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Industry Skills
and Productivity

Industry skills and productivity

Ensuring the Australian aviation industry has access to a highly skilled workforce allowing it to grow and compete in the global economy

Issues Paper Themes

- > Identifying the long-term training needs for the Australian aviation industry
- > Ensuring the industry remains internationally competitive in retaining key staff and in attracting new entrants to the workforce
- > The Australian Government working with industry to ensure the needs of the aviation industry are taken into account in its broader skills framework

What the submissions said

There was support for government financial assistance through HECS/FEE-HELP schemes for pilot training places and subsidies for aviation training in the Vocational Education and Training (VET) sector.

There was also support for inclusion of pilots and aviation occupations on the Migration Occupations in Demand List to facilitate access to global labour markets, although some stakeholders argued that industry relied too heavily on skilled migration as a substitute for more strategic workforce planning.

There were suggestions that training be subsidised by industry, with employees bonded as a return on investment.

There was also support for a national training school or centre for excellence funded by government or through an industry levy. Some submissions, on the other hand, maintained that a national training school would duplicate existing education and training avenues, such as tertiary institutions, VET and Defence and that aviation was not a special case requiring a separate training framework.

The policy context

Australia's future prosperity relies on the skills and productive capacity of the workforce. For Australia to continue to grow and compete in the global economy, it is necessary to invest in a highly skilled workforce responsive to the needs of industry.

The Australian aviation industry employs almost 50,000 workers with a diverse range of skill sets and qualifications.

Recent years of rapid airline expansion, particularly in Asia and the Middle East, has contributed to a situation where aviation employers have been experiencing difficulties in attracting, recruiting and retaining key staff. Shortages of aircraft pilots, flight instructors, air traffic controllers, aircraft maintenance engineers and security screeners have been experienced. Despite the current global financial conditions these difficulties may be expected to continue in the medium to longer term, particular if timely planning and training frameworks are not in place.



Boom or bust – the challenges of workforce planning in the aviation industry

The global aviation industry has always been cyclical, characterised by periods of growth interrupted by intermittent shocks such as economic recessions, the 2001 terrorist attacks in the United States and the collapse of Ansett in Australia, the 2003 SARS epidemic and volatile global oil prices over 2007 and 2008.

The industry is intensely competitive and capital intensive with profits often insufficient to meet the cost of capital. The cyclical nature of the industry can mean that investment in recruitment and training is not required at the bottom of the economic cycle, at times of falling demand and pressures to cut costs. At such times there can be little incentive for airlines to plan three to five years ahead to be ready for growth opportunities.

Over recent years, air travel demand has been growing strongly in an environment of economy-wide skills shortages. At times of profitability and robust industry conditions the opportunity cost of dedicating experienced pilots to training tasks may be difficult for airlines to commit to.

However, for the industry to take advantage of future growth opportunities it is important that long-term workforce planning and training take place.

Therefore, while highly skilled and well trained personnel have been needed to meet recent demand, any contraction of the industry resulting from the global financial crisis may lead to a reduction in demand for workers. Despite this, workforce planning issues must be addressed to ensure the aviation industry is able to meet its future workforce needs in times of growth.


Today the aviation industry competes for workers with industries which already have strategies in place to attract and retain workers in a very competitive labour market. However, historically the aviation industry has not needed to actively seek workers, particularly aircraft pilots. The supply of committed individuals willing to self-fund training and accept low wages just for the opportunity to fly has often exceeded employment opportunities. Industry's reliance on these individuals has contributed to a lack of strategic workforce planning across the industry.

Defence and civil training and skills needs – different or the same pool?

Defence and the Royal Australian Air Force (RAAF) are important providers of training for a number of aviation professions including pilots, aircraft maintenance engineers and air traffic controllers. Understandably, the military and civil sectors employ quite different strategies to attract, recruit, train and retain skilled aviation workers. Defence and RAAF generally recruit unqualified personnel directly to specific aviation career streams for training. The individual is then bonded to the Australian Defence Force (ADF) for a certain period to ensure a return on the training investment. This differs to civil aviation employers who generally prefer to recruit already qualified personnel that do not require any initial training costs.

Military flight crew are not permitted to fly civilian registered aircraft unless they hold a Civil Aviation Safety Authority (CASA) issued licence. The ADF trains pilots specifically for military operations which require different skills to civilian flight. As a result, ADF qualifications are not directly equivalent to CASA issued civilian licenses.

However, CASA and the ADF have agreed that military pilots who have undertaken specific military training may be issued with an equivalent private or commercial pilot licence provided they meet the aeronautical requirements for the licence. A military pilot may also be eligible for a civilian licence after passing 'bridging' exams, meeting the civilian equivalent of required hours or



undergoing a flight test¹.

Aircraft Maintenance engineers trained by the military are awarded certified qualifications such as Certificate IV in Aeroskills which is recognised in the civilian sector.

Currently Airservices Australia (Airservices) and the ADF train air traffic controllers independently. Although qualifications are not recognised between the sectors, there is a commonality of skills required allowing ADF controllers willing to gain Airservices accreditation to move into the civil sector. Consequently shortages in the civil sector may ultimately lead to shortages in the military sector.

Both the civilian and defence aviation sectors have a shared interest in promoting and attracting workers to the aviation industry. Increased transferability of workers between the defence and civil sectors is one strategy to increase the attractiveness of aviation careers. Portability of skills between the defence and civil sectors has been enhanced with the development of the Aviation Training Package 2008.

CASE STUDY: The Aviation Training Package

The new Aviation Training Package was endorsed on 29 April 2008 and directly aligns CASA licensing requirements with the national qualifications and more closely aligns military and civil training to a national standard.

The Diploma of Aviation (Air Traffic Control), for example, aligns the competency requirements for air traffic controllers from both Defence and Airservices Australia.

The closer alignment of the sectors improves the ability of people to move between defence and civil sectors and therefore improves the overall attraction of aviation as a career choice.

Skilling Australia for the future


The Australian Government's Skilling Australia for the Future initiative aims to improve vocational education and training by focussing on the needs of employers and the broader economy. Key aspects of the initiative include the establishment of Skills Australia, the allocation of more training places through the Productivity Places Program and an enhanced role for Industry Skills Councils.

Skills Australia is an independent statutory body comprising of seven experts drawn from a range of backgrounds. It will provide the Government with recommendations on current and future skills needs and drive ongoing reforms to the education and training sector, including on priorities for the investment of public funds. The advisory body has also established relationships with state, territory and industry bodies as an important consultative mechanism to identify training priorities through the Productivity Places Program.

In the 2008-09 Budget the Government announced the Productivity Places Program would provide up to 630,000 new training places over the next five years. Since then, the Government has announced an additional 71,000 places for job seekers, 56,000 of these as part of the Economic Security Strategy. These new places will take the Government's total commitment to the Productivity Places Program to more than \$2 billion with more than 700,000 new training places created over five years. The Productivity Places Program allows Registered Training Organisations (RTOs) to apply for funding to subsidise training places for priority occupations. In terms of aviation qualifications, airport security screening² has been considered a priority occupation since

¹ <http://www.casa.gov.au/fcl/milrecog.htm>

² Certificate II in Security Operations or Technical Security



April 2008 while commercial aircraft and helicopter pilot qualifications³ were added to the list of eligible occupations on 1 July 2008.

The Australian Government's Trade Training Centres in Schools Program provides \$2.5 billion over 10 years to enable all secondary schools to apply for funding of between \$500,000 and \$1.5 million to establish Trade Training Centres, providing students with access to industry standard trade training facilities. The program ensures that students have access to relevant education and training opportunities as well as helping to address national skills shortages in traditional trades and emerging industries.

Funding has been provided through the program towards important aviation training initiatives such as a contribution towards the Aeroskills and Aeronautics Training Centre at Aviation High School in Brisbane.

Education and training framework

Commonwealth role in higher education and vocational training

The Australian Government has primary responsibility for funding of higher education and also provides funding under legislation and Commonwealth-State Agreements for vocational training. Although receiving Commonwealth funding through these agreements, states and territories have responsibility for the vocational education sector and schools.

Vocational Education and Training (VET) sector

Historically, VET has been limited to trades. However the VET sector has evolved into a consolidated national training system to support Australia's economy. The vocational training framework includes initiatives such as Australian Apprenticeships, the National Training Framework, VET in schools and the development of Training Packages.

VET FEE-HELP is an income-contingent loan scheme for the VET sector that is an extension of the higher education loan scheme FEE-HELP. VET FEE-HELP will assist eligible full-fee-paying students who are enrolled in VET accredited courses at the Diploma, Advanced Diploma, Graduate Certificate or Graduate Diploma level through a VET provider to access the loan scheme for all or part of their tuition fees. For example, RMIT University and Swinburne University currently offer VET flight training courses at Diploma and Advanced Diploma levels that articulate into their Bachelor degree programs. These institutions may choose to seek approval as VET providers to offer VET FEE-HELP to eligible students.

Airservices Australia training strategies


Airservices is the exclusive provider of training for civil air traffic controllers and has recently implemented strategies to address skills shortages in this sector. One of these strategies is to investigate building partnerships with universities and RTOs to offer greater breadth to their curriculum and provide articulated career pathways.

Airservices offer the Regional Skills Investment Program for sponsorship and training of trainees from regional Australia and is considering extending the program to provide support for relocation costs as an incentive to attract more regional applicants.

Airservices' program to target rural and regional youth to take up careers in technical trades is another example of an innovative solution to workforce problems.

Airservices is finalising a partnership between Wagga Wagga City Council, the Regional

³ Certificate IV in Aviation (Commercial Pilot Aeroplane Licence)³ and the Certificate IV in Aviation (Commercial Pilot Helicopter Licence)



Development Board and Riverina College of Technical and Further Education to deliver a curriculum to train between 25 to 40 electronics trainees a year for the next five years.

The multi million dollar program will see young Australians move to facilities at Wagga Wagga where they will, if successful, gain qualifications and specific technical experience and full time employment with Airservices and improve the national air traffic control service provider's future workforce capacity.

Higher Education Sector

There are two primary methods through which the Australian Government provides financial support for higher education students; funding for Commonwealth supported places and access to the Higher Education Loan Program (HELP). Commonwealth supported places are subsidised by the Australian Government by the payment of grants to higher education providers. The HELP elements, HECS-HELP and FEE-HELP, are income contingent loans which mean that students are not required to repay their HELP debts until their income is above the minimum repayment threshold.

Students enrolled in Bachelor of Aviation degrees at public universities may be eligible for HECS-HELP to pay some or all of their student contribution amounts. However, considering legislated maximum levels of government funding and student contributions, it is not cost-effective for universities to incorporate practical flight training into undergraduate degrees.


If universities offer full fee paying places (noting that the Government passed legislation to phase out full fee paying places for domestic undergraduate students at public universities from 1 January 2009) under FEE-HELP, eligible students may finance part or all of their tuition fees over their lifetime up to a limit of \$81,600 (2008 limit, indexed annually) or up to a higher limit of \$102,000 for dentistry, medicine and veterinary science. Access to FEE-HELP removes the impost of making up-front payment of tuition fees. There is more incentive for universities to incorporate costly practical training components into full fee paying post graduate qualifications as there are no legislative restrictions on tuition fees as is the case with Commonwealth supported places.

In March 2008, the Deputy Prime Minister and Minister for Education, the Hon Julia Gillard MP, announced a major review of Australia's higher education system, to be finalised by the end of 2008. The review will examine the future direction of the higher education sector, whether it meets the needs of the Australian community and economy and the options for ongoing reform. The Review Panel will advise government on possible key objectives for higher education in Australia, including better connections between higher education and vocational training. This review has provided an opportunity for all industries, including aviation, to consider whether opportunities exist for the higher education sector to deliver better outcomes to industry and more generally the economy.

Industry Skills Councils – linking industry with training

Industry Skills Councils act as an interface between governments, Skills Australia and industry on skills needs and workforce development. Industry Skills Councils support the development and implementation of training and workforce development, provide skills and training advice to enterprises and work with enterprises, providers and government to allocate training places.

The aviation industry is primarily served by the Transport and Logistics Industry Skills Council, which administers the Aviation Training Package, and by Manufacturing Skills Australia, which administers the Aeroskills Training Package. The Aviation Training Package outlines competency standards for qualifications issued under the Australian Qualifications Training Framework in aviation careers such as flight crew (including aircraft, helicopter and rescue crew); cabin crew and supervisory cabin crew; air traffic control; airport management; airport reporting services; baggage handling and freight services; ground support and ramp services; general airport operations; check in and customer service staff.



The Aeroskills Training Package covers the aviation maintenance sector of the Australian aerospace industry. This sector covers maintenance performed on aircraft and their components in support of both civil and military aviation.

State roles in schools and vocational education

States and territories have primary responsibility for schools and vocational training institutions. These responsibilities are set out in the Commonwealth-State Agreement under which the Australian Government provides funding to state and territory governments for these functions.

State and territory governments operate a range of training services and programs and their training agencies participate in the national VET system. State and territory governments are able to prioritise training needs at state-based vocational training institutions and subsidise training places in these priority fields. For example the Queensland State Government has implemented a number of workforce development and skilling strategies to support industry in attracting and retaining staff and planning their future aviation skills needs.

Career paths into aviation from the school system

Various schools throughout Australia have introduced aviation subjects into curriculums to build better linkages between high schools and aviation careers.

For example, the Queensland Government commenced the Aerospace Project in 2004 to create pathways into Queensland's growing aerospace industries by offering an aeroskills program as part of the curriculum, work experience programs and direct entry arrangements to various universities and Aviation Australia. Aviation High, situated in Brisbane, is the hub of the Aerospace Gateway Schools Project, offering subjects from Year 8 to Year 12 that have been contextualised with aerospace and aviation content.

Aviation training within the educational framework

Aircraft Pilots

To become a private or commercial pilot in Australia, candidates must be licensed by CASA. A CASA-issued pilot licence requires that candidates pass appropriate theoretical and practical examinations. Pilot training occurs through universities, vocational education institutions and private flying schools.

Theory based aviation studies have typically been offered as higher education awards, with students undertaking optional flight training with an accredited flying school in addition to their university studies. This means that students undertaking a bachelor qualification are eligible to defer course costs through the HECS-HELP scheme for the academic component of studies, while paying unsubsidised practical flight training costs upfront.

CASE STUDY: Aviation course options for universities and industry

From 2009 Swinburne University of Technology will offer a program that combines its existing Bachelor of Aviation with a new qualification, the Graduate Certificate of Aviation (Piloting).

The Graduate Certificate of Aviation (Piloting) includes flight training up to and including, CPL, multi engine instrument and a gas turbine ratings, and also has the option of an instructor rating. The existing Bachelor of Aviation is academically focussed including units of study such as Aviation Human Factors, Air Transportation Management and Aviation Technology. Therefore students undertaking these qualifications simultaneously will have, in addition to their flying qualifications, a broader aviation education that will prepare them for future management roles within the aviation industry.

Students undertaking this program may be eligible to access HECS-HELP to offset the Bachelor of Aviation component of their studies, while also being able to access FEE-HELP to offset a large portion of the upfront costs of the Graduate Certificate.

Students undertaking Griffith University's Bachelor of Aviation and a Graduate Diploma of Flight Management are similarly able to access HECS-HELP and FEE-HELP to offset upfront costs of study.

Swinburne University's Associate Degree in Aviation is restricted to Qantas cadets. Employer-reserved places are not eligible for Commonwealth support, but enrolled students may be eligible to access FEE-HELP to pay some or all of their tuition fees. Cadets successfully completing the Associate degree may also be able to access a line of credit from the Qantas Staff Credit Union of up to \$60,000 to cover Cadet Industry Placement Program qualifications or to repay some or all of any existing loans associated with the cost of their university studies and flight training.

These qualifications are examples of how industry and higher education providers are working within the educational framework to provide qualifications responsive to industry needs and also maximising student access to Commonwealth supported places, loans through HECS-HELP and FEE-HELP and assistance from employers.

Aircraft Maintenance Engineers

Aircraft maintenance engineers (AMEs) are trained in the state-based apprenticeship system through a combination of on the job training and formal training from a vocational institution. AMEs wishing to become Licensed Aircraft Maintenance Engineers (LAMEs) must also fulfil CASA licensing requirements.


The occupation of AME appears on the Migration Occupations in Demand List and apprentices and their employers qualify for a range of Australian Government apprenticeship incentives.

Air Traffic Controllers

Civil air traffic controllers are trained exclusively by Airservices. Airservices' Melbourne Training College is an RTO and is part of the VET system.

Airservices recently launched Our Commitment – Our People which outlines strategies to train Australian air traffic controllers to meet future workforce needs. Measures taken by Airservices to increase the number of trainees include reviewing recruitment processes, curricula and retention strategies.

The Melbourne training facility has been expanded into the Airservices Academy which consolidates training in air traffic control, aviation rescue and fire fighting training, safety, technology and broader management skills. Airservices is also exploring opportunities to extend its training academy through linkages with the broader aviation industry and tertiary institutions, to



deliver a broader aviation skills development program.

Defence personnel continue to play an integral role in the provision of air traffic services as part of the national air traffic management system. Therefore, it is essential that efforts to address the civil air traffic workforce needs also consider Defence personnel requirements. Current progress towards mutual recognition by Defence and CASA of airworthiness standards related to the engineering and maintenance of air traffic control systems can act as a prelude to similar action with respect to ATC operational regulations and procedures, and eventually as a means of mutual accreditation for ATC licensing between civil and military air traffic control service providers. The recent launch of the National Aviation Training Package (AVI08) also provides an opportunity for both Defence and Airservices to design and develop a national ATC curriculum.

Aviation Security Personnel

Research conducted by the Australian Government Department of Education, Employment and Workplace Relations in December 2007 confirmed that the aviation industry is facing difficulties in attracting, recruiting and retaining personnel for aviation security functions. The shortages are most critical for the occupation of aviation security screeners in rural and regional areas.


Australia's current approach to aviation security training is not supporting the required security outcome. Therefore the Australian Government has committed to developing competency-based training and assessment standards for aviation security workers to address aviation security training needs identified in reports by the Joint Committee on Public Accounts and Audit, the Australian National Audit Office, and the Wheeler Review.

The Aviation Security Training Framework (ASTF) consists of aviation security performance and assessment standards, which map to the national units of competency in CPP07 Property Services Training Package, Security sector, as well as guidance for delivery of training, recruitment and selection of screening officers. The ASTF has been developed around existing nationally recognised qualifications such as the Certificate II in Security Operations. Gaining this full qualification generally enables people to meet state and territory licensing requirements for working in the security industry as well as allowing them to undertake various categories of aviation security work such as screening or explosive trace detection officer. Additionally, rather than undertaking a full security officer qualification people can choose to undertake training in, for example only those units of competency required to enable them to carry out the duties of a screening officer. Therefore the implementation of the training initiative is expected to ease labour market pressures by reducing regulatory entry barriers in the immediate term and allowing more targeted training over a shorter period. Employees and potential employees would also benefit from the availability of industry-recognised training which would be transferable between organisations and locations.

A global labour market – Australia's arrangements for skilled immigration

While training and employment of Australians remains the Government's priority, appropriate use of skilled overseas workers has a role in meeting industry needs for skilled labour. The Australian Government administers a range of employer-sponsored temporary and permanent migration arrangements designed to meet the genuine skill needs of Australian employers. In addition to meeting visa requirements, any foreign pilots or LAME wishing to work in Australia must have their licence qualifications reviewed by CASA to ensure that they are suitably qualified for the Australian system. There are published protocols already in place for recognising foreign licences.

The Temporary Business (Long Stay) Subclass 457 programme allows approved businesses to sponsor, on a temporary basis for up to four years, skilled overseas workers to fill positions that meet minimum skill and salary levels. Aviation occupations currently gazetted as eligible for this scheme include aircraft pilots, air traffic controllers, flight service officers, flight engineers, flying instructors and air transport professionals.



In May 2008 the Minister for Immigration and Citizenship announced changes to streamline section 457 work visa processes. A business-led External Reference Group was appointed by the Minister to examine ways to make the program more responsive to labour market needs, while protecting the employment and training opportunities of Australians and the rights of overseas workers. Recommendations made by the Group to make the program more effective and responsive are currently being implemented.

The Employer Nominated Scheme (ENS) allows Australian employers to fill highly skilled positions in Australia, with a non-Australian citizen or resident, when the employer cannot find a suitably qualified person from the Australian labour market. The standard subclass 457 arrangement requires participating employers to demonstrate a commitment to training Australians. Aviation careers eligible for this scheme, by appearing on the Employer Nominated Skilled Occupation List (ENSOL) include aircraft pilots, air traffic controllers, flight service operators, flight engineers, aircraft maintenance engineers and flying instructors.

The General Skilled Migration program allows those who have skills in occupations outlined in the Skills Occupation List (SOL) and are not sponsored by an employer to be awarded a permanent Australian visa. The program favours occupations appearing on the Migration Occupations in Demand List (MODL). Currently aircraft maintenance engineering is the only aviation occupation eligible for this program, with specialist avionics and mechanical AMEs given additional priority as they appear on the MODL.

Aviation industry skills – the way forward

The Australian Government recognises the future prosperity of Australia's aviation industry is inextricably tied to the capacity of its future skilled workforce.

The Government has in place a range of programs and policies aimed at ensuring a productive Australian workforce and boosting the nation's productivity and prosperity.

To ensure the Australian aviation industry's future needs can be addressed within an overarching national skills framework the Australian Government proposes to:

- continue to provide assistance to all Australian industries to address skills issues through the education and training framework, specifically encouraging the aviation industry to:
 - communicate industry workforce needs to Skills Australia to ensure that the allocation of Productivity Places Program training places considers the skills needs of the aviation sector;
 - form partnerships with schools to better define career pathways from school into aviation occupations; and
 - work in partnership with training providers to deliver quality training which maximises access to assistance measures.
- ensure the closer alignment of national civil and military air traffic controller standards and qualifications; and
- reinforce with industry that it needs to be more pro-active in developing attraction and retention strategies and broader workforce planning, including:
 - transparent workforce planning process to articulate future recruitment needs across industry sectors, e.g. progression of pilots;
 - improved conditions and flexible working arrangements to encourage retention of key personnel, taking account of the aging workforce;
 - improved marketing of aviation careers; and
 - consideration of the use of 'bonding' arrangements to offset cost barriers for individuals and industry in training highly specialised employees.