

Griffith University

Response to the Australian Governments Issues paper

“Towards a National Aviation Policy”

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Executive Summary

Government support for pilot education at universities such as Griffith, Swinburne and others that offer high quality aviation degrees will ensure sufficient supply of professional pilots required to support the future of the Australian aviation industry.

Public funding directed outside the university sector might not represent the best return on investment and could produce an oversupply of underqualified pilots.

The nexus between Pilot education and research must be recognised and supported to ensure research and development of improved safety standards and practices meet 21st Century Aviation industry requirements.

Introduction

As the Issues paper identifies, the Aviation Industry is an essential Industry for continued domestic and global growth and economic development. Within Australia tens of thousands of people are directly employed within this Industry. However the level of engagement by Aviation enterprises with the Australian university sector has historically been quite limited. Unlike other developed nations such as the US and New Zealand, where major, well renowned universities play significant roles in educating Aviation staff and researching the issues facing this global industry. Examples of some of these universities are: Purdue University; University of North Dakota; University of Illinois; Embry-Riddle Aeronautical University; and Massey University. Many US Universities have been involved in Pilot education for over 50 years. In Dubai the new Dubai Aerospace University is already being established to provide pilot education and research for that region. There are several high quality universities in the Asian region in this area of endeavour such as the Beijing University of Aeronautics and Astronautics.

For the Australian Aviation Industry to remain competitive in both staff development and research a major frame shift of thought must occur and this issues paper comes at precisely the right time to facilitate this frame shift. As Australian Aviation moves toward and beyond 2020 universities will play a greater role in the continued success of this Industry and this new Government now has the opportunity to ensure this occurs.

Background

Universities play a vital role in the development of every significant industry from mining to agriculture, sport, recreation, the arts, sciences, dentistry and medicine, to name but a few. This role is the education of the professional staff of these industries and to research important industry issues. For example mining engineers, sport and recreation managers and practitioners such as outdoor education leaders, visual and performing artists, accountants, lawyers, human resource practitioners, public relations, media practitioners and dentists, nurses and doctors are all highly educated professionals. The nexus between undergraduate (or graduate) education and the research associated with the development of these industries is indivisible if an industry is to prosper, especially as we move through the 21st century towards and beyond 2020. There is no difference between these professions and the profession of being a Pilot, and Australia must move to adopt a 2020 vision.

There would be no argument within the Aviation industry that the human resources staff hold appropriate degrees in HR and that the Public relations staff hold at least undergraduate

qualifications in Public relations or media. Qualified accountants and economists, many with master's degrees and MBAs, will staff the finance sections of airlines. Catering will employ staff with degrees in food science. Concomitantly the universities that provide the education to these professional staff also undertake research activity into their specific areas of responsibility associated with the underpinning education. However, those who arguably have the highest levels of operational responsibility, the Pilots, are not yet required to be educated in their field of professional activity. Concomitantly there is very little high quality research performed in Air Crew development as will be seen later. The university staff required to teach Pilot degrees must also continue to be supported and they must have both Industry and research higher degrees to ensure the appropriate research and teaching continues to be conducted at the highest levels. As an aside the University recognises that many others including engineers and flight attendants have important safety related jobs, but it is for other areas of the industry to comment on these roles.

Basic Premise; Educate pilots at university and conduct appropriate aviation industry research

Pilots of even the smallest of the modern regular public transport aircraft are operating equipment valued at several million dollars, while an Aircraft such as the Airbus A380 costs approximately \$250million and carries 550 passengers. The professional pilots operating these aircraft have a standing in the community and salaries commensurate with this level of responsibility. A hull loss accident resulting in major loss of life costs in the order of one billion dollars. While the cognitive and psychomotor functions required to operate an airline aircraft safely and effectively is similar to those required of Surgeons and Dentists the level of education of a pilot is generally significantly lower. It is understood that fewer than 10% of Australian High Capacity Regular Public Transport (RPT) pilots have an aviation related degree. This and many other universities in Australia and across the globe believe that pilots of aircraft used for High Capacity RPT, aircraft above 5700Kg, and all flight instructors of professional pilots (i.e. those who do or will fly the aircraft mentioned earlier in this sentence) must have a university degree such as a Bachelor of Aviation. These degrees must include both the cognitive and psychomotor education required to act as professional pilots. The physical flying skill component of the degree should be conducted by the university itself or under licence to a provider via strict quality assured processes. The former is clearly the most desirable since the high quality international universities mentioned above all undertake the flying skill development internally. This is no different to universities teaching the skills for removal of caries from teeth, the physical removal of teeth or surgical procedures for dentists and surgeons. The difference being that surgeons and dentists only have one life in their hands at any one time!

This move to a professional education for pilots and those who educate them will encourage and motivate universities to undertake research into better methods of teaching pilots and thus produce a safer and more effective aviation industry. The traditional (and flawed) method of moving Pilots through GA to High Capacity RPT is now occurring less often and pilots are transitioning quickly into High Capacity operations much earlier. This is an excellent reason to have a degree qualification to make up for the lack of experience. The industry also needs to have high quality research undertaken in this regard to establish the best way to fast track these university graduates into High Capacity operations. In this regard it has recently been announced by the Australian Bureau of Statistics that the Statistical research code for "Aircrew Training" has been removed since not a single dollar was spent on research under this code for several years. This is a national disgrace and this lack of research into Aircrew training and associated safety issues must be revisited to

ensure that Aviation safety is improved. This cannot happen if the current training process remains as it is. Only universities can provide the level of education and research required to support this industry and should be funded to do so. If Australia is to have a vision of itself as a sophisticated first world country as we approach 2020 then the only way forward for the Aviation Industry is to properly educate professional pilots in partnership with employers and to undertake significant research activity in this area.

The issue of equity is also of great significance to the Industry, and the nation as a whole when considering an education revolution towards 2020. High quality airlines linked to high quality university Aviation programs move the country closer to an appropriate 2020 vision. The female pilot participation rate in the industry sits at around 3%. However this University attracts a 25% participation rate from female students. This institution has also recently undertaken a pro-active initiative to interest Indigenous Australians in the Pilot profession. At the date of writing over 60 Indigenous people have expressed interest in becoming professional pilots. These outcomes are orders of magnitude above historical achievements and reinforce the clear role that Universities must have in the education revolution in this industry.

Issues paper section 1.4 Addressing Skills needs in the aviation industry

This section of the paper rightly outlines the current transient shortage of pilots and also expresses that the skills shortage could have been and was foreseen. This University (and others) had been warning the industry for several years that a shortage was looming. The paper also comments on the lack of proper workforce planning in the aviation industry and that this continues to be a risk. The questions posed under section 1.4 will be addressed below.

What strategies should the industry adopt to attract, retain and plan for their future skills needs to remain competitive in a tight labour market, and how can these be improved?

Through involvement with Universities that have a long established relationship with the Aviation Industry more staff in this industry will be better educated in its processes. There are specific programs at several Australian Universities where Management of the Industry is a major interest. It is not difficult to attract people to the Industry. Griffith University alone attracted this year 110 students into its Pilot degree program. Thus in this institution alone 1/6th of the nations requirements are being met (Minister Albanese quoted a need for 1800 pilots over three years in a press release on 18 June, 2008). There are at least 6 universities in Australia with significant Aviation interests. Thus with these universities alone (and either university operated or high quality contracted flight schools) the Industry would be able to educate all the professional pilots required for the foreseeable future.

Workforce planning. Aviation is not the only industry that is cyclic and has difficulty with workforce planning. For example there are often issues with Teachers and nurses. However, workforce planning can be improved in Aviation. There were clear signs of the current Pilot shortage some 4-5 years before the shortage actually occurred. This University was instrumental in providing advice to the Industry that a shortage was imminent. However due to day-to-day workloads in the Industry the advice was not actioned. To improve this, there needs to be significant university input into organisations like CASA, ATSB, the Airlines and all Industry advisory bodies so that logical and well thought out researched forecasts (not-for profit) can be included in industry discussions. This involvement should include direct advice to the Minister responsible for Aviation.

What are the long-term training needs for the Australian Aviation industry? Where will the future pressures lie? How do we ensure the industry remains internationally competitive in retaining key staff and in attracting new entrants to the workforce?

If fuel prices do not drastically affect the Industry it is likely that a significant number of Pilots will be required for the foreseeable future. However this institution would argue that the Industries needs will be met by university degree enrolments and that the Government need do nothing more than it is currently doing. If the Government involves itself further it is likely that there will be a significant oversupply of pilots which will be a waste of public money. There is no need for the Government to do any more than it currently does to attract Pilots to the workforce. As indicated previously Griffith University attracted 110 students this year, of which 25% were female, while the industry norm is around 3%. 88% of these students came from Queensland. A further 21 offers have been made for Mid Year entry making the total for this year in the vicinity of 130 Pilot students. This level of interest means that in other states, universities can be just as successful as Griffith and the Industry will be well served without misdirecting public money.

The industry will remain internationally competitive as long as salaries and conditions are competitive and the Australian lifestyle is maintained. Many pilots wish to remain living in Australia and are more than willing to forgo tax-free salaries for family and lifestyle. Industry needs to ensure that pilots are home as often as possible to strengthen family ties and stabilise relationships. Education of pilots also allows for them to use their education to support future generations of professional Pilots and this involvement assists pilots to lead a more fulfilled lifestyle and even improve industrial relations outcomes.

How should the Australian Government and industry work together to ensure the needs of the aviation industry are taken into account in its broader skills framework?

As mentioned earlier, education is the key to the future of the Aviation industry in the 21st century. The government though its “Education Revolution” must play a key role in advancing the argument that only through the strongest possible university involvement, through clearly defined partnerships, will the industry continuously improve. As far as pilot education is concerned there is no need for further government action. However to ensure that the education revolution does occur in this industry, education must not stop just at the undergraduate early career pilot. Education programs that are driven by evidence based research must also be provided at the Airline induction, First Officer, Command upgrade, training captain development, check captain development and for senior pilot managers. Staff of the regulatory and other associated bodies must also be able to access education programs to assist them in their professional roles to be able to perform at levels commensurate 21st century processes.

Are proposals such as a national industry run flying school to train flying instructors worth investigating, and, if so, how might such a school operate?

This proposal is clearly worthy of consideration. However a single Instructor school is not likely to be enough. There should be two schools based within a university in areas where excellent weather conditions exist to ensure the highest levels of productivity in the “instructors” education. This would likely be in Queensland and Western Australia. As mentioned earlier all those who educate others in professional flying (previously known as

flying instructors) must be required to have an undergraduate degree where they are taught how to be a professional pilot followed by a Graduate Degree in Flight Education. These individuals should also be introduced to evidenced based research and the ability to participate in research programs that will continue to develop the profession of educating other pilots in the most efficient and effective manner.

Issues paper section 3.1 “Aviation Safety”

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

There already exist university courses in Safety Management Systems. This institution also has PhD students researching this area. Evidence based research must be undertaken and well funded into Safety Management Systems. Distribution of research data via graduate programs made widely available to the Industry will improve the understanding and implementation of Safety management systems. Better-educated staff in the industry at Industry, regulatory and Government level will inevitably improve the safety standards. Self appointed SMS “experts” without appropriate university qualifications in SMS should be avoided.

What steps can the Aviation Industry as a whole take to ensure it maintains safety standards as it grows and diversifies?

This institution would argue that it is not enough to simply aim at maintaining safety standards. Safety standards must be improved. The accident and incident rate in the western world has hardly moved over several decades. As the number of aircraft increases the rate must be reduced significantly if the public is to continue to have faith in the Aviation Industry. This can be achieved by better education, research by qualified researchers in collaboration with Industry professionals and excellent funding for such research. It will be important that access to CASA and ATSB by university researchers is enabled. This type of activity is being fostered by Griffith University by the establishment of an Aviation Safety research Centre, which attracts funds and active input from Qantas Group Flight Training and has funds promised from CASA. This way, Safety standards will improve and not stagnate at the 20th century levels.