers, other than Qantas, aggregate equity held by all foreign persons, including foreign airlines, can total 100 per cent unless judged contrary to the national interest.

Recommendations:

- AIPA views the current foreign investment restrictions as appropriate but recommends amending the *Qantas Sale Act* so as to increase the maximum *aggregate* equity that can be held by foreign airlines to 49 per cent with a maximum held by a single foreign person or foreign airline limited to 24.5 per cent. This variation would allow foreign airlines to take larger (combined) stakes in Qantas but continue to restrict one airline from wielding near effective control.
- With regard to Qantas' ability to access global investment markets, AIPA believes the 49 per cent foreign ownership cap is appropriate. The ownership requirement ensures Qantas, as an integral part of the Australian aviation industry, remains

predominantly Australian owned and continues to be designated as an Australian international airline.

AIPA notes that were the cap lifted, Qantas would encounter regulatory hurdles in operating into foreign ports. This is because Australia's bilateral agreements (in the majority of cases) stipulate that the airline be substantially owned and effectively controlled by the country or its nationals. Were this not the case, Qantas could lose its status as a designated Australian international airline and lose the right to operate into these countries.

Preserve sovereignty and reciprocity over aviation infrastructure

Underpinning the nationality provisions in ASAs has been a recognition of the strategic importance of the economic development and social functions of air transport services. Nationality requirements (and the powers of designation and authorisation) have been a tool by which Australia has ensured its air services have met the interests of various stakeholders, including shareholders, passengers, employees, and supporting industries and communities.

The cost of permitting majority foreign ownership of designated carriers would be a reduction in Australia's influence (as the designating State) over the public interest dimension of its air transport services.

Recommendations

- AIPA recommends that Australia retain the discretionary right of refusal to accept designations proposed by other parties while continuing application of national ownership and control rules when designating domestic carriers.
- AIPA recommends that the Australian Government maintains the *Qantas Sale Act* and national ownership criteria for Australian international airlines generally.

Amend the *Qantas Sale Act* to incorporate subsidiaries such as Jetstar

When Qantas was privatised, the *Qantas Sale Act* set out measures considered appropriate regarding ownership and control of the national airline. These measures were reaffirmed by the Australian Government in 1999 following the Productivity Commission's inquiry into international air services and more recently in 2006 when Qantas sought amendments to the *Qantas Sale Act*.

Similarly, when the *Qantas Sale Act* was passed, no-one envisaged that Qantas would shift significant parts of its flying to a subsidiary and effectively build a two-tiered work force.¹⁷ Neither was it envisaged Qantas could shift the bulk of its low cost international and domestic flying to a subsidiary that may not be subject to the *Qantas Sale Act* provisions.

Further, the drafters of the *Qantas Sale Act* could not have anticipated a situation where the Qantas Group, as a majority Australian owned airline group, might depend

¹⁷ See Rochfort, Scott, *Qantas plans two-tier workforce*, Sydney Morning Herald, February 23, 2008.

on majority foreign-owned subsidiaries for its aircraft, freight services or brand loyalty management.

Recommendations:

- AIPA recommends amendments to the *Qantas Sale Act* in relation to Qantas subsidiaries and other issues to restore the intent of the *Qantas Sale Act* and ensure that:
 1. the head office of Qantas and each associated entity is located in Australia.
 2. the facilities taken in aggregate which are used by Qantas and by any associated entity in the provision of scheduled international air transport services (for example, facilities for the maintenance and housing of aircraft, catering, flight operations, training and administration), located in Australia, when compared with those located in all other countries, represent the principal operational centre for Qantas and its associated entities.
 3. at all times, at least two-thirds of the directors of Qantas and the directors of each associated entity are Australian citizens.
 4. at a meeting of the board of directors of Qantas and of a meeting of the board of directors of each associated entity, the director presiding at its meeting (however described) is an Australian citizen.
 5. (a) Qantas and each associated entity must not, directly or indirectly, enter into, commence to carry out, or carry out any scheme if it would be concluded that the person or any of the persons who entered into, commenced to carry out or carried out the scheme or any part of the scheme did so for a material purpose of avoiding the application or operation of any provision of the *Qantas Sale Act* (including any of the mandatory articles), and any such scheme will have no force or effect.

(b) In this part, scheme means:
 - (i) any agreement, arrangement, understanding, promise or undertaking, whether express or implied and whether or not enforceable, or intended to be enforceable, by legal proceedings; and
 - (ii) any scheme, plan, proposal, action, course of action or course of conduct, whether unilateral or otherwise.
 6. Whether an entity is an associated entity of Qantas is to be determined in the same manner as that question is determined under the Corporations Act 2001.

Addressing Pilot Skill Needs in the Aviation Industry

The Impact of Global Skies on Professional Pilot Standards

Any discussion regarding greater liberalisation and industry consolidation warrants an examination of the impact on pilot standards. AIPA is concerned by pressures mounting to drive down pilot standards from best practice to minimum practice.

Australian aviation has traditionally been predicated upon the incorporation of a margin of safety well above the minimum required standard. This approach has formed the foundation of one of the world's safest aviation systems and Australian airlines and pilots have an enviable safety track record.

In a global context, airline consolidation and mergers are likely to increase pressure on airline pilots' operating standards. One of the few areas where airlines can gain efficiencies is in the area of aircraft utilisation and moves to increase utilisation are likely to be the source of pressure on standards.

Take the situation where, in an increasingly globalised market, Qantas, British Airways and American Airlines decided to jointly operate a OneWorld service flying Sydney-Los Angeles-New York-London-Singapore-Sydney. To operate this route, the airlines might use a B787 aircraft registered in one of the countries and owned by a joint company operating out of that country.

Anecdotal information indicates that this arrangement has the potential to produce operational efficiencies of around 50 per cent benchmarked against current fleet stand alone operations. While the airlines are able to achieve economies of scope, what is the impact on pilot licensing and operating standards?

Pilots operating the aircraft must hold licences from the country in which the aircraft is registered. Where the State of Registry has less stringent licensing and flight and duty time (FDT) operating standards than Australia, pilots will no longer operate to what Australia defines as best practice, but to a lower standard. While the standards in the State of Registry are required to conform, at a minimum, to ICAO standards, they are potentially inferior to the approved practices of the Australian regulator (CASA) and the major Australian operator (Qantas).

In this example, pilot standards have been normalised from best practice to potentially minimum practice. From the airline's perspective, the move is a lower safety investment in its airline operations.

How do we maintain a high standard of aviation safety in the context of global developments?

Monitor pilot standards in the Australia-New Zealand single aviation market closely

In 2002, the Australian and New Zealand governments expanded the Single Aviation Market (SAM) agreement by ratifying an open skies treaty which offers unrestricted rights for Australian and New Zealand carriers to fly beyond each other's countries to overseas destinations.

In 2006, the Australian and New Zealand governments passed legislation which gave effect to mutual recognition of aviation-related safety certification. The legislation enables the mutual recognition of Air Operator Certificates (**AOC**) for operation of aircraft of more than 30 seats or 15,000kg.

The arrangements established mutual recognition of each country's regulatory standards in the areas of aircraft registration and maintenance, and flight crew and maintenance engineer licensing. In effect, the mutual recognition arrangements combined with the open skies agreement, created a single trans-Tasman aviation market.

In terms of pilot licensing standards, the mutual recognition arrangements mean New Zealand licensed pilots can operate in Australia flying New Zealand registered aircraft. In effect, the licensing of pilots and maintenance engineers is now jointly shared by the Australian and New Zealand safety regulators.

AIPA would view any move to enlarge the SAM with caution on the basis that while Australian and New Zealand regulators have licensing standards in excess of the ICAO minimums, many Australian regulatory standards are higher than New Zealand requirements. Further, Australia's bilateral agreements should provide for enhanced safety accreditation processes where mutual recognition of safety certification appears to be inadequate.

The Australian Pilot Market – Ensuring future supply meets demand whilst safeguarding pilot standards

Ansett's legacy and an industry characterised by training underinvestment

The Australian pilot market has seen a huge swing over the last decade, from excess supply to excess demand. Following Ansett's collapse in 2001, there were around 850 long haul and short haul pilots left unemployed. At this time, the industry was fairly stagnant with Qantas and the regional airlines undertaking limited hiring. The injection of around 850 pilots into the Australian pilot stock created a situation where Qantas, Virgin Blue and the regionals had ready access to well-trained pilot stock that had considerable heavy jet experience.

This surplus in Australian pilots took a number of years to be absorbed, prolonged by ex-Ansett pilots' attempts to maintain currency and medical requirements for their licences. In effect, Australian airlines were absolved from having to undertake pilot training and fell into a classic underinvestment in pilot training.

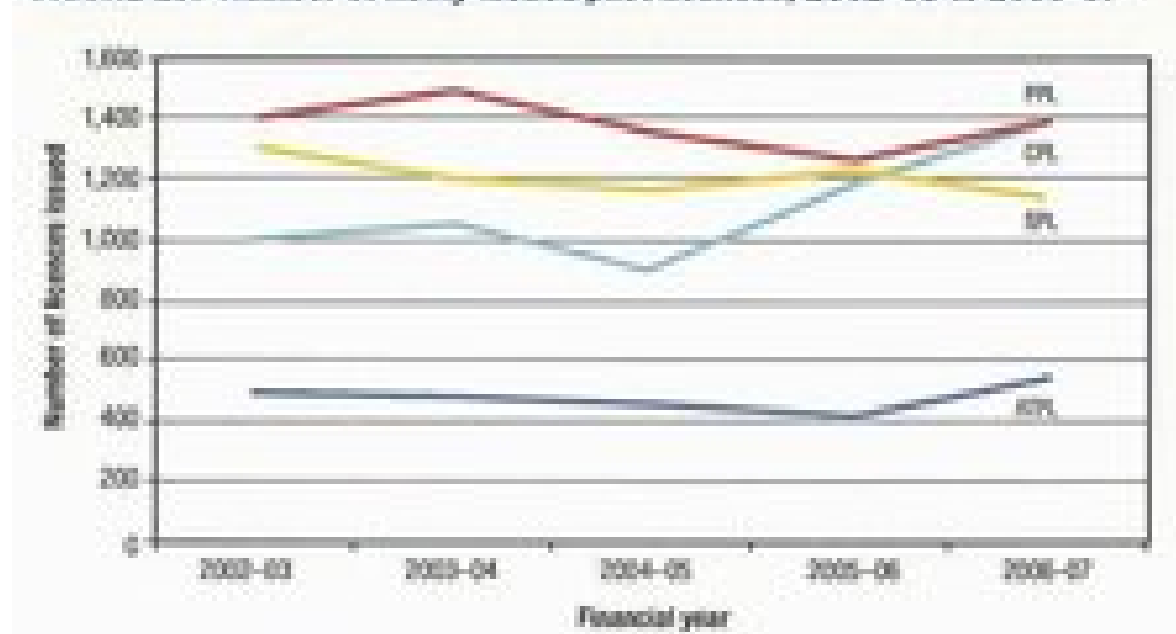
As a result, Australian airlines became accustomed to drawing from a pre-existing pool of pilots rather than developing a stream of ab initio trainee pilots. Further, their opportunistic approach meant that they were unaccustomed to investing in pilot training and had developed a short term approach to fulfilling their pilot requirements.

The absorption of the Ansett pilot stock into some of the Australian international, domestic and regional carriers had a subdued effect on the growth in pilot licences. Not surprisingly, the number of current pilot licences declined over the five years from 29,093 in 2002. 03 to 26,948 in 2006. 07, a seven per cent drop¹⁸. The number of

¹⁸ Australian Transport Safety Bureau (2008). *Australian aviation safety review: 2002 to 2006*. Canberra

newly-issued pilot licences for the same period reveals an underinvestment in flight training by operators as can be seen in the figure below.

FIGURE 18: Number of newly-issued pilot licences, 2002-03 to 2006-07



(ATSB, 2008, p. 26)

There are indications though that the depletion of the Ansett pilot stockpile has now forced airlines to reassess their investment in pilot training. The ATSB notes that :

the recent increase in CPL issues may reflect the recent introduction of cadet pilot schemes in a number of airlines. It is possible that over the next couple of years, the number of CPLs issued will continue to increase as a result of such initiatives and help replace those leaving the industry.¹⁹

However, the lead time involved for graduates from pilot cadet schemes to enter line flying means such schemes will not immediately address the current shortage. Within the last year, Regional Express (**Rex**) and QantasLink have been forced to cancel flights and routes, blaming a shortage of pilots due to high attrition rates.

With Qantas mainline, Jetstar, Virgin Blue and Tiger Airways growing their fleets, regional carriers have struggled to recruit and retain pilots. Rex has cited a 60 per cent pilot attrition rate for the 2007/08 financial year for example.

Pilot standards, pilot retention and aviation safety

In their quest to attract pilots, some regional airlines are reducing their flying experience entry requirements.

In the Australian context to date, there has been some variance in entry requirements for pilots entering the Qantas Group. Prior to 2007, the entry requirement into Qantas mainline as a Second Officer was 500 hours as Pilot in Command (**PIC**) plus 1,500 hours total flying of a powered fixed wing aircraft. In 2007, the 1,500 hours

¹⁹ Australian Transport Safety Bureau (2008, 26), *Australian Aviation Safety Review: 2002 to 2006*. Canberra

total flying component was dropped. It has also been dropped for entry into QantasLink as a First Officer. However, the requirement is still in place for entry into Jetstar as a First Officer. This reduced selection requirement is most likely a response to the tightening pilot labour market.

While it makes sense that the pilot shortage impacts regional airlines first, a scenario that is also currently playing out in the United States, with several airlines cutting flights due to staffing shortages, regional airlines are traditionally a stepping stone in a pilot's career. They pay considerably less than domestic and international carriers, with First Officers starting out on around \$40,000 and Captains earning around \$60,000 per annum.

There are pilots committed to flying regionally. They may not be earning high incomes but there can be lifestyle payoffs, like staying in a regional hometown or getting home every night. But most of Australia's highly-trained and skilled pilots use regional flying to gain experience and build hours, then move on, typically after about two years. After investing up to \$120,000 in training, it does not make financial sense for pilots to stay at the regional level.

With the airline industry booming, recent recruitment drives by Australian domestic carriers mean a greater than usual number of regional pilots are making the transition from regional to domestic flying.

But another very common career trajectory for regional pilots is direct from Australian regional to foreign airlines. From Dubbo to Dubai. For instance, a QantasLink Captain flying regionally is highly sought after by international airlines. But due to structural barriers within the Qantas Group, which treats each of its brands as completely separate entities for employment purposes, it is far more difficult for QantasLink pilots to fulfil their professional goal of flying Qantas mainline than to take a job offer overseas. Overseas airlines, including JAL, Emirates and Cathay Pacific, actively recruit Australian pilots. Indeed, Australian pilots form the backbone of some flight crews across Asia and the Middle East.

At the same time, pressure is building from Australian airlines to import foreign pilots under the 457 visa scheme. Jetstar recently announced its intention to import 75 foreign Captains. While there may be a case for pilots to be brought into Australia from overseas in some very specific circumstances, for example Coast Watch, which has had severe problems recruiting and retaining pilots, it is not warranted for Jetstar. Rather, dismantling bottlenecks in the current Qantas Group system freeing up other pilots within Qantas mainline would go a long way to addressing the problem.

The valuable skills and experience vested in Qantas mainline First Officers and Second Officers remains confined to mainline operations, with these pilots unable to take commend positions in Jetstar, even temporarily, without compromising their career options. The reverse is also true with Jetstar pilots unable to take positions within Qantas mainline without resigning from Jetstar and similarly compromising their future career options.

AIPA maintains that pilot shortages can be solved with a Qantas-wide Group Opportunity Allocation List, as operates successfully in Air New Zealand and British Airways. But it must be paired with an improved and streamlined training system for pilots to ensure airlines meet plans for future expansion.

The global expansion of the aviation industry has been predicted by aircraft manufacturers for years. But while manufacturers have ramped up production

capabilities, airlines do not seem to have responded with the same level of planning and investment in pilot training.

Tackling the pilot shortage in Australia requires a multi-pronged strategic approach, bringing together a number of short and long-term measures. However at the same time, upholding pilot standards is essential to the Australian airline industry's long term viability.

In the Australian aviation industry, it is critical that more pilots are not injected into the system in a manner that compromises safety. In other words, increased quantity must not be allowed to lead to a sacrifice in quality.

Considering this same problem but in the US aviation industry, the President and Chief Executive of the Flight Safety Foundation William Voss commented:

The pilot shortage doesn't necessarily create a safety problem by itself unless we allow the shortage to compromise the level of competency that we require to operate an aircraft. We must proactively oversee the industry to make sure that pilot demand is not forcing standards below a safe level.²⁰

In response to the looming pilot shortage, AIPA has devised a plan based on three key elements: attracting more young people into aviation; training them to the highest possible standard; and retaining their valuable skills and experience in Australia.²¹ These proposals are some of the measures required to ensure the aviation industry can competitively attract and retain talent in a tight Australian labour market.

A plan for the industry's future pilot requirements

Attract people to the profession

Aviation has historically been a popular career choice in Australia. Australia's size and population spread have shaped the aviation industry we have today. Vibrant General Aviation (**GA**) and Regular Public Transport sectors have developed over the past century, through the sheer necessity of covering vast distances.

Australian airlines have benefited from access to a large pool of young flying enthusiasts willing to commit significant amounts of money on flight training and a career as a pilot, and able to develop their skills through GA.

Today, aviation is becoming less popular as a career choice, with young people questioning the sense in paying up to \$120,000 for a pilot's licence that does not necessarily guarantee a good income or stable career. In comparison, science and engineering graduates can command high salaries, without the demand for large financial contributions toward their own training (J. Middleton, personal communication, May 30, 2008). Some stakeholders believe the demand for pilot training has been influenced by Ansett's collapse which created the perception that being an airline pilot does not offer a stable career.²²

²⁰ Bovier, C. (2008, March 28). Quality control for pilots. *Aerosafetyworld*, pp.24-28.

²¹ Australian and International Pilots Association (2008). *Attract, train, retain: A plan to address the skills crisis in Australian aviation [DRAFT]*. Sydney.

²² Bureau of Transport and Regional Economics (2005). *General Aviation: An industry overview, Report 111*. Canberra.

Some factors thought to be adversely influencing the uptake of flying as a career include:

- the rise of low-cost carriers, which have pushed down salaries and conditions in the industry;
- the collapse of airlines including Ansett, resulting in the perception that flying is not a stable career;
- the high and growing cost of training, compared to other professions. The cost of building up a pilot's flying time has increased significantly due to fuel costs in the last ten years, while some flying schools complain increases in regulatory fees and privatised airports are pushing up their costs;
- very low wages paid in GA. While GA can be compared to an apprenticeship, many pilots have spent more than ten years in GA before securing a position with an airline;
- continual re-testing and re-qualification of not only technical skills but medical fitness can mean flying may not be a career for life; and
- an apparent lack of diversity amongst pilots with, for example, just three per cent of pilots being women, compared with 30 per cent of doctors.

Recommendations:

AIPA recommends:

- research into barriers to aviation as a career, including a focus on barriers to women and minority groups.
- acting on the results of the research, a focused series of recruitment and promotional activities targeting women, people from regional areas and other groups identified as underrepresented in the current body of pilots.
- improving the image of the profession through a pilot outreach programme with pilots visiting schools and career fairs.
- an expansion of FEE-HELP and other schemes to cover flight training, reducing upfront costs.

Retain pilots flying for Australian airlines

Measures to retain trained pilots in Australia are most important in combating the pilot shortage in the short term. Retention is currently a major issue for the regional airlines . which are complaining of attrition rates well above average . but as the shortage escalates it is likely to move up to the larger carriers.

Australia's highly trained and skilled pilots are actively sought after and recruited by airlines worldwide. While there will always be pilots seeking the adventure or tax-free income that only an overseas airline can offer, too many of our colleagues leave Australia because they have no other option for career progression.

After a couple of years flying regionally, many pilots look for new challenges and opportunities. Unfortunately, they are not always readily available.

One factor at play in these decisions is the restrictive career progression for many pilots within the Qantas Group of airlines. In many instances it is far easier for a QantasLink pilot to move to the Middle East and get a job with Emirates, than to get a job flying for Qantas mainline.

With the Australian industry expanding, it has never been more important to retain the skills and experience of Australia's senior pilots. It is these pilots Australia relies upon to maintain its world-class standards and guide the development of the next generation of Australian airline pilots.

Australian airlines may not always be able to compete with the pay packets overseas airlines are offering, but money is not the only consideration for pilots. For many if not most, security of tenure and the opportunity of a stable pathway to becoming a Pilot In Command will give them a reason to stay.

Recommendations:

AIPA recommends:

- research into mapping the career paths of Australian pilots, looking at when, why and how many pilots leave the industry or pursue career opportunities outside Australia, and what might bring them back.
- acting on the results of the research, measures to improve conditions for pilots . including flexible employment practices such as part-time rostering and job shares . such that they are encouraged to remain in the Australian industry.
- a Group Opportunity Allocation List (**GOAL**) for all Qantas Group airlines. The GOAL proposal would revamp the career progression system for pilots, creating more opportunities for command experience by giving, for example, Qantas mainline, Jetstar and QantasLink pilots the chance to transfer between airlines while maintaining seniority and job security. AIPA's model would provide the flexibility sought by First Officers to gain the experience and promotional opportunities they are currently seeking overseas, while unlocking the skills currently residing in Qantas mainline for the benefit of the broader industry.

Train sufficient pilots for Australian airlines without compromising standards

Pilot training is central to maintaining Australia's safe, vibrant, growing aviation industry. In Australia, there are several paths to a flying career. Pilots can attend university or a private flying school, or start out in the military, working their way through the requisite licences . Private Pilot Licence, Commercial Pilot Licence and Air Transport Pilot Licence . gaining instrument ratings and building their flying time.

In addition to taking on cadets . who contribute significantly to the costs of their training . Qantas and other Australian airlines have traditionally been able to rely on recruiting pilots fully trained at their own cost. But this is no longer the case.

With airlines realising they must become more proactive at attracting and training pilots, Qantas has, for the first time, formed pilot training partnerships with two universities while Rex has joined forces with Mangalore Airport to offer a cadet training scheme. These are welcome measures.

However, Australia's pilot training industry will not meet growing demand until the critical shortage of experienced flight instructors is addressed. Flight instructors are

low-paid and have little job security, leading to many opting for operational careers with airlines.

The number of flight instructors needs to grow if a severe pilot shortage is to be avoided in the next five years. But over the past five years, from 2002 to 2007, there was a 52 per cent drop in the total number of flight instructors. Government, industry and flight training organisations need to work together to develop strategies that ensure the future health of the pilot training industry.

Pilot training in Australia needs a comprehensive overhaul to become a modern, streamlined system able to serve a rapidly expanding industry.

Recommendations:

AIPA recommends the Government:

- launch a taskforce made up of industry, Government and pilot representatives to review and recommend improvements to current training pathways and assist the development of the training industry.
- establish a National Institute of Professional Pilots comprising industry, Government and pilot representatives to oversee and identify areas for improvement in pilot training in Australia, authorise the theory accreditation as part of the Air Transport Pilot Licence and monitor areas of current and future skills shortage.
- start a joint Government-industry scholarship scheme to support women and students from minority groups and regional communities into the industry.
- encourage airlines to provide subsidised training, followed by long-term career opportunities. This investment in training by the airlines would be defrayed over the pilots' years of service.
- develop measures addressing the critical shortage of experienced flying instructors.

Develop a co-ordinated approach to skills development in the Australian aviation industry

A co-ordinated approach to workforce planning, involving Government, industry and the training sector is required in the broader skills framework. If we are to succeed, the key issues of attracting people into aviation, training them to the highest possible standards and retaining our skilled pilots needs urgent attention.

Recommendations:

AIPA recommends a multi-faceted approach, including:

- scholarships and Government loans for trainee pilots.
- better opportunities for pilots to build careers across related airlines by means of a Group Opportunity Allocation List.

- innovative employment practices for pilots, including flexible and part-time flying arrangements.
- research to map the career paths of Australian pilots, with a focus on when and why pilots leave Australia for overseas job opportunities.
- measures to ensure the next generation of pilots includes more women and better reflect Australia's diverse, multicultural society.

Co-ordinate flight training with the airline industry's needs

Government and industry resources would be better spent on attracting and retaining flight instructors rather than on the establishment of a national industry run flying school.

From 2002 to 2007, there was a 52 per cent drop in the total number of flight instructors. The rapid movement of instructors is already showing up with changes in airmanship.

A recent study by the Future Pilot Task Force²³ noted that Australia needs to increase its instructor numbers by 15 per cent over the next five years in order to avoid a serious pilot shortage. However, the desired 15 per cent will not keep up with the declining numbers.²³ And a lack of instructors will not only affect safety but will have a marked effect on the availability of instructors to staff current and future flying schools.²⁴

According to Phelan (2008):

At the time the airlines and the FTOs got their heads together and worked out a strategy that locked airline recruits into extended stays at the training schools in return for the promise of a job at a specified time.²⁵

Cathay Pacific and Flight Training Adelaide have teamed together to offer scholarships that will subsidise 80 per cent of the cost of full-time flight training. Under the plan, graduates will start their careers as flight instructors before moving to the airline, which is expected to help solve the growing shortage of instructors (Phelan, 2008). This is an excellent model for both attracting and retaining flight instructors for a fixed period of time. Government flying scholarships would also increase the number of pilots willing to serve time as a flight instructor with a General Aviation company when no airline arrangement exists.

Furthermore, flight instructors are amongst the most poorly paid pilots in the profession. The *Pilots' (General Aviation) Award 1998* should be revised to provide greater incentive for pilots, particularly flight instructors, to remain in this sector of industry. As stated previously, youth are questioning the sense in paying up to \$120,000 for a pilot's licence that does not necessarily guarantee a good income or

²³ Prossor, D. (2008, May). The decline of instructor numbers. *Australian Aviation*, p. 91.

²⁴ Prossor, D *op cit*.

²⁵ Phelan, P. (2008, April/May). Pilot recruitment breakthrough. *Aviation Business Asia Pacific*, p. 6. and Phelan, P. (2008, April/May). Facing the skills crisis: possibilities and perils. *Aviation Business Asia Pacific*, pp. 14-18.

stable career. In comparison, science, engineering and other graduates can command high salaries, without the demand for large financial contributions toward their own training (refer to table below).

Flight Instructor (Grade 3)	\$29,182
Average Australian Graduate Salary	\$50,918
Engineering Graduate (average)	\$54,737
Government & Defence Graduate (average)	\$49,581
Scientific Graduate (average)	\$54,393
Trades and Services Graduate (average)	\$53,090 ²⁶

Recommendation:

Industry and Government should co-operate to devise a plan for retaining flight instructors and encouraging newly qualified commercial pilots to accumulate their hours through teaching. The proposal for a national industry run flying school is not viewed by AIPA as an appropriate long term solution.

²⁶ Australian Government (1998). *Pilots' (General Aviation) Award 1998*. and MyCareer (2008). *Graduate Salary Centre*.

2. Management of Australia's Aviation Infrastructure

Airport Planning and Development

Place aeronautical requirements of airlines and airports before non-aeronautical requirements

The privatisation of Australia's airports has resulted in consortiums managing airport infrastructure under commercial pressure with a view to maximising commercial returns. These pressures have resulted in some airport operators failing to recognise that the primary purpose of airports is for aviation, not merely retail services.²⁷

The regulatory regime must ensure that non-aeronautical developments at airports do not compromise the aeronautical requirements of airlines and airports. One means of achieving this objective is to ensure Australia subscribes to the world's best practice with regards to aeronautical developments. The aeronautical requirements of airports must always take precedence. Once this is satisfied, airport operators should be free to pursue non-aeronautical developments. Unfortunately operators sometimes pursue non-aeronautical profit maximisation at the expense of aeronautical safety. For example, Sydney Airport refuses to upgrade its proposed 90 metre Runway End Safety Area (**RESA**) for Runway 25 to the 240 metre RESA recommended by ICAO and CASA. It is interesting to note that the FAA in the US requires all commercial airports to have a 305 metre RESA, well above the minimum ICAO SARPS.

Sydney Airport will not spend the equivalent of about four per cent of its annual retail revenue on an Engineered Materials Arresting System (**EMAS**), an alternative means of complying with the 240 metre international best practice, which could help prevent the world's fourth-largest cause of airline fatalities. The airport is in the middle of a \$500 million upgrade and expansion of its international terminal. It recently spent \$65 million on an eight-storey car park and has undertaken a \$20 million redevelopment of the T2 domestic terminal.²⁸ The cost of providing an EMAS is estimated at \$5.3 million by ESCO, a manufacturer of EMAS.

It is difficult to understand how the airport can justify such significant non-aeronautical development costs at the expense of an aeronautical development critical to the safety of the travelling public and at a fraction of the cost. The Government must intervene to ensure global minimum standards do not become the norm in Australia, particularly when the additional cost for installing an EMAS is relatively small. Additionally, the regulatory regime must provide more rigorous oversight of airport leases to ensure aeronautical developments and safety remain the first priority.

²⁷ O'Brien, K. (2006). Airports and their local communities: A way forward. Federal Labor's plan for airport planning.

²⁸ Gibson, J. (2008, June 20). Airport stinginess risks lives, pilots say. *Sydney Morning Herald*, p. 9.

Consider off-airport developments and the affect of “mechanical turbulence” on aviation safety

For some time, AIPA has raised questions about the reliability and validity of wind reports for landing and take-off. The actual wind encountered during the final approach and landing is known to significantly differ from the reported wind values. Wind varies in strength and direction because of the gustiness and instability of the air and the wind report merely contains a statistical picture of the current wind situation.

Building induced wind disturbances (**mechanical turbulence**) can increase the natural gustiness and instability of the air, and can therefore increase the variation of wind. To limit widespread proliferation of building plans near runways (both on and off the airport site), measures must be taken to assess acceptable wind disturbance by obstacles.²⁹

Mechanical turbulence has been reported on short final for Runway 35 in Canberra caused by buildings close to the threshold. What appears to have been rampant and minimally regulated development at Canberra Airport took place in 2006 and was a serious threat to flight safety. This threat was associated with the positioning of a large hangar immediately adjacent to the airport's runways, on the Brindabella Park side. The structure sits directly in line with the prevailing wind, thus creating down stream turbulence across the take-off and landing zone of the airport's main runway.

Following pilot initiated air safety incident reports describing problems with turbulence on landing, Airservices Australia was forced to warn pilots of the hazard in their operational publications. The En-Route Supplement Australia warns pilots to expect severe turbulence on landing when the prevailing wind is strong. The increasing number of multi-storey office blocks now springing up in the same area of the airport on the upwind side of the main runway can only make the problem worse.

While airport management may defend the size and positioning of their office blocks and hangars, the severe turbulence across the touch down area of the airport's main runway was not an issue prior to these structures being built.

Canberra Airport is a prime example of relaxed approval processes leading to inappropriate development close to the main runway. Sydney Airport is another example where pilots have been reporting for years the mechanical turbulence on final approach for Runway 16R when a south westerly wind blows over the freight containers on short final.

Qantas's Route Manual Supplement (an operational document) states:

Severe turbulence is possible on short final to Rwy 16R when the wind is between 200° and 220° and greater than 30kt due to rotor turbulence caused by the international and freight terminals.

This warning should be included in Airservices Australia's En-Route Supplement Australia and on the Automated Traffic Information Service to benefit all pilots.

²⁹ Australian Transport Safety Bureau (2003). *Aviation Safety Investigation Report – Final, Boeing Co 737-476, VH-TJG*. Retrieved June 23, 2008, from http://www.atsb.gov.au/publications/investigation_reports/2002/AAIR/aaair200205179.aspx

In the past, responsibility for these issues has been passed from the (then known) Department of Transport and Regional Services to CASA and airport operators, airport operators to CASA and CASA back to airport operators, ultimately resulting in no single point of responsibility. The Department of Infrastructure has jurisdiction over the *Airports (Protection of Airspace) Regulations* and must take responsibility.

Airport operators feel powerless in the face of a lack of concrete standards from CASA, and even ICAO. Sydney Airport has previously stated that it is prepared to fund a wind study if they can be assured that CASA will accept the results and not reject them due to the lack of standards.

Following a reported mechanical turbulence incident at Canberra Airport involving a Boeing 737, the ATSB investigation report stated:

There are presently no building codes or standards in Australia that address the phenomena of building-induced turbulence with respect to proposed buildings to be located on or adjacent to aerodromes.³⁰

AIPA calls on the Government to take an international lead in the development of these much needed standards. An airport industry working group involving the Department of Infrastructure, CASA, Airservices Australia, airport operators and pilot representatives must be established to investigate the issue of mechanical turbulence and develop standards appropriate for Australia.

The Government should consider the following IFALPA policy, endorsed by AIPA, in its development of standards:

The effects of wind disturbance caused by buildings, other man-made structures [such as the shipping containers near Sydney Airport] and natural obstacles and objects on aircraft behaviour during the initial departure path, final approach path and the take off and the landing roll shall be assessed. This assessment must take place during the planning and design phase and shall be based on a scientific study. The study shall quantify the effects of the three aspects of wind disturbance: wake, vortices and turbulence.

The effects of the wind disturbance should be assessed against the controllability and performance of the aircraft according to its category. The results of the assessments should be compared with a known risk matrix such as JAR 25.1309, change 14, page 3-F-14 to determine the effects on aircraft operations.

In addition, similar assessments shall be carried out for existing buildings, structures and objects near existing runways [for years, pilots have reported mechanical turbulence from the shipping containers near Sydney Airport] ...

ō The construction of man made objects, structures or obstacles in the vicinity of the initial departure path, the final approach path and the take off and the landing roll, shall not be allowed, unless it is proven (by scientific

³⁰ Australian Transport Safety Bureau (2003). *Aviation Safety Investigation Report – Final, Boeing Co 737-476, VH-TJG*. Retrieved June 23, 2008, from http://www.atsb.gov.au/publications/investigation_reports/2002/AAIR/aaair200205179.aspx

methods) that the effect of the construction will not cause unacceptable levels of wake, turbulence or vortices to aircraft operations due to disturbance of the wind.

In addition, a safety assessment study must be carried out on the effects on flight operations, such as, but not limited to visual interference, of these man-made objects, structures or obstacles.

Note: Scientific methods include, but are not restricted to Computational Fluid Dynamics or advanced wind tunnel modelling.

The construction, extension or expansion of runways in the vicinity of man made structures or natural obstacles shall not be commenced unless it is proven (by scientific methods) that aircraft operations during initial departure, on the final approach path and the take off and the landing roll will not adversely be affected by wake, turbulence or vortices due to the disturbance of the wind by the aforementioned structures and obstacles.

For existing runways, the effects of wind disturbance, namely wake, turbulence and vortices of existing structures and obstacle within the vicinity of runways shall be assessed (by scientific methods). This assessment shall be used to determine acceptable levels of wind disturbance and shall be used in the selection of runways for day to day aircraft operation.

Buildings and facilities actively causing atmospheric disturbances or producing emissions which affect the flight path of the aircraft should also be taken into consideration in the construction, extension or expansion of a runway.³¹

Birdstrikes at Canberra Airport have also continued at twice the 'pre development' rate. In the four years 2000 to 2003, i.e. pre-business park development, the average birdstrike rate was 16 per year. In the four years since development, 2004 to 2007, the average rate has been 33 per year. Overall, birdstrike rates have risen in a linear trend for RPT strikes and total movements, despite the fall in movements.³² The following International Bird Strike Committee standards for aerodrome bird/wildlife control are best practice and should apply to all aerodromes carrying RPT traffic, irrespective of the movement frequency or aircraft type. These standards are endorsed by AIPA:

“Standard 1

A named member of the senior management team at the airport should be responsible for the implementation of the bird control programme, including both habitat management and active bird control.

Standard 2

An airport should undertake a review of the features on its property that attract hazardous birds/wildlife. The precise nature of the resource that they are attracted to should be identified and a management plan developed to eliminate or reduce the quantity of that resource, or to deny birds access to it as far as is practicable.

³¹ International Federation of Air Line Pilots Associations (2007,10-12) *IFALPA Technical Manual Annex 14 Volume I (Aerodromes)*. Surrey, UK.

³² Australian Transport Safety Bureau (2008). *An analysis of Australian bird strike occurrences 2002 to 2006*. Canberra

Where necessary, support from a professional bird/wildlife strike prevention specialist should be sought.

Documentary evidence of this process, its implementation and outcomes should be kept.

Standard 3

A properly trained and equipped bird/wildlife controller should be present on the airfield for at least 15 minutes prior to any aircraft departure or arrival. Thus, if aircraft are landing or taking off at intervals of less than 15 minutes there should be a continuous presence on the airfield throughout daylight hours. The controller should not be required to undertake any duties other than bird control during this time. Note that for aerodromes with infrequent aircraft movements, 15 minutes may not be long enough to disperse all hazardous birds/wildlife from the vicinity of the runway. In this case the controller should be deployed sufficiently in advance of the aircraft movement to allow full dispersal to be achieved.

At night, active runways and taxiways should be checked for the presence of birds/wildlife at regular intervals and the dispersal action taken as needed.

Standard 4

Bird control staff should be equipped with bird deterrent devices appropriate to the bird species encountered, the numbers of birds present, and to the area that they need to control. Staff should have access to appropriate devices for removal of birds/wildlife, such as firearms or traps, or the means of calling on expert support to supply these techniques at short notice. All staff should receive proper training in the use of bird control devices.

Standard 5

Airport bird/wildlife controllers should record the following at least every 30 minutes (if air traffic is sufficiently infrequent that bird patrols are more than 30 minutes apart, an entry should be made for each patrol carried out).

- ~ areas of the airport patrolled,
- ~ numbers, location and species of birds/wildlife seen,
- ~ action taken to disperse the birds/wildlife,
- ~ results of the action.

More general information such as the name of the bird controller on duty, time on and off duty, weather conditions etc should be recorded at the start of a duty period.

Standard 6

Bird/wildlife incidents should therefore be defined in 3 categories:

Confirmed strikes:

- ~ Any reported collision between a bird or other wildlife and an aircraft for which evidence in the form of a carcass, remains or damage to the aircraft is found.
- ~ Any bird/wildlife found dead on an airfield where there is no other obvious cause of death (e.g. struck by a car, flew into a window etc.).

Unconfirmed strikes:

- ~ Any reported collision between a bird or other wildlife and an aircraft for which no physical evidence is found.

Serious incidents:

~ Incidents where the presence of birds/wildlife on or around the airfield has any effect on a flight whether or not evidence of a strike can be found.

Standard 7

Airports should establish a mechanism to ensure that they are informed of all bird/wildlife strikes reported on or near their property.

The total number of birdstrikes should never be used as a measure of risk or of the performance of the bird control measures at an airport.

Airports should ensure that the identification of the species involved in birdstrikes is as complete as possible.

Airports should record all birdstrikes and include, as far as they are able, the data required for the standard ICAO reporting form. National Regulators should collate birdstrike data and submit this to ICAO annually.

Standard 8

Airports should conduct a formal risk assessment of their birdstrike situation and use the results to help target their bird management measures and to monitor their effectiveness. Risk assessments should be updated at regular intervals, preferably annually

Standard 9

Airports should conduct an inventory of bird attracting sites within the ICAO defined 13km bird circle, paying particular attention to sites close to the airfield and the approach and departure corridors. A basic risk assessment should be carried out to determine whether the movement patterns of birds/wildlife attracted to these sites means that they cause, or may cause, a risk to air traffic. If this is the case, options for bird management at the site(s) concerned should be developed and a more detailed risk assessment performed to determine if it is possible and/or cost effective to implement management processes at the site(s) concerned. This process should be repeated annually to identify new sites or changes in the risk levels produced by existing sites.

Where national laws permit, airports, or airport authorities, should seek to have an input into planning decisions and land use practices within the 13km bird circle for any development that may attract significant numbers of hazardous birds/wildlife. Such developments should be subjected to a similar risk assessment process as described above and changes sought, or the proposal opposed, if a significant increase in birdstrike risk is likely to result.³³

Addressing Future Airport Needs

Establish an Airport Consultative Committee

The Government needs to increase industry consultation on aeronautical airport issues. The establishment of an Airport Consultative Committee would provide an

³³ IFALPA (2008, pp.1-2)

opportunity for professional pilots and other stakeholders to contribute their technical expertise to Government and airport operators in order to facilitate safe and efficient aeronautical airport developments and operations and assess future needs.

The Committee should have the ability to make recommendations to airport operators and the Minister.

The Committee should also be engaged in the early development of Airport Master Plans and Major Development Plans to enhance the process and be involved in major proposed developments.

Planning Principles

Future airport developments require sensible, clear and open planning with passenger safety as the core priority. The airport planning and development decision process must be transparent and engage the Airport Consultative Committee.

Plan for a second airport while utilising technology to increase Sydney's capacity

Airports are a critical component of Australia's infrastructure that contribute significantly to the economy. With passenger numbers expected to more than double over the next 20 years to about 228 million per annum, Australian airports must plan for expansion of their aeronautical facilities.³⁴

The forecasted level of passenger growth will require a significant response from airport authorities to increase existing capacity. BITRE (2008) states 'Expected high rates of growth in passenger movements are likely to mean that aircraft movements at Sydney in the peak will run up against the cap at a future point' (p. 54). Sydney Airport's limitations need to be recognised and planning for a second Sydney airport must be re-visited as soon as possible.

Develop a second Sydney gateway

The number of passenger movements through Sydney Airport is expected to rise to 63 million passengers by 2025-26.³⁵ Whilst the current Sydney Airport Master Plan expects to handle this increased capacity, Australia's airline pilots experience the delays and frustrations associated with airport congestion and air traffic control limitations daily.

AIPA accepts that Sydney will require a second airport to cater for currently forecast increased passenger growth. A second Sydney airport will increase efficiencies through increased competition leading to lower aeronautical costs and in turn lower air fares. Above all, a second Sydney Airport will provide additional capacity and reduced congestion.

Victoria's Avalon Airport has proved a good model for providing additional airport capacity. The proposed Badgerys Creek site, Bankstown, Camden, Richmond and Williamstown (Newcastle) airports should be evaluated and new sites explored as potential secondary airports accommodating point to point regional and domestic operations.

³⁴ Bureau of Infrastructure, Transport and Regional Economics (2008). Working paper 72: Air passenger movements through capital city airports to 2025-26. Canberra

³⁵ BITRE (2008) op cit.

AIPA acknowledges the significant contribution regional aviation operations provide to the community and economy. Notwithstanding this, regional operators hold many peak time take-off and landing slots at Sydney Airport at present. A secondary airport should be used by regional and even domestic operators during peak times to free up the valuable slots that are better used for high capacity international flights. Additionally, smaller aircraft require more spacious airspace slots to take off and land as they cannot climb and descend at the same speed and angle as the larger jets.³⁶ A secondary Sydney airport would make more economic sense than the status quo.

Utilise a Category III Instrument Landing System or Global Navigation Satellite System (GNSS)

AIPA supports plans for Melbourne Airport to introduce Australia's first category III instrument landing system, a ground-based system that uses a combination of radio signals, high-intensity lighting and computer software to guide aircraft towards the runway, installed by the end of the year³⁷. Melbourne loses 40 hours of operations a year due to weather below minima. The Government should evaluate the need and take steps to install category III instrument landing systems or newer and more cost effective GNSS technology at other affected airports such as Sydney, Canberra and Perth. Such technology would alleviate disruptions and reduce congestion at airports that receive diverted flights at peak times.

The regulatory development of category II and III standards or GNSS must comply with ICAO's Annex 14 as a minimum.

Air Traffic Management

Technology's role in improving Australia's air traffic management system

The incorporation of satellite technology in the Australian system

The current Australian Air Traffic Management (**ATM**) system requires continued modernising if it is to effectively and efficiently handle the forecast traffic growth in the medium to long term. Satellite based communication, navigation and surveillance technology afford the opportunity for such modernisation of the ATM infrastructure.

AIPA believes that most of the key challenges identified in the Issues Paper are addressed by *Air Traffic Management 07 – A Strategic Vision for Australia*. The Australian Strategic Air Traffic Management Group (**ASTRA**) published this document as an ATM Strategic Plan in December 2007. AIPA is an ASTRA stakeholder and endorses the Plan. Given the four aviation portfolio Government agencies endorsed the Plan, it is confusing to read the following in the Issues Paper:

Australia lacks a clear Government endorsed national plan for the development of our future air traffic management system. A plan which focuses not just on the immediate challenges, but also our medium to long term objectives and strategies for how they can be met, would

³⁶ Nicholas, K. (2008, June 21-22). Our gateway airport at full stretch. *The Weekend Australian Financial Review*, pp. 28-29

³⁷ Murphy, M. & Burgess, M. (2008, June 5). Plan to fog-proof Melbourne airport. *Sydney Morning Herald*

provide a basis for informed decisions on investments in the system and in aircraft equipment. Safety, security, productivity, cost-effectiveness and environmental issues could all be considered in developing the plan.+

AIPA believes that *Air Traffic Management 07* strives to be exactly what the Issues Paper identifies as lacking in Australia. AIPA encourages the Government, as part of its policy formulation process, to revisit this Plan and consider endorsing it.

Low Level Automatic Dependant Surveillance Broadcast (ADS-B) Implementation

ADS-B implementation in low-level airspace has been an area of much discussion and apparent inertia. AIPA is a strong supporter of as wide a mandate of ADS-B OUT technology in low-level airspace as possible. Fleet wide installation and operation of ADS-B OUT avionics provides the incentive for Passenger Transport Operators to install ADS-B IN technology and provide Passenger Transport Operations (PTO) flight crews with enhanced situational awareness. AIPA believes this is particularly crucial at Non-Controlled Aerodromes where PTO can conflict with lighter General Aviation/Visual Flight Rules (VFR) traffic.

The Issues Paper identified:

Patterns of air transport are changing, with the emergence of low cost carriers, larger aircraft, regional jets and a range of new point to point services driving further growth in the industry.+

and

Today's airline passenger is more likely to fly on routes not envisaged twenty years ago, over-flying hubs to non-capital city destinations.+

Flight crew have seen this evolution manifest itself as an increase of PTOs to non-controlled aerodromes with an associated increase in risk of conflict and/or collision with non-PTO traffic. The aviation industry has available to it a range of measures to manage the increased risk associated with the changed patterns of air transport.

These measures include:

- improved procedures such as CTAF(R);
- the ICAO suite of airspace classifications with associated levels of Air Traffic Services;
- alternative services such as a Certified Air/Ground Radio Service or UNICOM; and
- enhanced surveillance tools including ADS-B.

AIPA contends that surveillance technology such as ADS-B with a wide mandate that gives PTO flight crew enhanced situational awareness and creates an alert, see and avoid environment should be the minimum level of alerting in which PTO operate.

The appropriate level of service for each (current) non-controlled aerodrome can be objectively assessed using risk and cost-benefit analyses. If an underlying surveillance infrastructure consisting of ADS-B with a wide mandate is factored into these analyses then the appropriate level of service is biased downwards. In this way costs are constrained without increasing risk and growth of the industry though innovation in patterns of transport need not be inhibited.

AIPA understands there is a question of equity that has to be addressed in ADS-B discussions. The benefit of a wide mandate of ADS-B primarily accrues to the

heavy-end of the industry. AIPA supports the use of an installation subsidy for GA/VFR aircraft. It is aware of the proposal contained in the recent Joint Consultation Paper (**JCP**) to fund such a subsidy out of savings realised by retiring secondary surveillance radars and conventional radio navigation aids. AIPA is also aware that the cross industry business case that underpins the subsidy is being eroded through delay and inaction.

The Australian Transition to Satellite Technology (**ATLAS**) Project is the vehicle with which low level ADS-B implementation is progressed. AIPA believes that Project ATLAS is suffering from a lack of support at the Government level. AIPA contends that the Government should voice strong support to Project ATLAS to regain the project's momentum and meet the timelines described in the JCP.

3. Aviation Safety

Maintaining a high standard of aviation safety in the context of global developments

Strengthen safety compliance

The structure of the Australian civil aviation industry has changed radically over the last ten years. An industry once made up of national airlines serving individual countries' international air transport needs has been reshaped and globalised. Complex worldwide airline alliances now offer seamless travel within an international aviation market, while national flag carriers are being replaced by airlines flying under global branding. Modern airlines appear to be moving away from their traditional role of operators who simply own aircraft and employ people to maintain service and fly them. The very nature of the airline as an organisation is evolving.

Concentration in airline management and marketing is being accompanied by the dispersal and fragmentation of many of the key tasks of getting an aircraft into the sky. What was once a distinct process in the provision of an airline service, under the operational control of a single management, is now becoming decentralised and dispersed.

High levels of fragmentation and dispersal means that management responsibility is required to operate through a complex and tangled web of contractual arrangements which, given the primary responsibility of the operator for implementing safety and security regulation, clearly has the potential to diffuse a central mechanism of safety and security control.

Simultaneously to this evolution of the aviation industry, Australia is shifting toward an outcome based regulatory model that requires industry participants to assume greater levels of responsibility for regulatory safety compliance. This responsibility is set to sharply increase in the near future as the next phase of Australia's Regulatory Reform Programme is implemented.

Unless carefully monitored, pressures created by liberalised aviation markets may be at odds with increased regulatory self-responsibility. This potential conflict highlights the need for a vigilant, effective and independent safety regulator to ensure proper safety standards are not undermined by commercial pressure.

AIPA does not oppose outcome based regulatory models *per se*, and accepts that liberalising aviation economic policy is within the mandate of Government. However, the ability of CASA to effectively address the growing safety tension developing between the industry's economic framework and the simultaneous shift toward an outcome based regulatory model is of vital concern.

This necessity has been clearly noted in other jurisdictions. For example in Canada the Safety Commissioner investigating the Air Ontario Fokker 28 accident in Dryden expressed concern that the Government has not appreciated the safety implications of embarking on a policy of promoting increased airline deregulation at the same time it was imposing a freeze on safety regulation resources.

The Commissioner recommended that:

Transport Canada (should) put in place a policy directive that if resource levels are insufficient to support a regulatory or other program having a direct bearing on aviation safety, the resource shortfall and its impact be communicated without delay to successively higher levels of Transport Canada management until the problem is resolved or until it is communicated to the Minister of Transport.

AIPA highlights that within safety sensitive environments liberalised competition policy must be balanced by additional regulatory vigilance and backed by sufficient resources for safety compliance if existing standards are not to be undermined. The Government's challenge is therefore to demonstrate that economic and trade-in-services policies are wholly consistent with aviation safety and security goals. AIPA believes that regulatory and economic policy integration is imperative as the failure to achieve one set objectives may well seriously undermine the other.

Unless national aviation policy recognises this underlying tension between economic and regulatory policies, CASA will encounter increasing difficulty in addressing the safety implications arising from a liberalisation policy paired with a regulatory model that places increased responsibility for safety compliance upon industry.

AIPA believes the National Aviation Policy Statement must therefore provide the civil aviation regulator with the necessary compliance enforcement systems, resources and independence from industry to meet such challenges. This will require a shift in CASA's organisational resource allocation from the traditional focus on prescriptive oversight to one that better supports increased safety vigilance and operator systems compliance auditing.

In a recent inquiry by the Senate Rural and Regional Affairs and Transport Committee into the Administration of CASA and related matters, AIPA submitted that CASA does not possess the resources or support necessary to achieve its objectives. This is of particular concern to airline pilots and led AIPA to specifically inform the Senate Committee that:

- CASA must be more vigilant in a highly liberalised economic environment;
- CASA is too close and is in some degree captured by the industry it regulates;
- CASA requires a stronger board based governance structure to support the role of the CEO; and
- CASA does not possess an appropriately flexible compliance enforcement system.

AIPA also contended that such resource constraints also undermine CASA's ability to work collaboratively with the ATSB. For example, extremely onerous evidence provision timetables to support AOC suspension actions and CASA's lack of enforcement flexibility to address serious and imminent risk appeared to have led CASA to attempt to facilitate its functions at the expense of the ATSB's safety investigation activities - the appropriateness of which AIPA fully supports.

However, AIPA strenuously opposes a regulatory enforcement body being granted powers to gain increased participation in safety investigations.

AIPA believes the National Aviation Policy Statement must ensure that CASA has the necessary resources, independence from industry, governance structure and compliance enforcement systems to manage the contradictory economic and regulatory challenges it currently faces.

Maintain the link between safety oversight and national ownership

Liberalisation of aviation competition policy risks weakening the Australian jurisdictional connection between aircraft operations and their safety oversight. By creating a cost based incentive to seek differing national designation, authorisation and safety standards, liberalisation may impact the practical application of Australia's sovereignty and ability to defend the national interest.

At the heart of these concerns is the preeminent requirement to ensure that shifting economic frameworks do not facilitate a race to the bottom in aviation safety standards through the introduction of jurisdictional shopping or flags of convenience. Under mounting commercial pressures that flow from liberalised competition policies the maintenance of a formal link between nationality of ownership and regulatory oversight will strengthen safety standards.

The imperative created by liberalised economic policy toward broadening the ownership and control criterion in bilateral air service agreements raises legitimate concerns about the possible development of aviation flags of convenience. This has long been the case in the maritime industry where the consequence of flagging-out vessel safety oversight has seen a spectacular abandonment of safety standards in a majority of the world's shipping fleets. Ships and fleets can be flagged-out to countries (including land-locked nations with no maritime tradition) that offer lower-cost safety and labour standards and inadequate safety compliance and inspection processes.

Flagging-out is generally driven by the desire to save costs or to escape effective regulatory control by the State in which the vessel or fleet is beneficially owned. In the maritime industry the experience has been higher accident rates, proportionately more safety and security breaches, and lack of effective implementation of existing international safety, welfare and operational requirements. Flagging-out also brings difficulties in identifying the competent legal authority in situations as diverse as personal injury claims, pollution or environmental damage.

At the root of the problem of maritime flags of convenience is the weakness of the definition of genuine link contained in the United Nations Convention on the Laws of the Sea³⁸. It is possible that the growing adoption of the term principal place of business in the aviation sector will facilitate a similar weakening of the link between national ownership requirements and regulatory oversight that has so consistently undermined maritime safety standards.

To avoid this situation in aviation, the National Aviation Policy Statement must ensure the definition of principal place of business is sufficiently robust. Australian carriers with a significant foreign crew base and ground station outside this country (owned under a locally incorporated subsidiary) must not be able to effectively transfer regulatory control to a State which is neither the Australian jurisdiction in which the carrier is beneficially owned or has its headquarters. The principal place of business of Australian airlines must therefore continue to be tied to the local place of beneficial ownership. This link is vital in avoiding a situation in which an Australian airline embedded in a global alliance is able to cherry pick whether to be subject to home based or lower level third country regulation and supervision.

³⁸ United Nations Convention on the Laws of the Sea.
http://www.un.org/Depts/los/convention_agreements/convention_overview_convention.htm

Advocates of liberalisation often contend that there is a dual requirement for evidence of principal place of business to be matched by evidence of effective regulatory control by the designating State. This, it is argued, ensures that safety and security oversight responsibility is maintained by the designating State. However, regulatory requirements and standards of effective control differ between jurisdictions. For example, there are still wide variations in cost-sensitive regulations between States such as differences in flight and duty times, minimum crew complements, training, certification and personnel licensing requirements.

Australia risks encouraging carriers to seek the most cost or operationally beneficial regulatory regime, opening the door to jurisdictional shopping or lags of convenience if a co-ordinated national aviation policy does not carefully specify requirements for principal place of business registration.

Traditionally the existing ownership and control criterion has prevented airlines from selecting a beneficial jurisdictional authority. Liberalisation, however, creates commercial based pressures for airlines to step outside proper regulatory oversight. For example, an airline in Latin America reregistered their entire fleet in a neighbouring country to escape the consequences of the US FAA's safety oversight categorisation of their home State. Other carriers have attempted to escape employment or fiscal regulation by being selective over nationality. These real examples point to the growing complexity and difficulty in maintaining effective regulatory control, which would be further exacerbated if liberalisation of the Australian aviation industry was to relax links between the jurisdiction of safety regulation and the location of the carriers' assets.

The undoubted willingness of operators to be selective about regulatory jurisdiction when given the option raises concerns regarding the regulators limited capacity to effectively oversee global carriers operating in large numbers of countries. Even within the European Union, where a common regulatory framework allows carriers with an AOC issued by one Member State to operate freely within any other, problems have emerged. Where, for instance, does effective oversight lie with a carrier registered in Iceland on the basis of a virtual headquarters, operating flights from the United Kingdom to third countries and using personnel employed by a staffing agency in the Channel Islands? Such arrangements are a growing phenomenon.

While this type of jurisdictional shopping is not currently a feature of the Australian aviation environment, the mutual recognition of aviation related certification between Australia and New Zealand warrants attention. Given the disparity in regulatory compliance costs and employment conditions between Australia and New Zealand, jurisdictional shopping is a possibility.

Specific safety and security clauses within bilateral and multilateral air service agreements go some way to addressing this issue. However, a patchwork of requirements in the multitude of agreements cannot be an effective substitute for the adoption of a clear legislative definition of principal place of business or specifically in the Australia/New Zealand case, a better definition than the critical mass of operations. The increasing liberalisation of the aviation sector, in an environment of rising costs, means that these types of issues relating to appropriate safety oversight must be given full consideration within Australia's national aviation policy framework.

Safety Management Systems and a Risk-Based Approach to Aviation Safety

AIPA takes the view that Safety Management Systems (**SMS**) should be integral to key operational areas such as flight operations, maintenance and engineering, ground operations and air traffic control.

In endorsing a systems based approach, AIPA also contends that allowance should be made for a risk-based approach when assessing security risk. The use of the flight deck jump-seat on jet aircraft is an important case in point.

Under section 4.67 (3) of the *Aviation Transport Security Regulations (2005)*³⁹, the airline's operating Captain can [technically] award the seat to a travelling family member providing they enter the cockpit before the last door closes and remain there until doors are again opened to allow passengers to disembark. However not all airlines have allowed the operating Captain to retain discretion over the cockpit jump-seat, choosing to withdraw this privilege. In this case, the airline's self-regulation above the required standard is not warranted.

Under a risk-based approach discussed below, an assessment of the risk associated with an immediate family member travelling in the jump seat should be undertaken. Where the risk is deemed to be insignificant, the Captain should retain the right to award the jump seat to a travelling family member.

Security Screening to be based on different risk assessments

Security screening of operating crew members

AIPA believes that security screening policy must be based upon the mitigation of risk as the underlying first principle. As a consequence, screening conducted in an aviation setting must be appropriate to each particular population present and thereby achieve the best balance between hazard minimisation and operational facilitation.

It is appropriate that passengers be screened for weapons or implements that may threaten an aircraft. This appropriateness is based upon the fact that in order for a passenger to constitute a significant threat the person generally needs some type of implement, device or offensive substance with which to facilitate their action. This is the basis behind the ICAO Guidelines on Liquids, Aerosols and Gels (**LAGs**) screening that has animated much of the international community's LAGs screening provisions. Significantly, however, the ICAO LAGs Guidelines are directed at passengers, not operating crew members. The rationale is that, as with weapons, the possession of an offensive capacity is necessary for the facilitation of a passenger's desire to harm an aircraft.

Operating flight crew (and to a lesser extent cabin crew), on the other hand, do not need to bring such devices through the security check-point as implements that may be used as offensive weapons are often part of an aircraft's safety equipment, to which they have ready access. For example, a pilot could not proceed through

³⁹ Aviation transport Security Regulations (2005).
[http://www.comlaw.gov.au/ComLaw/Legislation/LegislativeInstrumentCompilation1.nsf/0/2E261D5D1ACB07F0CA25730C00166688/\\$file/AviaTranSecReg2005.pdf](http://www.comlaw.gov.au/ComLaw/Legislation/LegislativeInstrumentCompilation1.nsf/0/2E261D5D1ACB07F0CA25730C00166688/$file/AviaTranSecReg2005.pdf)

security with an axe. However, once the crew member is onboard the aircraft they have access to an emergency crash axe provided in a quick-release stowage. As the absolute extreme example, a weapon is not required; pilots are in control of the actual aircraft.

Security screening therefore must be appropriate to the risk presented by each population. Passengers need weapons and/or LAGs to pose a threat; flight crew do not. Therefore, AIPA contends that the appropriate security screening of operating flight crew should consist primarily of identity based verification, confirmation of Aviation Security Identification Card (**ASIC**) clearance, possession and validity, and possibly the cross referencing of the crew member with their assigned duty.

Liquids, Aerosols and Gels (LAGs) screening of operating crew members

As a consequence of this risk based approach to differing populations, ICAO LAGs guidelines are directed toward passengers- not crew members. The vast majority of international States do therefore not apply the ICAO LAGs screening guidelines to uniformed crew members. AIPA has identified more than 25 countries, including the European Union, USA, Canada, Japan and the UK who either do not apply the LAGs screening to uniformed operating crew or who have a direct exemption in place.

Australia, however, continues not to differentiate between the security risk posed by passengers and operating crew members. This non risk based approach needlessly consumes scarce resources and hinders the facilitation of commercial aviation operations. For example, aircraft scheduling becomes problematic where crew members are required to change aircraft types (between domestic and international operations). Transit times must be significantly increased and aircraft may subsequently not be able to return to home base due to airport curfews.

As it is now sometime since the momentous security incidents that precipitated the introduction of many of Australia's protective aviation security measures, reassessment of the balance between commercial facilitation and security risk should now occur. AIPA believes the government should review the value provided by security measures such as [unique] LAGs screening of uniformed operating crew members and determine their value relative to the commercial facilitation of aviation. Similarly, AIPA has suggests the Government consider the risk benefit of actions such as prohibiting the direct family members of flight crew from travelling in aircraft jumps-seats.

Development of Aviation Security Policy

In order to draw upon the expertise of some of the most highly regarded aviation professionals in the world when considering the development and operational implications of aviation security policy, AIPA requests the Government consider inclusion of flight crew representatives on the Aviation Security Advisory Forum.

The implementation of the Air Security Officer programme clearly indicated the value that an specialist airline flight crew can contribute to the evolution and development of security oversight.

4. Customer and Consumer Protection

Aviation Emissions and Climate Change

Aviation and the environment

Scientific evidence shows that human activities have increased the levels of carbon dioxide and other greenhouse gases (**GHG**) in the earth's atmosphere. These increases in carbon dioxide and GHG directly affect the climate in which we live and pose a significant and urgent problem for the world. The global aviation industry is a contributor to carbon dioxide pollution, resulting in climate change.

Aviation emissions contribute two to three per cent of total world emissions. However, this contribution is set to rise. Aviation industry traffic is forecast to grow at between four to five per cent for the next 20 years . with international passenger numbers forecast to reach nine billion by 2025 and with another 27,000 new aircraft coming into operation . increasing the emissions contributions by aviation.

AIPA appreciates that aviation, like all forms of economic activity, has an environmental impact which needs to be mitigated. To some extent, the impact of aviation can be controlled through technological advances, through the drive for the efficient use of fuel and resources, and by the introduction of a global compact based on emissions trading.

While industry must address its impact on the environment, Government also has a role to play through investing in emissions reduction technology research and the effects of nitrogen oxides. Aviation contributes to non-carbon dioxide emissions, and the exact effect of this type of emissions is still unknown. AIPA calls for research to be conducted into the impact of nitrogen oxides and the formation of condensation trails and cirrus clouds . as the effects are not clearly well understood or defined.

The role of pilots in reducing emissions

Pilots continue to adopt measures which reduce aviation's environmental footprint of aviation by:

- flying continuous descent approaches;
- minimising fuel consumption;
- reducing noise emissions; and
- championing advances in airframe and engine technology.

The role of industry in reducing emissions

The aviation industry in Australia is in a position to take immediate steps to reduce greenhouse gas emissions. Australia's main commercial airlines have already begun taking steps to reduce their impact on the environment.

Airlines are investing significant resources to implement systems which reduce emissions, including fuel conservation programmes, aircraft modifications such as the installation of winglets and lighter airframe components, developing voluntary offset

programmes, and conducting research into technology which reduce emissions - such as the use of bio-fuels.

Examples of some of the steps already taken by Australia's commercial airlines include:

Qantas

Qantas produces 11½ million tonnes of carbon dioxide annually, and is aiming to reduce its carbon dioxide emissions by two million tonnes by 2011. This will be done by improving fuel efficiency (by 7.5 per cent before 2011), and establishing a voluntary offset programme. However, recent figures indicate that less than one per cent of Qantas passengers elect to offset their carbon emissions through the voluntary offset programme.

Qantas's carbon offset programme has been independently verified through the Australian Greenhouse Office, now the Department of Climate Change.

Qantas also offsets all carbon emissions created by staff work travel and emissions from ground vehicles.

Qantas has established an Environment and Fuel Conservation department to deliver sustainable carbon dioxide emission reductions. During 2006/07 Qantas saved over 280,000 tonnes of carbon dioxide and is on track to save 870,000 tonnes annually by June 2011.

Additional steps Qantas has taken to reduce its carbon dioxide emissions include:

- the use of Required Navigation Performance advanced navigation satellite procedures that utilise Global Positioning System technology to optimise flight approach and departure tracks; and
- the implementation of Variable Cost Index Flight Planning ensuring that aircraft are operated at optimal speed, based on daily variation in wind, temperature and weight, to maximise efficiency and reduce fuel burn and emissions.

Jetstar

Jetstar offers a carbon offset programme where passengers choose to offset the carbon emissions created by their flight. Recent figures released indicate that more than 12 per cent of Jetstar passengers had chosen to offset since the scheme was introduced.

Jetstar's carbon offset programme has been independently verified through the Australian Greenhouse Office, now the Department of Climate Change.

Virgin Blue

Virgin Blue has implemented measures to reduce emissions, including fitting winglets on all new aircraft and retrofitting winglets on all existing aircraft, treating all aircraft with Permaguard (cleans and seals the exterior of an aircraft without the use of water), and introducing live flight planning. In addition, Virgin Blue operates Australia's youngest fleet of fuel efficient aircraft.

Virgin Blue has also made a conscious effort to improve fuel efficiency . by 13 per cent recently, thereby reducing emissions per revenue passenger kilometre.

Virgin Blue's voluntary carbon offset programme, introduced in March 2007 as the world's first airline to offer passengers a Government-certified carbon offset programme, recently refused to reveal its take-up rate, but aviation sources say the figure is less than 1 per cent. Virgin Blue's carbon offset programme has been independently verified through the Australian Greenhouse Office, now the Department of Climate Change.

In addition to a reduction in greenhouse gas emissions by Australia's commercial airlines, Australia's Air Traffic Control (**ATC**) system can also be modified to reduce emission levels.

Airservices Australia supplies 11 per cent of the world's ATC, including not only Australian airspace, but also international airspace over the Pacific and Indian Oceans. Airservices Australia has a range of strategies that can be implemented immediately, or in the very near future, that can provide a direct reduction in greenhouse gas emissions. These measures include enhancements to Australia's ATC system such as pre-departure management, RNAV, ADS-B, continuous descent approaches, flex tracks and user-preferred routes. These measures alone could potentially reduce emissions by around five per cent. It has been suggested that ATC could eventually reduce emissions by up to 12 per cent through better air traffic management in the near future.

However, the reductions in greenhouse gas emissions that are directly accountable to ATC are one-off reductions.

Are carbon offset schemes enough?

Carbon offset schemes, in their current format, are not enough to effectively reduce the impact of aviation on the environment. Unfortunately, even though Australia's commercial airlines have a voluntary carbon offset scheme, it has had a very low take up rate by the travelling public. However, when implemented in conjunction with other practical steps to reduce emissions, they offer some benefits.

Effective communication with the public regarding voluntary offset schemes is key to the success and effectiveness of the schemes. More effort needs to be put into the promotion of the schemes.

Short to medium term measures to reduce emissions

In the short to medium term, the focus of the aviation industry to reduce emissions should be towards more efficient ways of flying.

A range of measures need to be undertaken in the short to medium term to reduce emissions . including technological advances (airframe, engine, cleaner bio-fuels, new energy sources), operational efficiencies (maximum efficiency and minimum weight), infrastructure development (improve air routes, ATM and airport procedures) and economic investment (incentives to finance technology research and development, carbon offsets and trading).

Technological advances

- An increase in fuel efficiency gained through aerodynamic improvements, weight reductions and engine fuel efficiency developments;

- engine developments . a reduction in the emissions produced, while still delivering safe, reliable, cost efficient and high performance engines into the future; and
- aircraft developments . improvements in the airframe . more aerodynamic designs, lightweight composite materials for the airframe, winglets and carbon brakes; and
- Alternative fuels/new energy sources . research into the use of non-carbon fuels and bio-fuels which can potentially significantly reduce greenhouse gas emissions. However, the large volume and widespread availability of bio-fuels for commercial jet aircraft operation is unlikely in the immediate future.

Operational efficiencies

- Changes in the operation of flights . including better flight management and continuous descent approaches into airports;
- Engineering and maintenance efficiencies . including weight reductions and maintenance actions; and
- Dispatch . greater and more efficient flight planning accuracy and more resourceful fuel planning.

Infrastructure development

- Changes to ATC procedures . pre-departure management, RNAV, ADS-B, continuous descent approaches, flex tracks and user-preferred routes; and
- Development and implementation of a global action plan . Government action in infrastructure upgrades are essential, and incentives for research and development into all aspects of the industry to reduce emissions.

Economic investment

- Incentives for research and development;
 - the impact of nitrogen oxides and the formation of condensation trails and cirrus clouds . the effects are only currently estimated; and
 - technological advances to reduce emissions;
- Emissions trading schemes . if well designed, and part of a global solution, can play an important role; and
- Carbon offset schemes . encourage further development of the schemes, and increase the uptake rate by Australian travellers.

Opportunities to minimise emissions via trading schemes

What are emissions trading?

An emissions trading scheme is a system whereby the total amount of emissions is capped and allowances, in the form of permits to emit carbon dioxide, can be bought and sold to meet emission reduction objectives.

As a global industry, aviation has a global impact on the environment. As a result, a global solution needs to be developed. While an Australian emissions trading scheme is a useful tool, it should be part of a global rather than domestic or regional solution.

AIPA views the establishment of a national Carbon Trading Scheme by 2011 as a favourable move. The scheme will involve the issuing of emission permits with incentives for those making early reductions such as offset schemes. However, the

introduction of such a scheme needs to be managed in such a way as to allow industry to adjust to the new environment. The auctioning of 100 per cent of permits in year one for example, would impose weighty costs on firms and have a detrimental short-term impact.