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Aviation
Safety

Aviation Safety

Safety is the number one priority for the Australian aviation industry and the Government

Aviation Regulation and Investigation

Issues Paper Themes

- > Enhancing approaches to Safety Management Systems
- > Strengthening governance arrangements for CASA
- > Improving the way CASA relates to industry while meeting community expectations that it be a firm regulator
- > Completing the regulatory reform process as soon as possible
- > Improving how aviation safety agencies work together
- > The role of industry in maintaining safety standards as it grows and diversifies
- > Maintaining a high standard of aviation safety in the context of global developments
- > Opportunities and risks in allowing some parts of the industry to self-administer

What the submissions said


Aviation safety issues and, in particular, the vital regulatory role performed by the Civil Aviation Safety Authority (CASA) were prominent among matters raised in submissions. Comments related to CASA's governance, powers, internal reforms and interaction with industry.

The views expressed on CASA varied according to the industry sector involved, but an underlying theme was that CASA is heading in the right direction in relation to how it undertakes its role and interacts with industry. There was nevertheless strong support for the creation of a CASA Board to strengthen the strategic guidance available to the safety regulator.

Some regional and general aviation businesses indicated concern that CASA focuses too much on its enforcement role and not enough on working with industry to achieve safety outcomes. These smaller organisations noted that over-reliance on regulatory enforcement powers by CASA can exacerbate financial hardship for smaller aviation businesses. The introduction by CASA of aviation safety advisers was cited as a step in the right direction.

Inconsistencies in application of policy and regulations by CASA field offices was identified as an ongoing issue. A range of contributing factors was identified, including varying skill sets, the number of layers of management between field offices and the CEO, and current delegation processes. Streamlining of processes and the introduction of service quality performance indicators (both of which are underway in CASA) were two solutions put forward.

There were concerns also about the slow pace of regulatory reform and the need for the safety framework to be consistent and harmonised with world's best practice. There was near consensus that the regulatory reform process needed to be accelerated and completed. There was also some recognition that consultation processes could be onerous on CASA. There was broad agreement that the regulatory framework should mesh with international best practice, but no unified view on the best model for the Australian framework. There was support for international safety initiatives including Australia's active participation in the International Civil Aviation Organization (ICAO) and



safety projects in the region, including with Indonesia, Papua New Guinea and the South Pacific.

Submissions also supported close engagement with overseas regulatory agencies, such as the US Federal Aviation Administration (FAA) and the European Aviation Safety Agency (EASA), and with industry bodies such as the International Air Transport Association (IATA). These relationships were viewed as essential to harmonising Australia's safety standards with international best practice.

There was also broad support for continued implementation of Safety Management Systems (SMS) across the aviation industry, with some submissions arguing for greater leadership by and assistance from CASA to develop and implement these systems.

Senate Committee report

The Senate Standing Committee on Rural and Regional Affairs and Transport (the Senate Committee) conducted an inquiry into the administration of CASA and related matters during the Issues Paper consultation period, and reported publicly on 18 September 2008. The Committee supported the introduction of a CASA Board and revision of CASA's funding arrangements, and recommended the regulatory reform program be concluded as quickly as possible.

The Committee also recommended that the Auditor-General, an independent statutory officer, consider auditing CASA's implementation and administration of SMS.

The policy context

A safe and efficient aviation industry is critical to the Australian economy. Aviation underpins domestic and international tourism and business and private travel, as well as the air freight of high value and perishable cargo. The aviation sector is also a major employer through airlines, airports and support industries. Any erosion of the level of confidence in safety would fundamentally undermine the industry's development and impact on the economy.

Safety is not solely the responsibility of the safety regulator: it must be a prime responsibility of every certificate-holder and provide the foundation for everything that happens in the industry.

Australia's aviation safety record – an enviable history ...

Australian aviation, its airlines and its safety agencies are highly regarded internationally. Scheduled passenger-carrying air services in Australia, termed regular public transport (RPT), have long been regarded as among the safest in the world. Accidents are rare and studies undertaken by the Australian Transport Safety Bureau (ATSB) have found that Australia is a world leader in aviation safety.

Accident, fatal accident and fatality rates for both high capacity and low capacity RPT services are low in Australia. In its 2008 Annual Review, the ATSB compared the risk of fatal injury to users of all major forms of land and air transport in Australia and concluded that airline travel is by far the safest option.

Figure 1.1 Fatal accidents – scheduled operations by regions

International comparison of fatal accidents per million departures, calendar years 2003 to 2007

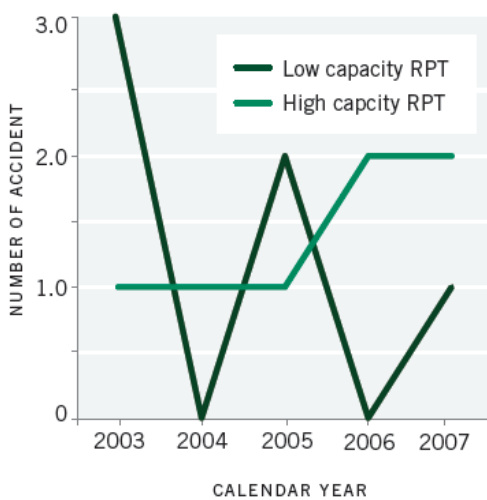
Source: International Civil Aviation Organization (ICAO)



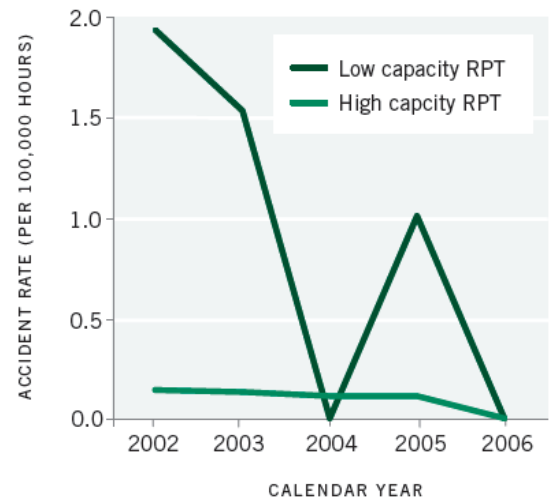
Figure 1.2 and 1.3 Australian RPT accident occurrence

Source: ATSB Annual Review 2008


Aviation accident numbers – Air transport, 2003 to 2007



Accidents rates per 100,000 hours flow, 2003 to 2006



A 2006 ATSB aviation research paper, *Analysis of Fatality Trends involving Civil Aviation Aircraft in Australian Airspace between 1990 and 2005*, compared fatal accident rates in Australia during



1995-2004 with similar data for the United States, Canada, the United Kingdom and New Zealand. The ATSB found that Australia had a good safety record compared with these other advanced economies. The report also confirmed that fatal accident and fatality rates declined in Australia over the ten years to 2004.

Building on this overall safety record, the Government has already undertaken two key safety initiatives in 2008. An alcohol and other drugs regime has been implemented for the aviation industry, comprising industry education programs, mandatory alcohol and other drugs management plans for industry organisations, and random alcohol and drug testing for industry participants with safety-related responsibilities.

The Government has also acted quickly to ensure the western end of the East West runway at Sydney Airport meets international and CASA standards through the construction of an extended runway end safety area (RESA). While this is an essential safety action, construction of the RESA is taking place under stringent conditions imposed by the Government to minimise the impact on the community.

...but no room for complacency

Despite this excellent record, Australia suffered its worst civil air accident since 1968 when 15 people died in a single fatal accident near Lockhart River, involving a low capacity RPT service in 2005. This tragedy reminds us there is no room for complacency on safety in a dynamic operating environment and that history is no substitute for robust safety systems.

Recent incidents, including those affecting Australia's largest airline, Qantas, also demonstrate the complexity of the challenge and the need for vigilance and continuous improvement of SMS. The best of safety records does not provide immunity from risk and safety systems are an essential tool in minimising and coping with safety issues as they occur.

Emerging risks and trends

It is essential that Australia takes a long-term perspective on air transport trends so that our industry and government agencies can be ready to address trends and successfully manage risks. To this end, in May 2008 CASA released *An assessment of trends and risk factors in passenger air transport* (available at <>).


In this report CASA identified the major safety risks industry will need to address over the coming three to five years from a whole-of-industry perspective, with a particular focus on passenger carrying operations.

The report identified four trends impacting on the aviation industry with implications for operational tasks and safety management:

- long-term increased global demand for aviation services;
- developments in manufacture, systems and technologies that offer potential safety solutions while simultaneously adding complexity and change;
- international instability, and increased security-related costs and compliance burdens; and
- increased environmental awareness, driven by global concerns about global warming and climate change.

CASA has established joint CASA/industry working groups to identify specific issues, intervention proposals and implementation advice to CASA in the five key areas of aircraft, airports and infrastructure, airspace and traffic management, personnel and government agencies.

It is clear that the Australian and international aviation industry is experiencing rapid change, placing new demands on airlines, maintenance and support businesses, aviation personnel and fare-paying passengers. The pace of that change and the responsiveness of industry and the



safety regulator in adopting appropriate safety management responses will determine how well additional risk is managed.

The Australian industry has been experiencing a range of challenges from new carriers entering the Australian market, including low-cost carriers, the introduction of new aircraft types and technologies, shortages of skilled staff, increased demand for services and recent high fuel costs. While some of these factors have driven growth in passenger numbers, they have also presented heightened safety risks as the complexity of safety oversight increases and the availability of skilled staff has remained tight.

All those involved in aviation acknowledge the safety risks inherent in these trends. The move towards strategic analysis and response represents a step beyond simple reliance on accident and incident data to predict future safety risks.

There is considerable potential for this responsibility to be met through the implementation of SMS by holders of Air Operator's Certificates (AOCs).

SMS can be broadly defined as a systematic approach to managing safety risks, involving organisational structures, accountabilities, policies and procedures. The implementation of an approach based on SMS acknowledges that airlines and other aviation operators have a fundamental responsibility for managing safety risks that goes beyond simple compliance with rules. Operators need robust systems in place to be confident they are managing safety and risks to achieve the best possible levels of safety.

For its part CASA needs to be confident that it has the capacity to monitor and check the quality of SMS through ongoing surveillance and regular targeted auditing. The Government has noted the Senate Committee's concern about these issues and will ensure CASA draws the best from overseas experience, particularly in Canada and the United States, as it oversees the implementation of SMS in the Australian industry.

The Government's responsibility is to get the policy and regulatory settings right so that industry is in the best possible position to manage safety risks. CASA's move towards outcome-based regulation, away from detailed prescription, brings flexibility to rule making in aviation and is part of a global trend. But the trend also introduces challenges and the respective roles of the regulator and industry in ensuring safety need to be clearly defined.

In addition to the emerging risks study and the Senate Committee report, other reviews informing the Government's consideration of safety issues include the report of the Aviation Regulation Review Taskforce (2007), chaired by Dr Allan Hawke, and the review, also in 2007, by Mr Russell Miller AM of relations between the ATSB and CASA.


Safety agencies and their responsibilities

Civil Aviation Safety Authority

CASA is an independent statutory authority established in 1995 under the *Civil Aviation Act 1988* to regulate aviation safety in Australia and the safety of Australian aircraft overseas. While the safety regulation of civil aviation remains its primary role, CASA also provides safety education and training programmes and in recent years has acquired responsibilities for airspace regulation and some environmental issues.

CASA has field offices in all mainland states and territories, an operational headquarters in Brisbane and a head office in Canberra. The Chief Executive Officer also holds the statutory position of Director of Aviation Safety and leads an organisation employing over 600 personnel.

In fulfilling its responsibilities CASA sets aviation standards, certifies aircraft, maintenance organisations and operators, licenses pilots and engineers, carries out safety surveillance, enforces safety standards and promotes industry awareness and understanding of aviation safety standards



and safety issues. CASA oversees the activities of over 42,000 licensed industry personnel (including pilots, Licensed Aircraft Maintenance Engineers and Air Traffic Controllers), over 13,000 registered aircraft, more than 850 general aviation operators, more than 40 airline operators, over 700 maintenance organisations, more than 170 certified aerodromes, more than 130 registered aerodromes, and 26 air traffic control (ATC) facilities including major ATC centres in Brisbane and Melbourne.

CASA has a complicated dual role, being required to work constructively day-to-day with the industry it regulates, but also needing to take firm regulatory action against industry where necessary to ensure safety.

While CASA has sole responsibility as safety regulator, it has sought to adopt a flexible approach to its broader policy and administrative functions by consulting regularly with industry on future safety initiatives – the Standards Consultative Committee being a key forum – and exploring options for self-administration.

CASA's current governance structure is a product of changes introduced by the then Government in 2003. At that time the CASA Board was abolished and the position of Director of Aviation Safety created. These changes were intended to create the conditions for organisational change, which has been pursued by the CEO, Mr Bruce Byron.

Australian Transport Safety Bureau

The ATSB is an operationally independent multi-modal body within the Department of Infrastructure, Transport, Regional Development and Local Government, and Australia's prime agency for transport safety investigations. Its mission is to maintain and improve transport safety and public confidence through excellence in:

- independent investigation of transport accidents and other safety occurrences;
- safety data recording, analysis and research; and
- fostering safety awareness, knowledge and action.

The ATSB performs its aviation safety functions in accordance with Annex 13 to the *Convention on International Civil Aviation* (Chicago Convention 1944). Annex 13 has legal force under Australian law through the *Transport Safety Investigation Act 2003* (the TSI Act).

Section 7 of the TSI Act defines the object of the Act as to improve transport safety through, among other things, independent investigations of transport accidents and incidents and the making of safety action statements and recommendations that draw on the results of those investigations. It is not the purpose of ATSB investigations to lay blame or provide a means for determining liability.


The ATSB's main office and laboratories are in Canberra and it has field offices with aviation safety staff in Brisbane and Perth. The ATSB currently has over 90 staff across aviation, rail and marine safety.

As well as investigating individual accidents and incidents, the ATSB also looks at systems and trends where these might provide information on future safety issues.

The policy framework - key challenges for safety agencies

The aviation safety organisational framework (see Figure 1.4) is a complex interaction between various government agencies with diverse statutory responsibilities, the aviation industry and the broader community, all operating in the wider context of Australia's membership of the International Civil Aviation Organization (ICAO) and associated obligations.

The Government's role is to ensure Australia's aviation safety agencies maintain their high international standing and continue to work together to maximise their contribution to aviation safety.



The contemporary aviation industry and safety agencies face a considerably more complicated operating environment that demands new approaches and solutions. The safety framework needs to be flexible enough to deal with technological developments and cost structure changes in the aviation industry. The focus must always be to facilitate high quality safety outcomes whilst avoiding unintended impacts on industry as a result of unnecessary bureaucratic constraints.

Circumstances have clearly changed since the decision in 2003 to abolish the CASA Board. Since then, a substantial amount of organisational reform has been undertaken within CASA, something acknowledged by the Senate Committee in its recent report. The way CASA interacts with the aviation industry has also evolved.

There is widespread support within industry for a new CASA Board that will assist the organisation to manage the implications of industry growth and other industry trends, such as low-cost carriers, and to facilitate effective interaction between the regulator and industry. As CASA's trends and risks assessment makes clear, there are technological and other changes taking place in the aviation sector that point to the need for governance arrangements that ensure that CASA is equipped to monitor and drive safety outcomes.

In 2007 Mr Russell Miller AM was tasked by the then Government to review the relationship between CASA and the ATSB. Mr Miller's work arose from a recommendation of the Queensland Coroner following his inquiry into the fatal accident at Lockhart River in 2005.

The Government released Mr Miller's report for public comment in March 2008 (it can be accessed at <>).

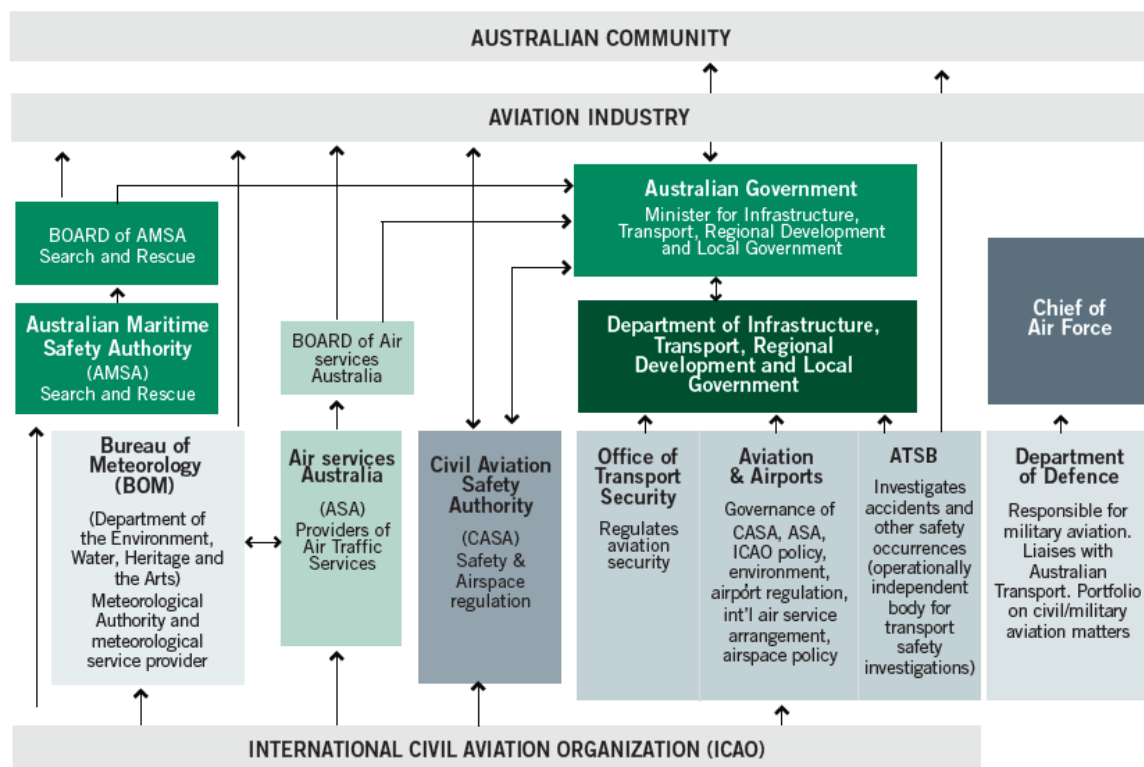
In finding there was room for improvement in the way the agencies interact, Mr Miller addressed the ATSB's governance structure and the issue of protection of safety related information. With regard to governance, Mr Miller recommended that the Government move to clarify the ATSB's independence as the national safety investigation agency. The Government accepts this key recommendation, which received strong support from industry, and will implement it through the necessary legislative and administrative changes.

The Government's response to aviation sector changes needs to go beyond the governance changes. We need to ensure that Australia's key safety agencies – CASA and the ATSB – have the necessary resources to meet their responsibilities.

The Government will review the funding arrangements for CASA's surveillance and regulatory activities, including those of the Office of Airspace Regulation (OAR). The OAR has an important role in determining the safest and most efficient use of Australia's airspace, which covers 11 per cent of the world's airspace. Within the context of new industry developments, the Government will ensure that CASA has the appropriate funding levels and certainty it needs to carry out its functions.

The ATSB's work in investigating accidents and serious incidents is a fundamental part of the transport safety framework. The majority of this work relates to the aviation sector. It is not practicable for the ATSB to investigate every aviation accident and incident, and it will continue to need to make judgements about the longer term safety value of any investigation it undertakes. However, the Government recognises that ATSB needs to be appropriately resourced to perform its functions, taking into account industry growth and technological complexity.

Figure 1.4 Australian safety organisational framework



Australia’s approach to enhancing aviation safety

Safety agency governance: a Board for CASA

The Government will implement its commitment to introduce a CASA Board. This will be a small expert Board of five members appointed by the Minister, comprising a Chair, Deputy Chair, CEO (as an *ex-officio* member) and two other members. The Board will be responsible for appointing the CEO, in consultation with the Minister.

The CEO will remain Director of Aviation Safety (a statutory office under the Civil Aviation Act) and continue to manage CASA under the Board’s strategic guidance. The CEO will retain responsibility for day-to-day decision-making, staffing and financial management.

Board members will be appointed for three-year terms, with the exception of some initial appointments where it might be desirable to have terms of various lengths to avoid all terms expiring at the same time.

Key skills required on the Board include experience in aviation, public administration, transport safety and regulation. It is important to be clear that this Board will not be ‘representational’. CASA’s role inherently involves striking a balance between the competing needs of different industry sectors.

The Board will operate at a strategic level – to support CASA’s regulatory and safety oversight role, but not blur the clear lines of authority and accountability for day to day decisions. It will be broadly responsible for CASA’s strategic direction, risk management and corporate planning.



Its primary purposes will include:

- deciding on the objectives, strategies and policies to be followed by CASA;
- ensuring CASA performs its functions efficiently and effectively; and
- ensuring CASA complies with the reporting and other requirements of the *Commonwealth Authorities and Companies Act 1997* (CAC Act) and the Civil Aviation Act.

A Board will help consolidate directions and align strategic directions to the full range of challenges, which have grown substantially over the past five years. The new Board will facilitate better relations across agencies with safety responsibilities and also assist in allowing for stronger industry input into strategy.

The Government has also considered whether it would be appropriate for CASA to transition to the *Financial Management and Accountability Act 1997* (FMA Act) according to the financial management principles established in the *Review of the Corporate Governance of Statutory Authorities and Office Holders* (Uhrig Review) presented in 2003.

The Government does not propose to do this at this time. CASA will be retained as a statutory authority under the CAC Act and the Government will review this arrangement in two years. The new CASA Board will be responsible for the efficient, effective and ethical use of Commonwealth resources.

Legislative amendments to the Civil Aviation Act to give effect to the governance changes are to be introduced in early 2009, with the Board to be in place from 1 July 2009.

Safety agency governance: independence for the ATSB

The Government has decided to establish the ATSB as a statutory agency and to introduce a Commission structure to enhance its independence. Responses to the Miller review revealed strong industry support for an independent ATSB and an alternative governance model was one of the review's recommendations.

The Commission structure for the ATSB will comprise a full time Chair, who will also be the Chief Executive, two part-time commissioners and provision for additional commissioners to be appointed for particular investigations as necessary. The Commission will be appointed by and report to the Minister and the new agency will be established under the FMA Act and the *Public Service Act 1999*.

The Executive Director of Transport Safety Investigation's current powers under the TSI Act will be transferred to the Commission, which would have powers to delegate to appropriate levels in the ATSB. The ATSB Chief Executive will be responsible for the day-to-day conduct of accident and incident investigation under delegation from the Commission as a whole.

A Commission structure will support the ATSB's enhanced independent status. The Commission will provide guidance on the selection of accidents and serious incidents to be investigated. It will also support the ATSB in encouraging safety action ahead of final reports, which will reduce the need for safety recommendations and ensure that any safety recommendations deemed necessary are in a format that will best contribute to practical safety improvements. The Commissioners will be appointed with an appropriate mix of skills and expertise.

The Commission will establish a framework for the conduct of the ATSB's work and delegation of the investigative functions to staff as appropriate, with the expectation that at least one commissioner would be involved in the sign-off of each report and that multiple commissioners would consider the most sensitive reports.

A Commission will help to facilitate interaction with industry and other agencies and improve quality control. It would oversee and approve ATSB reports and ensure investigation reports are communicated effectively to industry and the safety regulator, CASA, and acted upon as a key part



of Australia's aviation safety system.

Legislative amendments to the TSI Act to give effect to the governance changes are to be introduced in early 2009, with the new Commission to be in place by 1 July 2009.

Agency cooperation

The Miller review included some other recommendations to ensure appropriate coordination and cooperation between the ATSB and CASA, including a range of operational matters that are already being addressed by the agencies. The Government expects that the creation of a Board for CASA and a Commission for the ATSB will help build cooperation across agencies.

The Miller review also suggested amendments to the provisions relating to the sharing of evidence obtained in an investigation with CASA as the regulator. These recommendations raised serious sensitivities in the industry, with a significant number of key industry players indicating their concern that a change in the current balance on information sharing could prejudice the industry's level of cooperation with investigators.

The current provisions of the TSI Act offer only limited scope for sharing information for safety purposes. There is room for further dialogue between the agencies about how those provisions are used. Australia is not alone in grappling with this issue and discussions on a refined framework are proceeding within ICAO.

The Government does not propose to initiate legislative change on these issues at this stage, but will look to the agencies to work together towards agreement on an approach based on the current provisions. The Government will also consider options for introducing a tiered system of voluntary and mandatory reporting of safety issues to CASA that will allow CASA to take appropriate safety action.

Following up safety recommendations

Consistent with recent ICAO decisions, the Government intends to introduce legislative amendments that will require written responses to ATSB safety recommendations within 90 days. The revised governance arrangements for CASA and the ATSB will also allow for a better outcome from the ATSB's findings and safety recommendations, which will be subject to review and consultation with regular reports to the Minister. This process will provide confidence that ATSB safety issues are being addressed and implemented and ensure feedback to the ATSB so that it can best target future recommendations to achieving practical safety outcomes.

Agency funding

The Government will ensure that Australia's aviation safety agencies are appropriately funded to enable them to perform their functions. The Government will consider CASA's long-term funding needs, which were last reviewed in the 2005-06 Budget. CASA's funding base comprises a mix of budget appropriation, revenue from aviation fuel excise and cost recovery of regulatory service fees. Consideration of CASA's overall funding will include resourcing of the Office of Airspace Regulation to ensure the continued development of that important regulatory role. To ensure the costs of CASA's safety regulation do not place an excessive burden on the regional and general aviation industries, options will be considered for limiting CASA's regulatory service fees to that part of the industry.

The Government will also consider funding to support the new governance arrangements for CASA and the ATSB, and the ATSB's new statutory independence. Consideration will also be given to the ATSB's funding base to ensure it is appropriately resourced to discharge its important investigatory role.



Enhancing safety regulatory powers

Recent experience has exposed some inadequacies in Australia's safety regulatory framework and underlined the desirability of enhancing CASA's powers to take account of developments in the industry. CASA needs a twenty-first century suite of enforcement tools.

In particular, routine application of the 'automatic stay' provisions of safety related decisions taken by CASA have effectively nullified CASA's ability to suspend or cancel the authorisations of operators found to have fallen well below an acceptable level of safety. Amendments in 2003 to the Civil Aviation Act have limited CASA's capacity to take firm regulatory action.

A number of recent incidents have highlighted how access to legal remedies such as 'automatic stays' can arguably have the consequence of allowing operators to remain in the air despite compelling evidence of serious safety breaches. For example, in June 2008 CASA moved to suspend the operations of an airline because CASA believed there were serious and imminent risks to the safety of passengers travelling on the airline. The Federal Court lifted that suspension on 2 July 2008 after imposing conditions on the airline's continuing operations.

CASA is currently reliant on its own industry surveillance activities and the voluntary provision of information from industry to conduct its oversight functions. The Government will consider options for a range of voluntary and mandatory reporting requirements for aviation safety incidents that will improve the overall safety reporting system.

The Government will also consider changes such as substantially increasing the range of financial penalties for regulatory breaches where appropriate. The range of penalties available should be such as to allow an appropriate response having regard to the nature of the breach, the scale of operation and the degree of safety risk involved. The amounts potentially payable by large operators must be sufficient to provide an effective financial deterrent.

There is also a need for CASA's regulatory oversight of foreign-based operators flying within Australia to be reviewed, arising from concerns about CASA's ability to satisfy itself that all operators flying into Australia are receiving adequate safety oversight outside Australia. The Government intends to explore whether CASA's capacity to take a broader range of issues into account when considering whether to issue a foreign AOC needs to be expanded.

While CASA's infringement notice and recently introduced demerit point schemes are widely seen as an even-handed response to regulatory breaches, there are further refinements to these arrangements that can be considered to ensure they are achieving the desired safety outcome. The Government will consider changes such as the option of substantially increased financial penalties where appropriate and revised disclosure provisions.


Improving CASA's interactions with industry

CASA consults extensively with industry and this consultation is important in ensuring that industry and the regulator are on the same page with regard to CASA's regulatory role. The Government's clear expectation is that CASA's consultation with the aviation industry will be broadly based, focussed and constructive.

CASA's current consultative arrangements are, however, time consuming and industry and CASA share a view that entrenched disagreements exposed in the consultation processes should not impede timely regulatory action, including the development of new regulations.

The Aviation Regulation Review Taskforce, chaired by Dr Allan Hawke, addressed the issue of the pace of CASA's regulatory reform program, which has been underway for close to a decade. The Taskforce, whose report can be accessed at <>, made a number of recommendations in this area to expedite progress. Many of these are already being addressed and some significant progress has been made recently in finalising important regulations.

The Government is committed to implementing the Taskforce's key recommendation that the



regulatory reform program be completed by 2010-11 and, in consultation with CASA's management and the new Board, the Government will support reforms to CASA's consultation with industry that lead to effective, quicker and more transparent safety regulatory outcomes. The aim of these reforms will be to allow industry views to be collected and timely regulatory decisions to be reached that meet the balance of public interest.

Industry's primary responsibilities for safety

Aviation safety is not just a matter for the regulator; effective safety systems require all stakeholders to take responsibility in ensuring safe outcomes. The aviation industry has a clear responsibility for safety outcomes beyond compliance with the safety regulations. CASA's work with industry to implement Safety Management Systems is a key part of delivering this message.

The Government will also encourage CASA to continue to examine options to devolve non-regulatory responsibilities to the aviation industry so that certain segments of the industry – such as has occurred with sports aviation – are able to self-administer their activities, thereby delivering cost and time savings to industry participants. This will not involve industry regulating itself. Self-administration will not be contemplated if it leads to a reduction in safety standards and it is likely that CASA's surveillance of these sectors will increase regardless of self-administration in the future.

CASA's internal reforms

CASA has undergone considerable reform in recent years. This has brought significant change to work practices, organisational structure and strategic priorities. The safety regulator now aligns itself more closely with how industry operates and is more attentive to concerns about how its role can impact on industry competitiveness. New staff have also been recruited, although CASA faces many of the same skills pressures the industry confronts. CASA has taken steps to develop and enhance the skills of its staff by introducing a Diploma and Certificate IV qualification in Aviation Safety Regulation in conjunction with the Swinburne University of Technology. About 10 per cent of CASA's total permanent workforce is enrolled in these courses.

While efforts have been made to address concerns over examples of inconsistency in how different CASA staff undertake similar regulatory roles, industry feedback suggests there is more to be done and that issues of 'poor culture' are still evident in some CASA staff. CASA's management, supported by the new Board, will need to continue to focus on improving the way staff meet their professional responsibilities.


International safety cooperation (through ICAO and regional safety programs)

Aviation is a global industry and Australia cannot ensure safety in isolation – the majority of air traffic coming to or from Australia traverses Indonesian or Papua New Guinea (PNG) airspace.

Australia's international efforts are focused on being an active member of ICAO and working cooperatively and constructively in our region.

Election as a member of the ICAO Council and active participation in a range of ICAO groups allows Australia to stay at the forefront of international developments in safety and to shape the development of new standards and practices. In the region, Australia has a major transport safety program with Indonesia and is contributing to safety outcomes as part of the broader aid program in PNG and the South Pacific:

- the Indonesia Transport Safety Assistance Package is providing almost \$24 million over three years for a combination of training and technical assistance;
- assistance has also been provided to the PNG Civil Aviation Authority (CAA) to improve its efficiency and effectiveness, and to enable the CAA to develop its capacity to comply with



international standards in aviation safety; and

- Australia also engages with the Pacific Island Forum states through its membership of the Pacific Aviation Safety Office (PASO). Since its creation in 2005, Australia has contributed assistance under AusAID's Pacific Governance Support Program to review PASO's corporate governance arrangements and to provide technical assistance for development of safety and security technical inspection manuals.

Aviation safety regulation– the way forward

Guiding principles and key initiatives

- Safety must underpin everything else in aviation and must be maintained in the face of cost and other pressures in the industry. The safety of passenger carrying operations remains the top priority.
- The effectiveness of safety agencies must be ensured, with proper governance arrangements to strengthen strategic planning and oversight.
- The development of the Safety Management Systems approach should continue, incorporating both flexibility and a commitment to managing safety risks throughout aviation operations.
- Consultation and communication across the aviation sector must be enhanced. This is critical to achieving a fully informed and engaged aviation community actively addressing safety issues.
- Australia is building leadership in the region to support the improvement of safety administration in neighbouring countries. This delivers safety benefits to the countries concerned and to all travellers flying through their air space or utilising their aviation infrastructure.
- The Government will affirm that safety will be the first priority of all government agencies involved with aviation, and act now to:
 - reinforce CASA's governance arrangements through the introduction of a small expert Board;
 - consider options to ensure CASA's funding is sufficient for it to perform its functions;
 - pursue legislative amendments to strengthen CASA's capacity to take necessary safety action; and
 - maintain the momentum of CASA's internal reforms so that it is equipped to deal with future regulatory challenges.
- The Government will use the development of the Aviation White Paper to engage further with industry and the community on how CASA should undertake its safety regulatory role. This approach emphasises the shared responsibility for maintaining aviation safety and the Government's determination to achieve a comprehensive safety outcome.
- The Government will also act to enhance the independence of the ATSB as a safety investigation agency by establishing it as an independent agency within the Infrastructure portfolio. Consideration will also be given to the ATSB's resourcing.
- The Government will increase its engagement in safety issues in Australia's region through targeted safety regulatory and air traffic management activities, in Indonesia, Papua New Guinea and the South Pacific.

Air traffic management

Issues Paper Themes

- > Taking advantage of new and emerging satellite navigation technologies for Australia's air traffic management (ATM) system
- > Enhancing ATM safety, capacity and efficiency
- > Aligning airspace classifications and the level of services and facilities to reduce risk
- > Ensuring Australia's ATM system is compatible with global and regional systems
- > Aligning Australia's ATM development with national security and environmental considerations
- > Ensuring the retention, training and future supply of air traffic controllers and associated professionals
- > Developing and implementing a national ATM plan
- > Be a firm regulator

What the submissions said

There was general support for greater clarity of government agency roles and for government funding of infrastructure and technology.

Views were mixed on how industry charging should be done and whether network or location specific pricing models should be adopted. There was also support for the appropriate implementation of new air traffic related technology and for industry having a role in the development of air traffic planning.

Several submissions called for special focus to be placed on Sydney Airport air traffic management issues.

Other issues raised in submissions were the need for civil/military airspace issues to be addressed and for education and training to be enhanced to ensure a sustainable workforce.

What is the Australian Air Traffic System?

Australia has one of the safest and most efficient ATM systems in the world. It is a system that services over 11 percent of the world's airspace.

The decision to move to The Australian Advanced Air Traffic System (TAAATS) in the early 1990's, a system based around two major air traffic centres at Brisbane and Melbourne, has given Australia a system that is the envy of most countries in the world.

Like most systems, air traffic management requires continual maintenance and eventual renewal.

While Australia does not have the same magnitude of air traffic as Europe or the United States, we still face significant ATM challenges. These include infrastructure renewal, most notably the replacement of ageing radar and navigation aids, and the need for better workforce planning.

Sustained industry growth and changing technology are also placing unprecedented demands on our system. If these challenges are not addressed, Australia's ability to maintain an international best practice air traffic system will be compromised.

The Australian Air Traffic System broadly comprises three key components:

- air traffic safety regulation, which includes airspace regulation by the Office of Airspace



Regulation (OAR) in CASA;

- air traffic surveillance, which is predominately undertaken by Airservices Australia (Airservices) and by Defence at certain airports where there are both civilian and Defence operations; and
- aircraft communications and navigation, which is undertaken by a range of aircraft operators on instruction from the service provider in controlled airspace and in compliance with CASA requirements in non-controlled airspace.

The travelling public, the wider community and industry expect this system to deliver safe and reliable services with clear and accountable regulation to meet their travel and business needs.

With continued air traffic growth forecast, the air traffic system must remain responsive to enhance safety and efficiency through continuous improvements in:

- the regulatory and service provision roles performed by the Government's aviation agencies;
- the performance and operations of Australian and foreign airlines serving our international, major domestic and regional airports; and
- the performance and operations of the general and recreational aviation sector, especially where their operations increasingly mix with passenger transport operations.

While safety is the primary consideration, the air traffic system must also support industry efficiency initiatives, limit environmental impacts (noise and emissions), provide reasonable access to all users, and operate in a manner consistent with our national security objectives.

Australia's air traffic management system in the international context

Australia's ATM system forms part of an international network of air traffic communications, navigation and surveillance.

Every day around the world, and in our region, air navigation tasks are performed by a range of international and domestic airlines, in concert with air traffic surveillance services provided by agencies such as Airservices.


Australia has the added challenge of being required to manage vast amounts of airspace in relatively remote localities.

As a member state to ICAO, Australia works with other member states to establish system compatibility to enable more seamless international air traffic services.

ICAO has a vision to achieve an integrated, harmonised and interoperable ATM system through what is known as the ICAO Global Operating Concept for Air Traffic Management. The ICAO concept sets out a consistent air traffic management regulatory and service framework for each member state to adopt. For Australia this should be reflected in the way in which we set up our governance, infrastructure and operational arrangements – in order to achieve a safer, more efficient and more environmentally friendly international air traffic system.

Australia is committed to adoption of the ICAO concept in the future delivery of ATM. However, what this will require is an appropriate Government-led, long-term coordinated ATM plan – something that has been lacking in previous efforts to adopt the ICAO vision.

A key means of meeting this requirement that is being implemented around the world, will be the wider application and use of satellite surveillance technology such as Automatic Dependent Surveillance-Broadcast (ADS-B) and satellite navigation technology such as the Global Navigation Surveillance System (GNSS).



Australia is at the forefront of the initial international use of this technology, improving air traffic surveillance in Australian airspace that currently has no radar surveillance coverage.

In the region, Australia is a leader in ATM and has an important role to play in assisting our regional partners to meet their air traffic management responsibilities and, where appropriate, build improved infrastructure and human resource capability.

Good examples of this role have been demonstrated with the work that Australia has undertaken with assisting air navigation service providers in countries such as Indonesia and Papua New Guinea.

In the future we could also look towards the establishment of more seamless ATM services covering Australia and New Zealand to improve on the already close cooperation in ATM between the two countries.

More seamless regional air traffic management arrangements and procedures ultimately provide better safety, efficiency and environmental outcomes for the travelling public and the airlines flying in Australia and throughout the Asia-Pacific region.

Air traffic governance - roles and responsibilities

A twenty-first century air traffic management system must clearly define the roles of government agencies, airlines and other aviation users in maintaining a safe and efficient aviation industry.

A significant step in this process was taken with the removal, from 1 July 2007, of airspace regulatory functions from Airservices to the newly created Office of Airspace Regulation in CASA. This completes a clear delineation of roles between the regulator and the service provider.

This step has, however, not changed the key roles of all Government agencies and industry in delivering an air traffic system which continues to enhance safety.

Airservices Australia – the provider of air traffic services

Sound governance is important to delivering safe air traffic management.

Airservices was established in July 1995, following the division of the Civil Aviation Authority into two separate government bodies, Airservices and CASA.

Airservices is a legally and financially independent statutory authority established under the *Air Services Act 1995*. It is essentially a monopoly provider of air traffic management and fire fighting services at our major airports for civilian aircraft.

Airservices is governed by a Board, which is directly accountable to Parliament through the Minister for Infrastructure, Transport, Regional Development and Local Government.

The Government will maintain Airservices as a fully government-owned statutory authority with safety its most important consideration.


Delivering better safety outcomes should not be an impediment to improved efficiency.

Ongoing investment in the maintenance and replacement of infrastructure and the recruitment and retention of skilled personnel are necessary components of improved ATM.

The Government, through the Minister for Infrastructure, Transport, Regional Development and Local Government, outlines its priorities for Airservices in a publicly available Statement of Expectations (Statement).

In conjunction with this Green Paper, the Government has issued a new Statement to the Airservices Board.

The new Statement requires Airservices to focus on delivering core air traffic and aviation rescue and fire fighting services. This is what the community and industry rightly expects Airservices to



deliver best, not the pursuit of side or ancillary activities or overseas ventures.

The Statement also highlights the importance of the need for supporting infrastructure investment, including in current and future technology, and improving workforce capability planning to meet immediate and future demand.

The Government also expects that Airservices will meet its broader legislative responsibilities to the community in relation to the environmental impacts of aircraft operations, including those responsibilities set under direction from government.

The new Statement sets Airservices clear, unambiguous and immediate priorities to deliver on with improved safety at the heart of these priorities.

Office of Airspace Regulation – the safety regulator

As outlined above, under the *Airspace Act 2007*, CASA was given the primary responsibility for determining Australia's airspace safety regulatory requirements through the establishment of the OAR.

The OAR has the decision making power for airspace design, classification and designation and the authority to conduct regular reviews of existing services and facilities provided for particular volumes of airspace by the civil air navigation service provider – Airservices.

The OAR's targeted work program should be proactive - its airspace reviews should use the best available data (including forecast changes in aircraft movements) to determine emerging risks at our capital city and regional airports to ensure that appropriate ATM requirements are put in place in time by Airservices.

The Government believes that the OAR, through the Airspace Act and the Airspace Regulations, has a sound legislative framework for examining and determining future Australian airspace requirements.

This framework has established the safety of air navigation as the most important consideration in the performance of the OAR's functions, as well as ensuring, as far as is practicable, the environment is protected from the effects of aircraft operations.

As well as the legislation and regulations, a third instrument guiding the OAR's operations is the Australian Airspace Policy Statement. The Government believes that the current Policy Statement can be significantly improved by being better targeted on safety.

The Government has released, for industry comment, a proposed updated Policy Statement.

The Government believes OAR should focus on safety first in the delivery of future airspace classification and administration decisions using sound risk management processes.

The new Policy Statement will help guide the OAR's role in dealing with Australia's evolving air traffic management system and rather than being overly prescriptive, it will enable the OAR to concentrate on its key legislative functions and responsibilities. The previous "wish list" of additional air traffic issues in the current Policy Statement will be rationalised.

The Government is looking for comments on the updated Policy Statement by the end of this year so that it can be finalised and come into effect early in 2009.

A key area of concern is to ensure that the OAR has stable and adequate funding to enable it to effectively undertake its future regulatory and planning functions.

The current funding arrangements involve charges collected from industry being redirected to the OAR through Airservices. This was acknowledged as an interim arrangement when established.

With a substantial workload still to be undertaken by the OAR over the next five years, including the review of the classification of airspace at a number of major regional aerodromes, the Government will ensure, through the CASA funding review, that the OAR is appropriately resourced.



Department of Defence

The Department of Defence is a significant partner in Australian aviation. It is an independent air navigation service provider including being responsible for infrastructure (e.g. radar facilities) and air traffic and rescue and fire fighting services at a number of locations that have facilitated strong civil aviation growth.

Defence has unique requirements in the aviation environment, especially in terms of airspace use, infrastructure, supporting services in developing and maintaining military capability and protecting national security commensurate with the Government's Defence policy. In developing the Aviation White Paper, the Government will ensure that these requirements are recognised.

There are currently a number of initiatives in place to achieve closer collaboration between civil and military ATM systems. The Defence Air Traffic Control Reform Program, for example, includes an examination of the current legislative regulatory frameworks covering civil and military requirements, with a view to pursuing greater harmonisation of the two systems through the alignment of operational and airworthiness standards.

Other initiatives aimed at improving civil/military harmonisation include national training standardisation, systems security, data sharing between agencies and initial steps in terms of the flexible use airspace concept.

Department of Infrastructure, Transport, Regional Development and Local Government (Infrastructure)

While Airservices and CASA have the day to day operational and regulatory responsibilities for ATM, the Department of Infrastructure has an important policy advisory role to play in relation to air traffic matters.

This includes providing advice to the Government on the aviation agencies' strategic direction, their financial and operational performance, and their governance framework.

The Department also has a role in leading the development and publishing of major future air traffic policy directions to give effect to the Government's decisions, as well as leading and coordinating implementation review processes.

The Government expects the Department to continue to play these important oversight and coordination roles in the future development and implementation of Australia's air traffic management policy, working closely with other Government agencies and industry.

Aviation Policy Group (APG)/Aviation Implementation Group (AIG)

One of the challenges faced in aviation is that there is a number of different agencies with different responsibilities performing roles which invariably overlap and impact upon each other. Good inter-agency cooperation is essential to implementing and achieving consistent air traffic policy.

The APG was formed in 2005, and brings together the chief executives of the Department of Infrastructure, Airservices, CASA and the Australian Air Force.

The Group provides a forum to work through ATM and other cross agency issues at a strategic level and offers the opportunity to resolve real and potential sticking points.

The APG is not a decision making group – it is recognised that each member retains the authority and responsibility for the performance of specific legislative functions – but it does provide an invaluable means of sharing information and encouraging greater coordination.

The AIG supports the APG in the implementation of cross agency strategies. This officials' working group is chaired by the Department of Infrastructure, which also provides secretariat services to both the APG and the AIG.



Role of industry

Industry has a number of important roles to play in Australia's air traffic management system. It is industry that operates and maintains the aircraft which fly in Australia's air space.

Industry has the primary responsibility for improving safety of air traffic operations through continual improvement in air navigation and communications and compliance with mandatory regulatory requirements.

This role is best performed through sustained investment in the maintenance of aircraft systems, investment in technology that can further enhance safety and efficiency, and in the attraction, training and retention of skilled personnel.

However, infrastructure and human resource investment by industry must be coordinated with the direction of initiatives being taken by government agencies. The need for this coordination is driven by the high degree of inter-relationship between regulatory and investment decisions taken by the OAR and Airservices in relation to airspace management and air traffic surveillance, with future investments in air navigation and communications systems being made by aircraft operators in all industry sectors.

Industry's other role is as a key stakeholder in providing views to government on future directions of ATM policy.

The Australian Strategic Air Traffic Management Group (ASTRA) is a collaborative group of aviation and airport organisations that has sought to assist Australia's aviation community in identifying and planning future ATM needs. It has produced its own strategic vision for ATM in Australia.

The Government will encourage ASTRA to further clarify and strengthen its role – through the establishment of clear terms of reference and by gaining senior industry representation in its activities.

The Government supports initiatives being taken to reinvigorate ASTRA through the establishment of an independent, industry chair and welcomes Airservices Australia's commitment to continued engagement in industry working group processes and the provision of secretariat services and other administrative assistance to ASTRA.

ASTRA can play a key role in providing coordinated industry advice to help inform government ATM planning and decision making. This role can be most effectively performed through ASTRA working closely with, and with the assistance of, the AIG.

It is recognised that there can be different views on ATM issues from major international and domestic airlines as compared with the general aviation sector. However, the benefits of having consistent, coordinated and timely advice through one body, ASTRA, rather than a piecemeal approach will help the Government form its strategic ATM plan.


Future directions

Safety first

Safety first is the primary tenet of the Government's ATM policy and will underpin the directions of the proposed strategic plan outlined below.

The Government believes good safety systems inevitably tie in with good airline business practice, and that a safe air traffic system helps underpin Australian economic growth through facilitating aviation-dependent commerce, such as tourism and business travel.

While the Government recognises the need for agencies and industry to manage costs, this should never be at the expense of safety.



Strong safety regulatory governance, better planning and investment in safety infrastructure, technology and skilled personnel will be the foundation of our future ATM system. Government agencies and industry must all contribute.

Better planning

One element missing from previous approaches to air traffic management in Australia is a government-led, coordinated and forward-looking air traffic plan for Australia.

The Government proposes to address this issue, through the Aviation White Paper, by releasing a strategic plan that will provide a sound basis for long term ATM planning and investment decisions by aviation agencies and industry.

The Government's strategic ATM plan proposes to:

- identify key milestones and objectives for Australia's air traffic system that can be measured to ensure progress can be tracked and evaluated by stakeholders;
- establish clear responsibilities for meeting those objectives;
- outline a view of what our air traffic communications, navigation and surveillance systems should be capable of achieving in 5, 10, and 20 years;
- identify how best to incorporate and coordinate the adoption, where appropriate, of new and emerging technologies, acknowledging that innovation in ATM can evolve rapidly;
- facilitate ongoing investment in, and maintenance of, key air traffic infrastructure, including facilities and equipment;
- establish a basis for ongoing workforce planning in the provision of ATM; and
- ensure that Australia's ATM infrastructure meets the operational needs of all sectors of the aviation community.

The development of this plan is consistent with approaches adopted by other leading aviation countries and will meet our commitment to the ICAO Global Operating Concept for ATM.

The Government will ask the APG to oversee the development and implementation of the plan, in consultation with industry, taking into consideration approaches taken by comparable overseas aviation administrations, the need for close coordination between government agencies, and industry's capacity to absorb change.

The development and implementation of this plan will require substantial ongoing work for government aviation agencies, and the Government will ensure that these agencies have allocated appropriate funding to this function, as well as ensuring industry has every opportunity to provide valuable input during the planning process, acknowledging the previous planning work done by ASTRA.


Greater civil/military cooperation and integration

Improving civil/military cooperation in aviation has been an ongoing challenge.

Flexible use airspace is an acknowledged but not generally practised concept in international aviation. Its aim is to reduce the areas and periods of unavailability of blocks of airspace so that aircraft operations can take place in a less restricted, more efficient and often more environmentally friendly manner, while meeting set safety standards at all times.

Submissions to the Issues Paper have highlighted that an important means of establishing more flexible use airspace is through closer harmonisation between the civil and military ATM systems and the continued development of a joint national ATM platform.

There are potential benefits, in terms of infrastructure and personnel requirements, from a joint



ATM platform, but important Defence operational issues and potential costs need to be addressed in developing such a system. For example, Defence capabilities, which are sensitive to national security, must be carefully considered and quarantined if necessary.

Civil and military ATM systems should be more closely integrated, and the development of a joint national ATM platform is a desirable objective.

To this end, the Government has tasked the Chief Executive of Airservices and the Chief of Air Force to work together to prepare a joint Ministerial submission for consideration by the Government. This submission will cover issues such as what the joint platform should deliver, cost assumptions and estimates, an implementation timetable, training, planning and investment issues.

Another emerging Defence-related ATM issue that needs to be addressed is the additional infrastructure and personnel requirements being placed on the RAAF from growing civil aviation demand at air force bases, such as Williamtown. These civil aviation demands for higher levels of air traffic control and rescue and fire fighting services are over and above the level of resources that would normally be provided solely to handle military operations.

The Government will receive advice in the near future from its aviation agencies on how best to address these demands, including future military and civil use of Williamtown, and appropriate cost recovery arrangements at these locations, whilst ensuring there are no adverse impacts on military operations and that appropriate civil aviation safety standards are maintained. Use of Defence airports for civilian operations is also addressed in Chapter 8 covering aviation infrastructure.

Investment in technology and innovation

Technology and innovation are two cornerstones of the international air traffic system and potential drivers of major safety system enhancements into the future.

In ensuring a safer and more globally interoperable and efficient system as sought by ICAO, ongoing consideration needs to be given to the wider application of technology from gate to gate.

This includes planning for greater use of satellite based surveillance systems such as ADS-B, as well as other procedures, systems and technologies such as Terrain Avoidance Warning Systems (TAWS), Approach with Vertical Guidance (APV), Required Navigational Performance (RNP), Aircraft Collision Avoidance Systems (ACAS) and Wide Area Multilateration (WAM).

The Government recognises the need for investment in modern air navigation infrastructure, including satellite technology, to further improve aviation safety and meet future air traffic demand.

To meet these challenges, the Government will consider the wider use of newer technologies to enhance air traffic navigation and surveillance.

New technology and innovation generally comes at a cost to agencies and industry, and robust cost benefit analysis should form a part of the assessment of proposed ATM initiatives. Better coordination of the introduction of different regulatory requirements, for example in the proposed fitment of aircraft with a number of pieces of advanced avionics equipment, should also be a key part of future approaches to embracing technological change.

CASA will maintain a broader regulatory role regarding the safe assimilation of new technologies into the Australian ATM landscape.

CASA will be the final arbiter of standards and regulations supporting introduction of new technologies. The Government expects CASA's regulatory decisions to be implemented by Airservices and industry in accordance with clearly established timeframes.

The Government expects CASA to ensure that the take up and mandating of satellite-based and other new aviation technologies is only implemented after detailed operational concepts, robust safety analysis and contingency planning is undertaken, and that the implementation of these important initiatives is supported, where appropriate, by comprehensive training packages for

service providers and industry.

Aviation agencies, as a high priority, will be providing advice to the Government on a proposal for the wider application of ADS-B.

CASE STUDY: Wider application of ADS-B in Australian Airspace

What is ADS-B?

The Automatic Dependent Surveillance-Broadcast (ADS-B) system is an advanced surveillance technology that combines a satellite positioning service, aircraft avionics, and ground infrastructure to enable more accurate transmission of information between equipped aircraft and air traffic control.

The system enables an equipped aircraft to continually and accurately broadcast information, including identification, current position, altitude and velocity.

ADS-B uses information from a position service, i.e. the Global Positioning System (GPS) to identify the aircraft's location. This enables more timely and accurate information than that provided by conventional primary or secondary radar.

Is ADS-B in current use?

ADS-B surveillance and airborne ADS-B applications are increasingly being adopted around the world and fitted in new international and domestic aircraft.

Many of these applications, including ADS-B based merging and spacing and in-trail procedures, are seen as essential in addressing future airspace and air route congestion problems in many parts of the world.

ADS-B is currently used in Australia to provide air traffic surveillance for large tracts of controlled upper airspace across the Australian continent where there was previously no radar coverage.

What are the benefits of ADS-B?

The introduction of ADS-B installations has the immediate benefit of lower costs of establishment and maintenance, and providing a reduced environmental footprint than radar installations. For aircraft operators, ADS-B benefits are now being realised by way of more flexible aircraft tracking and decreased fuel burn.

In the future, ADS-B will provide a platform for further safety and efficiency improvements in air traffic navigation and surveillance as satellite based technology is increasingly adopted.

This includes not only the take up of "ADS-B out" functionality (i.e. where aircraft broadcast their current position, velocity and identification over a radio datalink about every half a second) but through "ADS-B in" functionality (i.e. the reception by other aircraft of ADS-B data) enabling pilots to use ADS-B to accurately identify other aircraft in their vicinity.

Next Steps

In the second half of 2007 Government agencies released for industry comment a Joint Consultation Paper (JCP) outlining a proposal to extend the use of ADS-B for air traffic surveillance and GNSS for aircraft navigation. Since those consultations the aviation agencies have been undertaking further detailed work on the proposals canvassed in the 2007 JCP.

There is industry support for ADS-B although industry has raised a number of operational and financial issues which are being examined before advice is finalised by aviation agencies for Government consideration.

CASA will need to be satisfied that a robust back-up ground-based surveillance network is in place, and that the management of transitional and implementation risks associated with the wider application of this satellite-based system have been addressed. CASA will make the final regulatory decision on the scope and timing of a mandate for the fitment of ADS-B and GNSS equipment to aircraft operating in Australian airspace.

The Government looks forward to receiving advice from our aviation agencies in the near future so that a proposed way forward on the wider application of this development in air traffic navigation and surveillance can be finalised.



Investment in infrastructure

Consistent with the Government's commitment to ensure infrastructure is at the forefront of the economic policy agenda, investment in new equipment and ongoing maintenance is a key element of ensuring a safe and efficient air traffic management system.

A key message in submissions to the Issues Paper was that industry wants the Government to reassess some elements of the current funding model. Many submissions have suggested that government share some of the cost for maintaining and improving the ATM system.

Currently the ATM system is funded directly by industry through charges levied by Airservices - under a five year long term pricing agreement which is subject to approval by the ACCC. Airservices has commenced the process of consulting with industry over the next long-term pricing agreement.

The Government expects that in taking forward these pricing agreements, agencies and industry recognise that infrastructure investment and management and the implementation of technology entail necessarily longer term time horizons, with operational lives of some equipment exceeding 20 years.

In addition, in periods where there is an initial higher cost associated with the introduction of replacement and/or new infrastructure, both government and industry need to factor this into their assessment of the appropriate level of Airservices' charging, financial return and performance.

Investment in enhanced ATM services and use of new technologies, such as ADS-B, will need to be actively considered as options in pursuing safety and efficiency, including in response to the outcomes of the OAR's ongoing regional aeronautical studies and subsequent airspace determinations.

The Government's strategic ATM plan will establish a clear policy position on the provision of air traffic services and related requirements at major regional airports as the volume and complexity of traffic grows.

Investment in people

Ensuring sustainable workforce planning has proven an ongoing challenge for the aviation industry and government agencies alike, with shortages of trained staff in a range of key fields (see Chapter 6) – air traffic controllers and aviation fire fighters included.


In an environment of globally pressures in these occupations, Australia needs to ensure that it can maintain a sustainable, but highly trained and skilled workforce into the future.

The Government recognises the need for investing in the skilled personnel to deliver safe and reliable air traffic services.

Airservices has announced its intention to develop a Workforce Plan covering all areas of its skilled workforce, including air traffic controllers, rescue and fire fighting officers and other technical and asset services staff. This is a much needed initiative to ensure that there are sustainable workforce strategies in place to address the long term human resource needs of Australia's air traffic service provider and the Government would expect to see it in place by the end of the year.

A key objective of the Government's strategic ATM plan will be to ensure there is an ongoing workforce planning capability in each of its aviation agencies. Care is needed to avoid short-sighted decisions not to keep investing in recruitment and training as part of "cost saving initiatives", and to ensure there is effective planning for future growth.

With skill shortages challenging many areas of the aviation industry, it is imperative to establish a broad workforce planning capability now to ensure a skilled regulatory and operational air traffic and rescue and fire fighting workforce, capable of responding quickly to changes and growth in the air traffic system.



Consistent with transparency principles, the Government will require the aviation agencies to publish their final workforce planning documents.

Conclusion

The Government is committed to supporting international best practice in safe air traffic management in Australian airspace through:

- retaining Airservices Australia as a fully Government-owned, statutory authority with safety its most important consideration. Airservices will be responsible for the delivery of air traffic and rescue and fire fighting services, as well as meeting its broader responsibilities to the community in relation to the environmental impacts of aircraft operations;
- supporting technological applications that offer safety, efficiency and environmental benefits, including as a high priority, aviation agencies finalising a proposal for the wider adoption of satellite based technology (ADS-B) for air traffic navigation and surveillance;
- ensuring advanced air traffic management infrastructure and systems are used to protect and enhance air safety, with air traffic management services being extended to more regional areas as appropriate, particularly in areas where there are growing passenger transport operations;
- work on proposals for continued development of a joint national air traffic management platform by Airservices Australia and the Air Force, having proper regard to both the safety of the travelling public and defence capabilities which are sensitive to national security;
- development of a strategic Air Traffic Management Plan, in consultation with industry, which will assist agencies and industry in their planning and investment, and will:
 - identify key milestones and objectives for Australia's air traffic system
 - establish clear responsibilities for meeting those objectives;
 - facilitate ongoing investment in, and maintenance of, key air traffic infrastructure; and
 - establish a basis for ongoing workforce planning recognising the importance of a properly trained air traffic controllers and aviation fire fighters to the safety of the Australian aviation Industry.
- delivering an updated Airspace Policy Statement under the Airspace Act 2007 to improve airspace classification and administration in Australia;
- improving coordination across Government agencies and consultation with industry on directions in air traffic policy, including:
 - using the Aviation Policy Group (APG), chaired by the Secretary of the Department of Infrastructure, Transport, Regional Development and Local Government, to coordinate the development and implementation of the air traffic management plan; and
 - formalising the role of the Australian Strategic Air Traffic Management Group (ASTRA) as the industry advisory group on air traffic management directions.