Australian Government

Australia's Aviation State Safety Programme

MAY 2016

Contributing Agencies

- Airservices Australia
- Australian Maritime Safety Authority
- Australian Transport Safety Bureau
- Bureau of Meteorology
- Civil Aviation Safety Authority
- Department of Defence
- Department of Infrastructure and Regional Development

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Foreword

Aviation is an essential part of Australia's economy and community.

Australia has an enviable record in aviation safety, among the best in the world, which has been built on a strong safety governance system, forged over many years.

Australia was a signatory to the Convention on International Civil Aviation (Chicago Convention) in 1944, and has been a member of International Civil Aviation Organization (ICAO) since its establishment.

From the beginning Australia has been an active participant in, and a strong supporter of ICAO's activities. The availability of safe, regular and efficient air services within Australia and between Australia and the rest of the world is critical to our national interest.

Australia was one of the first countries in the world to have a State Safety Programme (SSP) consistent with ICAO requirements and has worked hard to develop one of the most respected aviation safety systems globally.

However even a mature safety system must look for continuous improvements to ensure the system reflects growing diversity within the aviation industry which increasingly sees new types of aircraft and operations emerging.

Australia's SSP plays an important part in identifying, monitoring and maintaining the effectiveness of the various elements of our safety performance.

The SSP sets out our key safety principles that will continue to underpin our future aviation safety system as well as establishing short, medium and long term safety objectives. This approach is consistent with that established by ICAO's Global Aviation Safety Plan.

Australia's aviation agencies and the aviation industry have significant roles to play in delivering quality safety outcomes.

Australia's SSP recognises it is important for everyone in aviation to work closely and cooperatively to identify safety risks and ensure that the most appropriate practices and technologies are adopted to address and reduce these risks.

It is essential Australia remains flexible and adaptable in responding to the challenges created by rapidly changing domestic and international aviation markets, and our aviation safety system will continue to play an integral part in meeting these challenges.

Darren Chester
Minister for Infrastructure and Transport
May 2016

Introduction

Australia was one of the first countries in the world to have a State Safety Programme (SSP) consistent with International Civil Aviation Organization (ICAO) requirements.

The SSP is a key means of demonstrating how each ICAO Contracting State intends to achieve an acceptable level of safety performance in civil aviation in its own State. The SSP is in essence the safety management system (SMS) for the State.

The detailed requirements for SSPs are set out in Annex 19 to the *Convention on International Civil Aviation* (Chicago Convention). Australia's SSP sets out the specific safety activities which we will continue to perform to meet the ICAO State responsibilities concerning the safe and efficient performance of aviation activities in Australia.

Australia has in place a monitoring and governance framework within which the Civil Aviation Safety Authority (CASA), the Australian aviation safety regulator, has a Regulatory Safety Management Program (RSMP) and the Australian air traffic service providers establish and maintain their own SMS.

The SSP outlines the challenges to Australia's aviation safety system and short, medium and long term future objectives to respond to these challenges and maintain Australia's internationally recognised safety system. The SSP also includes a State Safety Policy Statement (**Appendix A**).

Implementation of the SSP will be monitored by the Aviation Policy Group (APG) which brings together the agency heads of the Department of Infrastructure and Regional Development (the Department), CASA, Airservices Australia (Airservices) and the Chief of Air Force on behalf of the Department of Defence (Defence). APG is chaired by the Secretary of the Department, which is the Department of State for aviation in Australia.

This SSP will be reviewed and updated every three years, under the leadership of the APG, and in consultation with the Australian Transport Safety Bureau (ATSB), other relevant Government agencies, industry and community stakeholders.

The SSP is supported by the establishment of an Australian Air Traffic Management (ATM) Plan. This plan sets out Australia's key objectives in ATM and the key policy, regulatory, service delivery and investment initiatives to achieve these objectives in the short, medium and long term, acknowledging that emerging issues, technological change and competing priorities may all impact on these objectives over time.

As well as addressing the ICAO SSP framework, the SSP provides an overview of Australia's commitment to a nationally harmonised civil-military air traffic management system.

Although the Chicago Convention is only applicable to civil aircraft, the SSP sets out the important role played by Defence in Australia's aviation safety system as a provider and user of the ATM systems.

Finally, the SSP is consistent with the key policy principles outlined in ICAO's Global Aviation Safety Plan (GASP) and Global Air Navigation Plan (GANP).

1. AUSTRALIA'S SAFETY POLICY, OBJECTIVES AND RESOURCES

1.1 Australian aviation legislative framework

Australia's legislative system

The Australian Parliament has the power to make laws for aviation safety.

All of Australia's aviation regulations and legislative instruments are available to the public free of charge on a dedicated Australian Government website: *https://www.legislation.gov.au/.*

Australian aviation legislation

Australia has governance arrangements for aviation safety which separate the policy role of the portfolio Department, the independent roles of the aviation safety regulator and separate independent accident investigator, and the role of the air navigation service providers.

Australia ratified the Chicago Convention in 1947. The primary legislation in Australia that gives effect to the Convention is the *Air Navigation Act 1920.* This Act provides approval for the ratification of the Convention, with the text of the Convention, protocols and amendments to it included as schedules.

The Department is responsible for administering the *Air Navigation Act 1920*.

The *Air Navigation Act 1920* also contains a provision for regulations to be made for the purpose of carrying out, and giving effect to, the Chicago Convention and international SARPs contained in any Annex to the Convention.

The *Civil Aviation Act 1988* (CA Act) establishes CASA as the aviation safety regulator and sets out CASA's governance arrangements.

The CA Act provides that CASA is to perform its functions in a manner consistent with the obligations of Australia under the Chicago Convention and agreements between Australia and any other country relating to the safety of air navigation.

The *Airspace Act 2007* confers additional regulatory responsibility on CASA in relation to the administration and regulation of airspace with safety as the most important consideration, taking into account protection of the environment, efficient use of airspace, equitable access to that airspace for all users and security.

The *Airspace Act 2007* also requires the Government to make an Australian Airspace Policy Statement (the Statement).

The latest Statement was made by the Australian Government in July 2015.

The Statement provides guidance to CASA, as the airspace regulator, on the administration of Australian airspace, together with the legislative and regulatory requirements of the *Airspace Act 2007* and the *Airspace Regulations 2007*.

The Statement identified a number of the Government's airspace policy objectives including consistency with the objectives and priorities identified in the ICAO Global Aviation Safety Plan and ICAO Global Air Navigation Plan and reaffirmed that the safety of passenger transport services is Australia's first priority in airspace administration.

The Australian Airspace Policy Statement is reviewed every three years and can be found on the Department's website: *https://infrastructure.gov.au/aviation/aaps/index.aspx*.

The *Transport Safety Investigation Act 2003* (TSI Act) establishes ATSB as the 'no-blame' investigator of aviation accidents and incidents and aims to maintain and improve transport safety by providing for: the reporting of transport safety matters; independent investigations into transport accidents and other incidents; the making of safety action statements and recommendations and the protection of certain kinds of safety information.

Provisions in the TSI Act reflect the international principles for aircraft accident and incident investigation prescribed in Annex 13 to the Chicago Convention.

The *Air Services Act* 1995 establishes Airservices as the civil air navigation services provider as well as aviation rescue fire fighting services provider. The Act prescribes the functions, responsibilities and governance arrangements for the organisation.

The *Australian Maritime Safety Authority Act 1990* establishes the Australian Maritime Safety Authority (AMSA) as the national safety agency responsible for maritime safety, protection of the marine environment and aviation and marine search and rescue.

The *Meteorology Act 1955* establishes the statutory position of Director of Meteorology and the Bureau of Meteorology (BOM) as Australia's national weather, climate and water agency.

The Director of Meteorology is the designated Meteorological Authority for Australia, in accordance with the requirements of the Chicago Convention and BOM is the aeronautical meteorological service provider.

Aviation safety regulation

The civil aviation safety legislative system is also comprised of a range of subordinate legislation, such as regulations, orders and manual of standards, which are supported by guidance and advisory material. To ensure the effectiveness of the oversight system, change proposals are developed in consultation with industry and other stakeholders and involve safety and cost benefit analysis.

CASA takes the lead role in regulatory development. CASA has adopted a three-tier structure comprising the Act, Regulations and Manuals of Standards or Civil Aviation Orders.

Australia will generally adopt ICAO SARPs and seeks to use best practice regulatory approaches adopted by other leading aviation safety authorities. Where Australia elects not to adopt an ICAO SARP (in whole or in part) it will lodge a formal difference with ICAO explaining the basis of the difference (e.g. the lack of relevance of an international aviation requirement to smaller, internal domestic aviation operations in regional areas of Australia) in accordance with the requirements of the Chicago Convention.

Australia will continue to review the regulatory framework to ensure consistency with ICAO and international approaches. CASA will also ensure it works closely with the international aviation community to help develop future global and regional regulatory priorities.

More information on Australia's aviation regulations is available at **Appendix B**.

1.2 Responsibilities, accountabilities and functions

The Australian Government, through the Minister for Infrastructure and Transport, sets the overall aviation policy direction. The Minister is responsible to Parliament for civil aviation matters, including safety and security.

The major agencies responsible for managing civil aviation safety in Australia are:

- the Department of Infrastructure and Regional Development (the Department);
- the Civil Aviation Safety Authority (CASA);
- the Australian Transport Safety Bureau (ATSB),
- Airservices Australia (Airservices);
- the Australian Maritime Safety Authority (AMSA);
- the Bureau of Meteorology (BOM); and
- the Department of Defence (Defence).

With the exception of Defence and BOM, the organisations mentioned above are part of the portfolio responsibilities of the Minister for Infrastructure and Transport. Defence falls under the portfolio responsibility of the Minister for Defence, while BOM falls under the portfolio responsibility of the Minister for Environment.

An overview of the roles and responsibilities of the different agencies is available at **Appendix C**.

Australian State Safety Programme – Aviation Safety Agencies

Australia's international aviation safety governance arrangements are outlined in Figure 1.

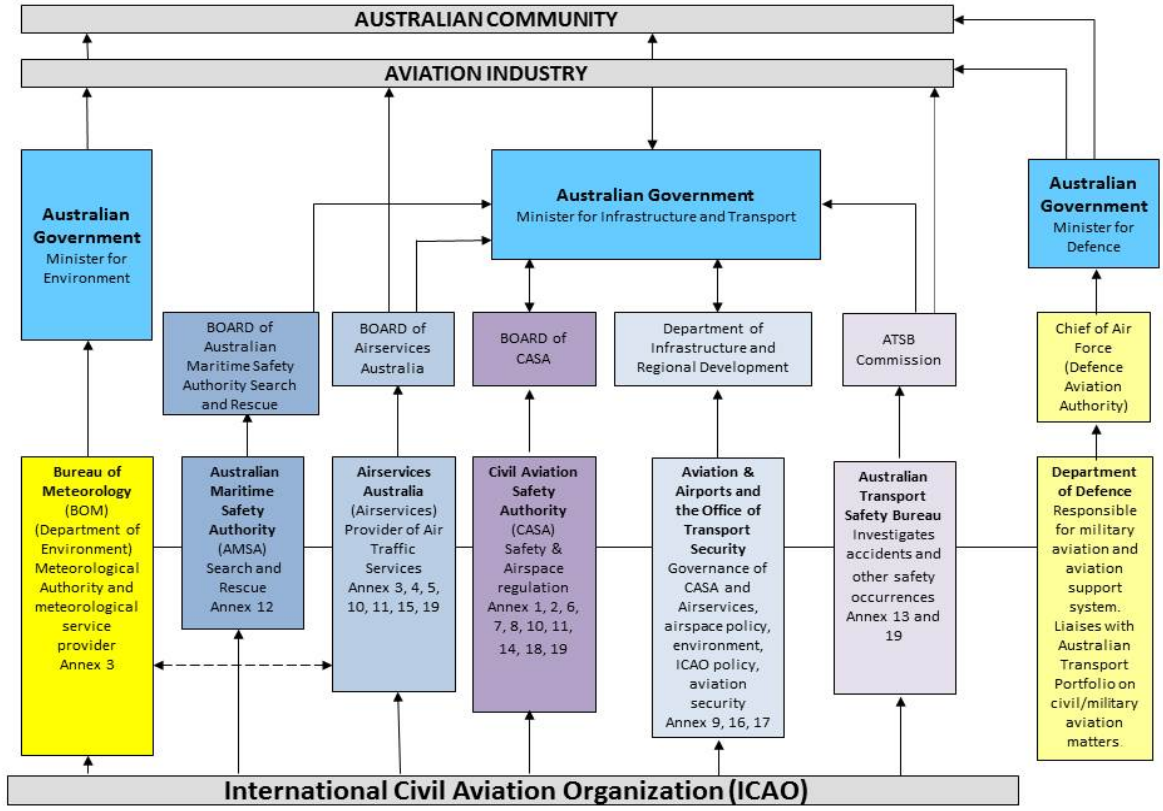

Figure 1 – Australia's International Aviation Safety Governance Context

Coordination within Australia's aviation safety system

Overall performance of aviation safety in Australia requires a cohesive and collaborative approach which is essential in delivering the SSP.

There are a range of coordination groups that draw together the agencies responsible for aviation policy, regulation and service provision. These groups enhance cooperation and coordination across the agencies on aviation safety, efficiency and capacity issues.

Aviation Policy Group (APG)

The APG brings together the agency heads of the Department, Airservices, CASA and the Royal Australian Air Force (RAAF) representing Defence. The APG is chaired by the Secretary of the Department and meets on a quarterly basis.

While the ATSB is not a member of the APG, noting the ATSB's status as an independent safety investigator, the ATSB Chief Commissioner is invited to brief APG on safety issues.

The APG's Terms of Reference and Forward Work Programme reflect its strategic leadership role in the continuing development and implementation of the SSP. The APG reports annually to the Minister for Infrastructure and Transport.

Aviation Implementation Group (AIG)

The AIG is a working group of senior officials comprising representatives from the Department, CASA, Airservices and Defence.

The AIG supports the APG in the implementation of cross-agency strategies and is chaired by the Executive Director of the Aviation and Airports Division in the Department.

The AIG acts as a steering group in relation to a range of matters bearing on the SSP and assists APG in its continuing development and implementation.

The AIG meets quarterly and reports to the APG on the initiatives and milestones within the SSP. AIG also provides guidance to the SSP Cross-Agency Team on SSP implementation.

SSP Cross-Agency Team (SSP-CAT)

The SSP-CAT is chaired by the Department and is made up of representatives from CASA, Airservices, ATSB, Defence, AMSA and BOM.

The Team is responsible for the development and continuing maintenance of the SSP document and for monitoring and reporting to the AIG, as well as member agencies, on SSP implementation in the Australian aviation system.

Joint Agency Aviation Safety Analysis Coordination Group (JAASACG)

The JAASACG brings together representatives from all Australian government bodies involved in the collection and analysis of aviation safety data and includes specialist safety analysis staff from ATSB, CASA, Airservices, BITRE, and the Directorate of Defence Aviation and Air Force Safety. Its role is:

- to facilitate the exchange of safety-related data and analyses between the agencies, for the sole purpose of maintaining and improving aviation safety; and
- to identify joint safety analysis projects that utilise the combined capabilities of the joint agencies to produce outputs of aviation safety benefit.

Australian Civil-Military Air Traffic Management Committee (AC-MAC)

Airservices and Defence have established the (AC-MAC) as a harmonisation forum to oversee synchronisation and collaboration of Australia's civil and military air traffic management and aviation rescue and fire fighting services, including their enabling facilities and infrastructure. The AC-MAC reports to AIG on progress with ATM initiatives.

Memoranda of Understanding

Australia coordinates on a range of aviation safety management issues between agencies through the use of formal arrangements called memoranda of understanding (MOU). MOUs aim to ensure responsibilities and communications protocols are clearly articulated between relevant agencies. Information about other cooperative arrangements is at **Appendix D**.

These MOUs are outlined as follows:

ICAO Tripartite	Arrangements for Australia's participation in ICAO and formation of AIG (CASA, Airservices, and the Department).
CASA / ATSB	Objective is to enhance aviation safety by facilitating cooperation between the agencies while maintaining their independence and capacity to perform their separate but complementary functions.
CASA / Airservices	Agreement builds on the legal framework already in place with a key objective of maximisation of beneficial aviation safety outcomes.
Airservices / ATSB	Outlines the respective roles and responsibilities of, and the relationship between, Airservices and ATSB in relation to the investigation of aviation accidents and incidents and the exchange of safety information.
CASA / Defence	Promotion of aviation safety and airworthiness between CASA and Defence and provides a high-level basis for cooperation on harmonisation, where practicable, of civil and military regulatory system outcomes to improve safety, efficiency, consistency and capacity.
Airservices / Defence	Harmonisation of systems and services associated with the provision of civil and military ATM and aviation support systems including ARFFS.
Defence / ATSB	Provides a framework to support cooperation between Defence and ATSB in the investigation of transport safety matters.
Airservices / BOM	Sets out arrangements by which meteorological information is provided to Airservices and the industry, and mechanisms to maintain effective cooperation between Airservices and the BOM.
AMSA / Airservices	Defines the division of responsibilities between AMSA and Airservices as key organisations contributing to the national aviation SAR system.
AMSA / ATSB	Defines the roles and relationships between the parties in carrying out their respective functions of aviation SAR and accident investigations.
AMSA / ACMA	Facilitates a cooperative relationship between the parties in relation to support services for SAR operations. The MOU also sets out areas of cooperation in the administration of radio communications services.

1.3 Qualified technical personnel

CASA has an established training and development schedule for all staff, with a particular focus on technical training for safety staff, including oversight of SMS. CASA's training programme for safety staff comprises initial, recurrent and specialist modules. This includes a comprehensive induction programme for new inspectorate staff, covering generic training on people management, audit, systems and tools, the regulatory environment and SMS.

All ATSB transport safety investigators complete an 18-month Diploma of Transport Safety Investigation. In addition to pre-requisite technical skills and industry experience they bring to their role, all ATSB investigation staff complete the qualification. Newly recruited ATSB investigators can expect to spend approximately 700 hours working towards the Diploma.

ATSB supports additional professional development opportunities, allowing staff to maintain their technical qualifications, to obtain knowledge and experience in emerging technologies and practices and to undertake tertiary study in fields relevant to the ATSB's functions.

Airservices is a Registered Training Organisation (RTO) and delivers nationally recognised and accredited qualifications in air traffic control and aviation rescue and fire fighting through the Airservices Learning Academy. The academy addresses technical, operational and safety training requirements to support the workforce.

AMSA is a RTO under the Australian National Training Framework, providing competency based SAR coordination training to AMSA, Defence, Commonwealth and state police forces.

1.4 Technical guidance, tools and provision of safety-critical information

The highest priority of Australia's aviation safety agencies is maintaining and enhancing aviation safety performance. This is achieved through a range of strategies and initiatives providing technical guidance, resources and information to strengthen workforce capability.

Australia's safety principles emphasise the importance of industry and Government agencies committing to resource safety management and oversight as well as equipping staff with the skills and expertise to discharge their responsibilities competently. More advice on how safety agencies distribute safety information is outlined in Section 4.2.

1.5 State emergency response plan

Australia has specific plans in place to respond to events which impact, or have the potential to impact, on aviation safety in Australian administered airspace or territory or involving Australian registered aircraft outside of Australian administered airspace or territory.

Australia's response plans include the Business Continuity Management Framework for a disaster or extended disruption to the aviation system including incidents such as earthquakes and floods.

CASA maintains a Critical Occurrence Response Plan which includes a Volcanic Ash Occurrence Response Plan, providing a specific framework to manage the response to a volcanic ash event or emergency. These plans complement the Australian Government Aviation Disaster Response Plan (AUSAVPLAN) maintained by the Attorney-General's Department - Emergency Management Australia.

2. STATE SAFETY RISK MANAGEMENT

Australia's comprehensive system of legislation and regulatory oversight has provided effective aviation safety outcomes over many decades.

However, a modern approach to aviation safety management necessitates a systems approach to managing safety risks, encompassing organisational structures, policies and procedures – the SMS approach.

Safety risk management of the Australian aviation industry is a shared responsibility between industry and government aviation agencies. It is important that the aviation industry and the aviation safety agencies work collaboratively to produce the best safety outcomes.

The SSP recognises the need for a transition to a systems-based approach to safety oversight along with risk-based surveillance. This shift places more responsibility on regulated organisations and changes how regulators undertake oversight and monitoring roles.

The identification and management of aviation safety risk is undertaken through a multi-layered process which permits the aggregation of system and risk information into higher order categories, culminating in an assessment of the level of risk across the aviation industry.

From this process, CASA is currently developing a Safety Plan. The Plan will identify the system risks present at a particular time and the treatments CASA has implemented to deal with these and will be subject to regular review.

CASA's risk management system is comprised of the following levels of risk management:

- Regulatory risk management;
- Surveillance outcomes risk management;
- Sector profile risk management;
- Industry profile risk management;
- System profile risk management ; and
- CASA Safety Plan

More detailed information about CASA's management of safety risk is at **Appendix E**.

A copy of CASA's Regulatory Safety Management Programme can be found at:
www.casa.gov.au/manuals-and-forms/standard-page/regulatory-safety-management-program-manual

The ATSB, in carrying out its independent safety investigation role, also has regard to recognised risk management standards. In determining the seriousness of safety issues identified in the course of an investigation, ATSB assesses their systemic risk implications and encourages appropriate levels of safety action to mitigate the identified risk.

A Common Risk Management Framework (CRMF) is also used by APG agencies to ensure a consistent approach to airspace and air traffic management.

More information about the CRMF can be found at:
http://www.infrastructure.gov.au/aviation/airspace_reform/crmf.aspx

2.1 Licensing, certification, authorisation and/or approval obligations

At the centre of safety regulation is an authorisation regime for safety critical aviation activities which involves the issue, by CASA, of licences, certificates, approvals and authorisations to industry personnel, operators, service providers and aerodromes.

2.2 Safety management system obligations

Australia has introduced the requirement for the implementation of SMS in certain sectors of the aviation industry. CASA has introduced the requirement for the following civil aviation service providers to implement SMS:

- **Air Operators** – Civil Aviation Orders (CAO) 82.3 and CAO 82.5 require both high capacity and low capacity RPT operators to establish and maintain appropriate operations with a sound and effective management structure that uses an SMS approved by CASA.
- **Air Traffic Service Providers** – CASR Part 172 provides that an air traffic service provider must have, and put into effect, an SMS that includes the policies, procedures, and practices necessary to provide the air traffic services covered by its approval safely.
- **Aerodromes –** CASR Subpart 139.B requires that certified aerodromes must have an SMS consistent with the requirements in the Manual of Standards and guidance provided in Airworthiness Circular 139-16 (1).
- **Aerodrome Rescue and Fire Fighting Services (ARFFS) –** CASR Subpart 139.H provides that the ARFFS provider must have an SMS consistent with the requirements in the Manual of Standards, including the policies, procedures and practices necessary to provide the service safely.
- **Maintenance providers** – CASR Subpart 145.A includes a requirement that covers maintenance service providers having safety management and quality assurance systems.
- **Aeronautical telecommunication and radionavigation service providers** – CASR Subpart 171.C requires service providers to have SMS processes in place to assess the safety implications and safety hazards involved in their operations, and to determine the action necessary to reduce the risks of those hazards to acceptable levels.
- **Flight training organisations** – Although flight training organisations conducting other than integrated training courses are not required to develop a SMS, CASA recommends that operators adopt and implement a SMS.
- **Integrated and multi-crew pilot flight training, contracted recurrent training and contracted checking –** The relevant requirements for SMS in these organisations are specified in CASR Subpart 142.G.
- **Instrument flight procedure design** – CASR Subpart 173.B requires certified flight procedure designers to have a SMS in accordance with the standards set out in the Manual of Standards.

These requirements recognise the relevant ICAO SARPs outlined in ICAO Annex 19, Safety Management, and the safety benefits to be gained by the effective establishment by industry of an SMS. Where appropriate this requirement will be extended to additional sections of the industry.

CASA provides a range of support for the implementation of a SMS and continues to develop and review the guidance material to assist industry with their SMS.

More information on Australia's adoption of SMS can be found at: *https://www.casa.gov.au/landing-page/safety-management*

Links to more information about requirements for civil aviation service providers SMS implementation is at **Appendix F**.

Service providers' safety performance

An important element of a mature system of safety management oversight is agreement between the safety regulator and service providers on the key performance indicators and expected level of performance to be achieved. In the Australian safety regulatory system this level of performance is in part judged by how the service provider delivers against its SMS, therefore oversight of a SMS is included in CASA's audit programme for the operators who are mandated to have a SMS.

2.3 Accident and incident investigations

ATSB is responsible for meeting Australia's Annex 13 responsibilities for the notification and independent investigation of accidents and other safety occurrences involving civil aircraft in Australia and taking part in the investigation of accidents and other occurrences involving Australian aircraft overseas. Reported occurrences and the results of relevant ATSB safety investigations are provided to ICAO where required.

In accordance with the standards and recommended practices of Annex 13, ATSB also, on request, assists its regional neighbours in the conduct of investigations through the provision of investigator expertise and technical facilities.

ATSB aims to investigate all accidents and other significant safety occurrences to the extent necessary to inform future safety research and trend analysis. ATSB does not investigate for the purpose of apportioning blame or to provide a means for determining liability.

Reports of all ATSB investigations are made public. Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment.

The ATSB prefers to encourage the relevant organisation(s) to initiate proactive safety action that addresses safety issues. Nevertheless, ATSB may use its power to make a formal safety recommendation either during or at the end of an investigation, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation.

When safety recommendations are issued, they focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on a preferred method of corrective action.

As with equivalent overseas organisations, ATSB has no power to enforce the implementation of its recommendations. It is a matter for the body to which an ATSB recommendation is directed to assess the costs and benefits of any particular means of addressing a safety issue.

Further information about the ATSB is available on their website at*: www.atsb.gov.au.*

2.4 Safety risk assessment

Aviation safety systems are dependent on timely, accurate and informative reports about safety incidents and events. Having adequate intelligence about what is happening within the system enables trends to be identified, recurring issues to be resolved and risks within the system to be measured and responded to appropriately.

As required by their respective legislative responsibilities ATSB, BOM, CASA and Airservices all capture and maintain various records relating to incidents, accidents and other safety-related data.

In the interests of aviation safety, data is shared between agencies in line with protocols established through MOUs (see Section 1.2). CASA and the ATSB have also issued a Safety Information Policy Statement, which reflects an approach informed by 'just culture' principles and is available on the CASA and ATSB websites.

Australia encourages a positive reporting culture where all industry participants are willing to disclose any incidents that occur and any mistakes they make. Consistent with a 'just culture' approach, people who report incidents and mistakes are not normally prosecuted or punished, except in cases where their action was wilful, reckless or grossly negligent.

Accident and incident reporting

ATSB is primarily responsible for collecting, analysing and researching safety data. In this role it administers the various mandatory and voluntary reporting schemes established under the TSI Act. Aviation safety accidents and other safety occurrences are categorised into Immediately Reportable matters and Routine Reportable matters.

Mandatory Reporting

The mandatory reporting scheme established under the TSI Act gathers information on occurrences which endanger or could endanger aviation safety. The information gathered provides accounts of actual or potential safety hazards and deficiencies. The information is used to identify safety issues that need to be addressed to improve system safety.

In line with Annex 13 to the Chicago Convention, ATSB provides aviation accident and incident data to ICAO through the Accident/Incident Data Reporting (ADREP) system.

Further information on Australia's mandatory reporting scheme is available at: *https://www.atsb.gov.au/mandatory/asair-form/.*

Voluntary Reporting

Australia has established a voluntary confidential reporting scheme for aviation, REPCON, which allows any person who has an aviation safety concern to report it to ATSB confidentially. Protection of the reporter's identity is a primary element of the scheme.

Further information on Australia's voluntary reporting scheme is available at: *www.atsb.gov.au/voluntary/repcon-aviation.aspx*

The Aviation Self Reporting Scheme (ASRS) is a voluntary and confidential aviation self-reporting system that provides protection from administrative action, or from paying an Infringement Notice in certain circumstances.

The scheme is established under the Civil Aviation Safety Regulations 1998. Further information on the ASRS is available at: *https://www.atsb.gov.au/voluntary/asrs/asrs_more.aspx*

Publically available aviation occurrence data

ATSB makes information from its aviation occurrence database available on the ATSB website for public use. Users are able to search and export either selected or group data according to a range of variables including occurrence type, date, location, highest injury level, aircraft and engine type, aircraft maximum weight category, manufacturer and model, operation type, and airspace.

The publically available database does not contain identifying information such as aircraft registration, owner name, or operator name. The database covers the period from the introduction of the TSI Act in July 2003, to the present.

Other safety-related reporting and analysis

Australia's aviation agencies provide for a range of additional means of data gathering, sharing and analysis.

Occurrence Reports maintained by Airservices permit systemic analysis and trend monitoring. The MOU between ATSB and Airservices for investigations and the exchange of safety information provides agreed processes for notification of these reports to the ATSB. Airservices also provides Occurrence Reports to CASA.

Industry is required to report major defects in aircraft and aeronautical products to CASA. These are analysed by CASA as part of the Service Difficulty Reporting System to determine any response required, and trend information is also kept and analysed.

Further information on the use of Australia's Service Difficulty Reports is available at: *www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_90818*

Data analysis and reporting

In addition to the ADREP reporting system, Australia also provides data to ICAO to derive international trend level indicators related to safety.

ATSB

Further to independent 'no-blame' investigation of transport accidents and other safety occurrences, ATSB contributes to improved transport safety in Australia through safety data recording, analysis and research.

The ATSB will continue its objective of identifying relevant safety issues rather than offering prescriptive solutions. This approach allows those who are best placed to take safety action to identify the most appropriate means of addressing the particular safety issue.

The ATSB also undertakes specific research and reports activities where there may be value in further analysing particular types of occurrences or trends.

This activity contributes to the national and international body of safety knowledge and fosters action for the improvement of safety systems and operations. Links to more about Australian aviation data and safety information can be found at **Appendix F.**

CASA

CASA maintains current information for all safety regulation activities that it conducts.

CASA regularly conducts AOC Holders Safety Questionnaires (AHSQ) in which AOC holders are required to provide data about their activities including types of aircraft operated, hours flown, categories of operations and factors that might impact safety. CASA uses the responses to inform aviation safety initiatives.

AMSA

AMSA provides monthly data on global activation of Emergency Locator Transmitters (ELTs), as detected by the Cospas Sarsat system, to the ICAO Integrated Safety Management Section to aid in safety trend analysis.

Joint Agency Aviation Safety Analysis Coordination Group (JAASACG)

Conducting safety data exchange and analysis through the JAASACG assists in maintaining strong stakeholder relationships and allows safety data to be shared and research and analysis efforts coordinated between agencies to improve aviation safety. This group facilitates the data analysis and reporting function under this State Safety Programme.

2.5 Management of safety risks

One of CASA's functions under the *Civil Aviation Act 1988* is to conduct the safety regulation of civil air operations in Australian territory and the operation of Australian aircraft outside Australian territory, by means that include developing effective enforcement strategies to secure compliance with aviation safety standards.

This is a core regulatory function and one to which Australia is bound to give effect in the interests of safety and in accordance with its obligations under the Chicago Convention.

CASA's Regulatory Philosophy, released in September 2015, sets out the principles that guide and direct CASA's approach to the performance of its regulatory functions and the exercise of its regulatory powers.

CASA's Enforcement Manual outlines enforcement processes for securing compliance with aviation safety standards. Consistent with CASA's Regulatory Philosophy, the Enforcement Manual has been updated to outline clearly to industry and the public, the opportunities available to an operator and CASA to work to rectify a wide range of safety-related concerns without the need to initiate formal enforcement action.

Where they are not required to do so, authorisation holders are encouraged to use an SMS, which includes remedial, corrective and preventive action such as via an internal reporting system to address safety deficiencies. CASA's Regulatory Philosophy and the 'just culture' principles it embraces will increasingly govern key elements of CASA's enforcement policy and clarify the basis on which safety information may and may not properly be used and the sources of such information that may be protected from punitive action.

CASA's Regulatory Philosophy is available at:
https://www.casa.gov.au/about-casa/standard-page/regulatory-philosophy

CASA's Enforcement Manual is available at:
https://www.casa.gov.au/manuals-and-forms/standard-page/enforcement-manual

3. STATE SAFETY ASSURANCE

Safety oversight based on a SMS approach is underpinned by a philosophy of mutual responsibility and accountability, rather than a more prescriptive approach aimed exclusively at regulatory compliance. This increases the responsibility on service providers who have day-to-day control over the maintenance of a safe operating environment, to focus on safety throughout the organisation's structures, policies and procedures.

However Government aviation agencies retain a critical role in maintaining quality assurance of the broader safety system. This includes safety oversight and auditing as well as data collection, analysis and exchange.

3.1 Surveillance obligations

Surveillance is the mechanism by which CASA monitors the ongoing safety status and maturity of authorisation holders.

CASA's oversight components include:

- Qualified and trained technical staff – with specific training in relation to SMS;
- Documented procedures and guidance – for approval, surveillance and associated safety processes;
- Licensing, certification, authorisation and approval; and
- Surveillance activities – including regular planned and unplanned audits and inspections, data collection and exchange, analysis, workflow management and information management.

CASA is moving to establish its categorisation and safety regulatory policies with a safety oversight risk management hierarchy that aligns with ICAO categorisation models of Air Transport, Aerial Work and General Aviation.

CASA has expanded on the core ICAO categories through the development of an 'Australian aviation community sector' profile to also include flight training, airworthiness management, and infrastructure and services.

The primary objective of conducting surveillance is to determine whether an authorisation holder is fulfilling their obligations under the *Civil Aviation Act 1988* and regulations. CASA adopts a systems and risk-based surveillance approach, utilising product checks as required, to assess the risk mitigation and compliance levels of authorisation holders.

Surveillance assesses an authorisation holder's ability to manage its safety risks and willingness to comply with legislation including compliance with a SMS if needed. It may be scheduled or unscheduled, opportunity based, random or targeted across all facets of the aviation industry. This approach to surveillance aims to encourage the development of authorisation holders' systems and guide the aviation industry to better understand its responsibility for safety.

The surveillance programme is regularly reviewed and updated.

The CASA Surveillance Manual can be found at:
www.casa.gov.au/wcmswr/_assets/main/lib100193/csm_full.pdf

Safety-data-driven targeting

The safety data collected by Australia's aviation agencies is regularly reviewed, analysed and reported for the purpose of identifying trends, emerging safety issues and assisting with addressing existing safety issues.

CASA

Part of CASA's core function is the monitoring of safety performance and identification of safety related trends and risk factors, taking into account international safety developments.

CASA's oversight of Australian operators

CASA's surveillance framework allows for prioritisation of surveillance activities based on known information and focusses on assessing the effectiveness of an authorisation holder in managing systems risk.

CASA's Surveillance Manual details scheduling of audits based on a number of indicators.

CASA has established Surveillance Priority Review Group meetings monthly in its offices responsible for safety oversight to manage surveillance planning and prioritisation.

CASA's oversight of foreign operators

International passenger and dedicated freight airlines operate scheduled and non-scheduled services to and from Australia.

In accordance with Australia's commitments as an ICAO contracting State, CASA conducts a ramp inspection programme of these foreign airlines.

This oversight is carried out in accordance with the CASA Surveillance Manual.

ATSB

The ATSB investigates aviation accidents and incidents, and collects safety data through both mandatory and voluntary reporting schemes.

The ATSB uses this data to determine how prevalent certain types of occurrences are in different types of aviation operations, and proactively look for emerging safety trends. By monitoring trends, issues of concern can be communicated and action taken to prevent accidents.

Proactive trend monitoring is a data-driven process, reviewing all occurrences to see if there are subtle changes that may point to a larger issue.

Potential issues are then monitored by ATSB, and shared with industry and other government agencies. Safety actions can then be taken by the most appropriate people to prevent these issues resulting in accidents.

These trends can also point to the need for ATSB to target particular types of occurrences for investigation. ATSB publishes regular reports on the emerging trends in aviation safety.

3.2 Australia's safety performance

Safety performance measurement and monitoring are the means by which the safety performance of the aviation system is described and evaluated. Through analysis of safety data and information, areas of emerging risk can be highlighted and this information used to inform decisions regarding making appropriate safety interventions and the subsequent assessment of effectiveness of those interventions.

A number of high-level safety performance (Tier1) indicators have been identified as markers for monitoring the State's aviation safety performance. These indicators consist of measures of adverse safety outcomes (accidents and fatal accidents) according to operational sector and relative to the level of activity within that sector (exposure).

Recognising the limited ability of these indicators to aid in the proactive identification of emerging risks, CASA has expanded on this set of indicators.

CASA has adopted a tiered approach to the development of indicators to describe safety at three different levels within the aviation system (refer Figure 2).

This approach allows CASA to capture the role of, and relationship between, the activities of the authorisation holder and the regulator in contributing to adverse safety outcomes. It also provides greater insight into the nature of those conditions that underlie potential adverse safety outcomes.

Safety Performance Indicators (Tier1, 2 and 3) are being developed to align with the key risk areas for CASA and the different sectors of the aviation industry.

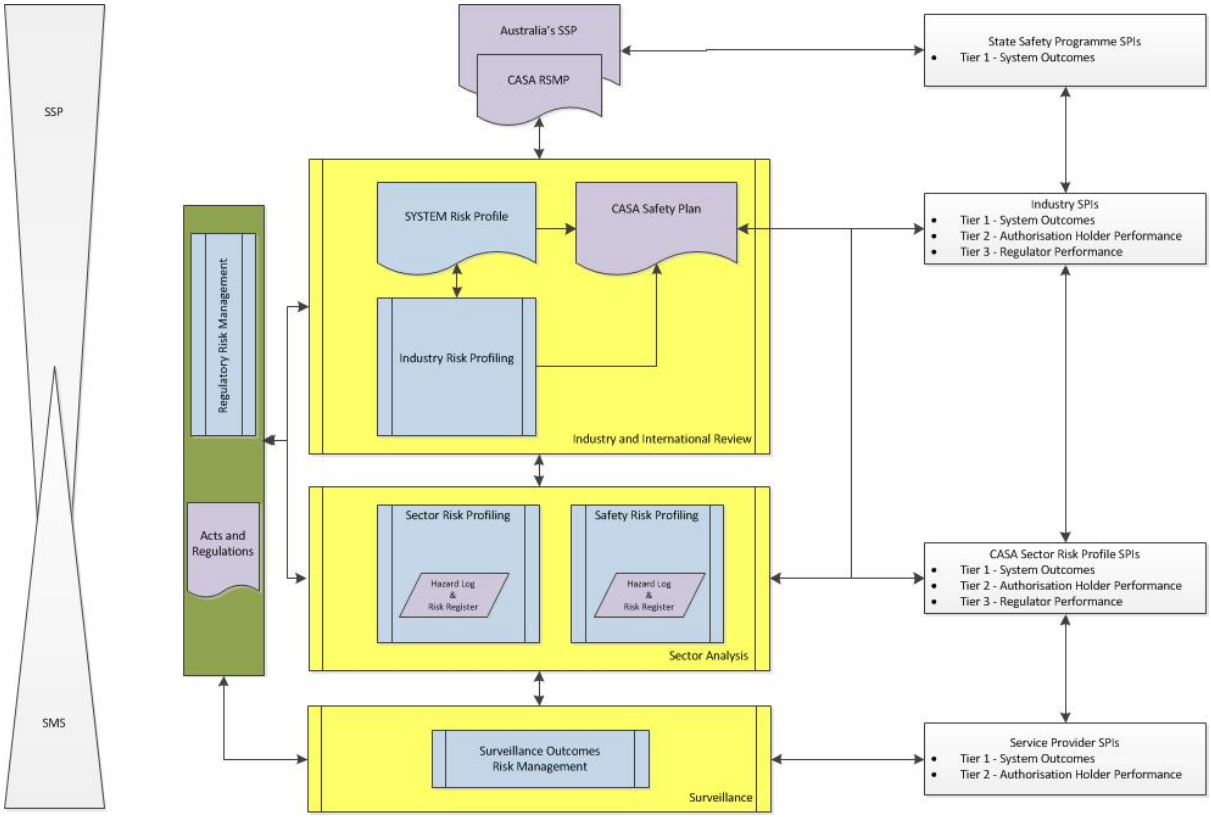

Figure 2 – Derivation of Safety Performance Indicators for Australian aviation

Acceptable Level of Safety Performance (ALoSP)

An ALoSP requires the State to consider the effectiveness of the following four components:

- the State's implementation of the SSP;
- service providers' implementation of SMS;
- the management of aviation safety risk and associated Safety Performance Indicators; and
- implementation of ICAO SARPs by the State.

Australia examines each of these elements through its aviation safety system.

Universal Safety Oversight Audit Programme Continuous Monitoring Approach

Australia undertakes a systematic, coordinated national approach to managing aviation safety.

The results of the last ICAO Universal Safety Oversight Audit Programme (USOAP) review of Australia's safety system, in 2008 support this. Since the 2008 audit, the USOAP has evolved to a Continuous Monitoring Approach programme.

Australia's full USOAP report, including updates on Australia's corrective action plan, is available from ICAO's public website.

4. STATE SAFETY PROMOTION

An effective programme of safety promotion is critical in supporting the core operational objectives of Australia's SSP. A number of Australian Government aviation agencies undertake safety promotion as part of their mandated responsibilities.

Safety promotion is enhanced through staff training and better communication and dissemination of safety information.

4.1 Internal communication and dissemination of safety information

Australia's aviation safety agencies offer a range of mandatory and recommended safety awareness training for all relevant staff. SSP and SMS awareness training has been developed and is accompanied by educational and promotional products. Awareness training is communicated through various means such as through agencies learning management systems, email newsletters, fact sheets and internal advertising.

In addition to the formal MOUs and coordination groups that bring together the agencies responsible for aviation safety, the ATSB conducts briefings on the progress of investigations including emerging issues relating to resourcing and scope, stakeholder management and identified or potential safety issues.

CASA and ATSB liaise regularly in relation to the progress of accident and incident investigations, safety actions, shared training opportunities and requests for information.

CASA and ATSB offer training courses which are available to staff from other agencies with an involvement in safety, including state and territory police forces. These include aircraft accident investigation, human factors, new technologies, SMS and risk management training.

4.2 External communication and dissemination of safety information

CASA

CASA utilises a range of safety education and promotion activities aimed at further developing an informed and safety conscious aviation industry and community including targeting emerging safety issues, consistent with its responsibilities under Section 9.2.(a) of the *Civil Aviation Act 1988*.

CASA provides a range of educational and promotional materials to industry and the public and has an active group of aviation safety advisors available to provide assistance and advice to industry. More information about CASA's safety education and promotion can be found at:

https://www.casa.gov.au/standard-page/education

CASA also publishes a range of manuals and guidance materials which are available to the public and industry. CASA manuals and guidance materials can be found at:

https://www.casa.gov.au/publications-and-resources/landing-page/guidance-materials

Additionally, CASA has developed a range of support tools for industry and its technical staff to ensure better understanding and integration of SMS principles. More information on Australia's adoption of SMS can be found at:

https://www.casa.gov.au/education/standard-page/safety-management-systems

ATSB

The ATSB also has a responsibility for the communication and dissemination of safety information, particularly information drawn from the results of its investigations and its safety research and analysis.

The ATSB publishes investigation and research reports and delivers targeted safety messages to service providers and their staff and through coordination with CASA in the development and delivery of safety messages.

The ATSB Safety Watch highlights broad safety concerns that come from investigation findings and from occurrence data reported by industry, and provides strategies to help manage risk areas along with links to safety resources. More information on SafetyWatch can be found at:

http://www.atsb.gov.au/safetywatch.aspx.

Airservices

Airservices works with its customers through data exchange and industry fora to address safety issues of mutual concern. It also works with regulators to promote better understanding of operational requirements and to develop training aids for pilots.

Airservices also produces a range of safety communications media on Airservices-related functions and topics. These products are available to the aviation community through established liaison channels, safety magazines and newsletters and through the Airservices website. Examples of these products can be found at:

www.airservicesaustralia.com/publications/safety-publications/.

AMSA

AMSA has a responsibility for the communication and dissemination of safety information in relation to search and rescue, particularly information about the Cospas Sarsat satellite distress beacon detection system. AMSA also produces a range of safety communications media on search and rescue topics. These products are available to the aviation community through the AMSA website and elements are included in safety magazines.

5. CHALLENGES, PRIORITIES and OBJECTIVES

5.1 Challenges Ahead

Aviation Market

The Australian international, domestic and major regional airline passenger market has experienced strong growth over the last decade.

The BITRE forecasts that, over the next fifteen years, growth will continue in the Australian aviation market albeit at a slightly more conservative rate than the last few years and with variations between different industry sectors.

Competitive pressures in Australia's aviation market and a steadying of growth in regional Australia also place pressures on aircraft operators and Government agencies alike to maximise the efficiency of their operations and reduce costs without impacting on safety outcomes.

Operational Complexity

The Australian aviation safety system will continue to be a complex one with the expanding use of different types of aircraft ranging from jet airline services provided by international, domestic and regional airline carriers through to off-shore helicopters, sport and recreational aircraft and remotely piloted aircraft systems (RPAS)

The use of recreational and commercial RPAS has rapidly expanded in Australia and is expected to continue to do so. As well as raising privacy questions, aviation safety and air traffic management issues will need to be addressed if RPAS operations are to be increasingly and safely integrated into Australian airspace.

Industry complexity creates ongoing challenges for Government aviation regulatory, investigative and service agencies alike and will need to be carefully considered in future agency and industry resource and workforce planning.

Infrastructure/Technology

Continued forecast growth, particularly at Australia's major airports, increases demand on a range of airport, air traffic and aviation rescue and fire fighting infrastructure and services.

While investment in new and enhanced infrastructure and equipment by aircraft and airport operators, air traffic and aviation rescue and fire fighting service providers is often associated with increased capacity and efficiency, first and foremost it must provide safety benefits.

In terms of infrastructure capacity on the ground, by the mid-2020s there are plans for new runways at Brisbane, Melbourne and Perth airports and a new airport at Badgerys Creek in Sydney's west.

In the sky, Airservices and Defence, through the OneSKY program, are planning to significantly increase national air traffic management capacity. More information on this program is available from the Airservices' website at: *www.airservicesaustralia.com.*

Technology will also continue to play a vital role in meeting Australia's future safety, efficiency and capacity requirements. Modern aircraft and air traffic management equipment gives access to more precise communications, navigation and surveillance.

Australia is adopting satellite-based technologies to enhance the accuracy and reliability of surveillance across the country using Automatic Dependent Surveillance-Broadcast (ADS-B), while navigation is increasingly based on the Global Navigation Satellite System (GNSS).

These technologies are complemented by robust ground-based surveillance and navigation systems, including a modern enroute and terminal area radar surveillance network.

With the increased use of technology comes the need to enable a safe and effective transition by Government agencies and industry, and the wider aviation community, to new procedures and processes, phased-in over several years to facilitate the most effective change.

Clear and appropriate regulatory standards and requirements will also be established to support the use of new technology and infrastructure.

Australia will continue its engagement with ICAO and other international bodies in the development of standards and recommended practices that safely facilitate the global, regional and State adoption of new and enhanced technology and infrastructure.

Workforce Capability

Increased adoption of new aircraft, satellite-based navigation systems and other new technologies require a sufficient pool of properly skilled, qualified and experienced personnel to safely and effectively operate these systems and equipment.

Training and education of a skilled workforce will be key factors in ensuring that Australia's aviation safety performance is maintained and enhanced.

The delivery of safety outcomes through the use of more systems-based approaches by industry will require workforce planning strategies that enable the development, recruitment and retention of a skilled and capable workforce.

Increased use of performance-based rules and greater use of risk-based surveillance concepts in safety oversight approaches will require a shift in how CASA conducts its regulatory oversight functions and this too will require different skills sets for regulatory staff.

General Aviation (GA) Fleet

A challenging part of Australia's aviation industry is the age of Australia's GA fleet. The current rate of renewal of the GA aircraft fleet is relatively low and older aircraft will continue to form a large part of Australia's GA aircraft fleet posing challenges to airworthiness assurance and ongoing equipage to support new air traffic services.

Several aircraft manufacturers and aircraft operators have established specific maintenance regimes to enable the continued safe operation of these aircraft. In doing so it is recognised that such regimes come at a cost and require the availability of maintenance personnel.

Aviation safety agencies will maintain an active educational and awareness programme to continue to highlight these risks and provide guidance to facilitate industry compliance with maintenance requirements to help ensure these risks continue to be responsibly addressed.

5.2 Global Priorities

The ICAO Global Aviation Safety Plan sets out three global aviation safety priorities:

- improving runway safety performance;
- reducing Controlled Flight into Terrain (CFIT) accidents; and
- reducing the number of loss of control in-flight accidents and incidents.

All of these priorities are relevant to Australian aviation even with Australia's excellent high-capacity regular public transport safety record and advanced regulatory system.

Australia has a very low rate of occurrence of these events over the past decade.

Nevertheless, Australia has and will continue to take a number of measures to specifically address these three global safety priorities including:

- increased surveillance and navigation capability through the wider application of ADS-B and GNSS;
- the establishment of Local Runway Safety Groups and the Advisory Group on Runway Safety;
- the introduction of Advanced Surface Movement Guidance and Control Systems (A-SMGCS) at Sydney, Melbourne, Brisbane and Perth airports;
- the implementation of runway stop-bars at Sydney and Melbourne airports;
- the publication of various training and education materials highlighting the risks from these types of incidents and risk management measures; and
- conducting industry workshops on relevant matters such as Human Factors and the Automated Flight Deck.

Australia is committed to implementing safety measures that support a seamless aviation system in the region and a harmonised global system. At the same time, we will ensure that each initiative is implemented in a way that is appropriate to the Australian aviation context.

5.3 Regional Priorities

The diversity of the Asia-Pacific region coupled with forecasts predicting continuing strong growth over the next decade, pose significant challenges for regional aviation safety. With these developments and challenges in mind, a number of regional priorities have been established for the Asia-Pacific region. These include the:

- implementation at the State and regional level of the key policy principles in the Global Aviation Safety Plan including the development of SSPs
- implementation of the Asia-Pacific Seamless Air Traffic Management Plan;
- implementation of performance-based navigation (PBN) in terminal airspace;

- increased use of air traffic flow management and Airport Collaborative Decision Making (A-CDM);
- use of data link such as Automatic Dependent Surveillance - Contract (ADS-C) and Controller Pilot Data Link Communications (CPDLC); and
- data exchange with neighbouring air navigation service providers.

Australia continues to engage actively in the development of regional aviation safety priorities and policies through forums such as the:

- Regional Aviation Safety Group Asia and Pacific Regions (RASG-APAC);
- Asia Pacific Regional Aviation Safety Team (APRAST); and
- Director General of Civil Aviation Asia and Pacific Region (DGCA) conferences.

5.4 Future Objectives

Implementation of the SSP will be undertaken consistent with the Australian legislative framework and supported by initiatives and policy directions outlined in the Australian Airspace Policy Statement and future Air Traffic Management Plan.

In making improvements to the safety system Australia will be mindful of the factors critical to successful implementation including:

- continuous dialogue between Government, industry and the broader community;
- synchronisation of investment in infrastructure and equipment by Government and industry to enable safety and efficiency gains to be realised by stakeholders;
- support for international and regional harmonisation;
- awareness of regulating and managing an airspace environment in which aircraft with different capabilities operate; and
- clear regulatory policy and timeframes so that Government agencies and industry have greater certainty and the ability to plan for when changes are to occur.

As outlined is section 2 of the SSP, system and risk-based approaches to safety oversight and more performance-based regulation will be increasingly used in Australia rather than prescriptive regulation and hands-on regulatory oversight.

Transitioning to approaches such as this, along with the issues outlined under section 5.1, present challenges the aviation industry and the aviation safety agencies alike in terms of their impact on respective roles, responsibilities and resource allocation.

Given the rapid pace of change in aviation, Australia will focus heavily on its short and medium term objectives while having regard to the long term objectives in the GASP.

An overview of Australia's key objectives to meet future challenges and priorities is detailed below.

Short term (2016-2020)

- Implementation of CASA's GNSS and ADSB based surveillance and navigation mandates which continue to 2017.

- Australia will continue engagement with ICAO and international aviation authorities for best practice approaches to aviation safety management and administration.

- Airservices will implement the findings of the "Operation Skysafe" program by continued investigation of conflict detection technology and changes to air routes.

- Airservices and CASA continue to progress a range of work items for the ICAO Separation and Airspace Safety Panel (SASP) including:
  - new standards and procedures for parallel runway operations that include the use of GNSS Landing Systems;
  - the use of multilateration and ADS-B as alternatives to radar as a parallel runway monitoring technology;
  - new PBN separation minima for approved aircraft; and
  - developing new space-based ADS-B separation minima for oceanic and remote airspace in partnership with Nav Canada, FAA and UK NATS.

- CASA's development of aviation safety regulations will ensure any regulatory change is on the basis of safety risk and will not impose unnecessary costs on industry.

- Align the classification of air operations with the ICAO model.

- Further enhancement of CASA and industry capability in relation to SMS.

- Continue to develop sector risk profiles for the Australian aviation industry to identify sector specific risks and joint risk treatment plans to manage aviation safety performance.

- The policy, procedures and oversight approach as well as surveillance capability will be reviewed for:
  - the remotely piloted aircraft systems (RPAS) industry;
  - overseas based maintenance providers servicing Australian registered aircraft;
  - off-shore helicopter operations; and
  - oversight of operations conducted under Foreign Aircraft Air Operator's Certificates and related permissions.

- Airservices and Defence will introduce an integrated Civil-Military Air Traffic System (CMATS) to improve operational safety and efficiency, and manage the increasingly complex civil-military airspace requirements.

- CASA, as the lead regulator for the implementation of the harmonised ATM system, will continue to work closely with Airservices and Defence to streamline the implementation of the harmonisation process.

- Consistent with the ICAO Global Air Navigation Plan, use of PBN (such as Required Navigation Performance and Ground Based Augmentation Systems with approved ADS-B avionics) will be expanded.

- Airservices, in consultation with CASA and industry stakeholders, will continue to develop the Future Airspace System (FAS) which will provide the basis for the development of a standard operating environment for Australian airspace.

- FAS work will initially concentrate on designing and implementing the airspace concept for the parallel runways at Brisbane, Perth and Melbourne airport. The work will assist in ensuring acceptably safe utilisation of airspace and air routes to get the most out of the capacity increases provided by the new runways.

- CASA will further refine its regulatory enforcement approach, including working with the ATSB to promote policies and procedures that support an open and effective safety reporting culture.

- Australia's aviation safety agencies will strengthen workforce capabilities to meet future requirements by development of initiatives and strategies such as:
  - education and training programmes;
  - develop succession plans and talent management to mitigate loss of critical capabilities through retirement; and
  - implement capability framework to support and advise development requirements

- Continued development by CASA of regulatory options to address ageing aircraft issues and introduction of an updated ageing aircraft risk assessment tool for use by the Australian aviation industry.

- Development of comprehensive safety education, promotion and training programmes.

- Strengthen international and Asia Pacific regional aviation safety engagement by continuing to actively participate in relevant safety and technical groups and offer regulatory and operational education, training assistance and advice to support the development of Australia's regional partners.

- Over the next five years Airservices will invest over $1 billion on critical new and upgraded safety facilities and services, in air traffic control and rescue and fire fighting services including satellite-based ATM technology and the commencement of the transition to CMATS.

Medium Term (2021-2025)

- Continued monitoring and refinement of the SSP framework and engagement with ICAO and international aviation authorities for a best practice approach to aviation safety management and implementation of SMS provisions.

- Emerging technologies and their different uses will be supported by flexible design of performance based regulations to support delivery of safety and efficiency outcomes.

- Continued use of PBN which will require wider regulatory requirements, education and training programmes to ensure the safe use of satellite-based technology.

- The joint programme, OneSKY, will deliver a system known as the Civil Military Air Traffic Management System (CMATS) with final Operational Capability by 2021.

- The growth in air transport will be supported by airspace management concept work led by Airservices.

- Appropriate airspace and air traffic management arrangements are put in place to facilitate the safe and efficient operation of planned new infrastructure capacity at Brisbane, Melbourne and Perth airports to meet future civil and military aviation demand.

Longer Term (2026-2030)

- Significant progress is expected to be made in a number of areas to reach the long term GASP goal of advanced safety oversight systems and predicative risk modelling.

- This will need investment in data collection and analysis and implementation of risk mitigation in response to any emerging safety trends.

- Australia will continue to engage with ICAO and international aviation authorities to ensure best practice approaches to aviation safety management, the widespread adoption of PBN, and the development of highly automated ATM concepts supporting collaborative decision-making.

Appendix A

Australia's State Safety Policy Statement

Australia's State Safety Policy Statement

Australia's aviation safety system plays a vital role in ensuring that Australia has a safe, efficient and competitive aviation industry. Australia will continue to seek closer alignment with International Civil Aviation Organization (ICAO) Standards and Recommended Practices and adopt international best practices in its aviation safety system.

The Australian Government has endorsed the following safety principles that underpin the future aviation safety system:

1. Safety is the primary consideration of Australia's aviation agencies and industry in the performance of their functions;
2. The highest safety priority should be afforded to passenger transport operations;
3. Australia's regulatory approach and responses are based on a sound assessment of the level of risk associated with particular aviation operations;
4. Aviation agencies and industry work closely together to identify aviation safety risks and ensure that the most appropriate methods, practices and technologies are adopted to address and reduce these risks;
5. A strong "just culture" approach underpins information sharing between industry and safety agencies as information sharing assists in preventing future safety events and reflects international best practice;
6. Recognition that Australia's safety regulatory system plays an important role in ensuring that Australia has a safe, efficient and competitive aviation industry;
7. Australia's aviation regulatory procedures, processes and approach to regulation is fair, transparent and promotes nationally consistent operations;
8. Active and ongoing engagement by industry and safety agencies will help inform future regulatory priorities and the development of simpler regulations, standards and orders;
9. The safety performance of our aviation safety system will be continuously monitored and measured through the State's aggregate safety performance indicators as well as service provider's safety performance indicators; and
10. Sufficient financial and human resources for safety management and oversight will be allocated; and staff will be equipped with the proper skills and expertise to discharge their safety oversight and management responsibilities competently.

Mike Mrdak

Secretary, Department of Infrastructure and Regional Development

6 May 2016

Appendix B

Aviation Safety Regulations, Instruments and Other Publications

Subordinate Australian aviation regulations and instruments and advisory material include:

- Air Navigation Regulations 2016 – which regulate a range of licence and approval conditions, on operators of international air services;
- Civil Aviation Regulations 1988 (CAR) and Civil Aviation Safety Regulations 1998 (CASR) – which provide the general safety regulatory controls in relation to aviation activities. These regulations set out in some detail the safety standards that are required in relation to airworthiness of aircraft, licences and ratings of operating crew and maintenance personnel, air traffic control, rules of the air, dangerous goods and many other safety issues;
- Air Services Regulations 1995 – which set out the functions of Airservices in relation to the provision of air traffic services, rescue and fire fighting services and aeronautical information services;
- Airspace Regulations 2007 – which enable CASA to perform the functions and exercise the powers in connection with the administration and regulation of Australian administered airspace;
- Transport Safety Investigation Regulations 2003 – which prescribes the accidents, serious incidents and incidents that must be reported to ATSB, and related matters;
- Civil Aviation Orders (CAOs) – which set out CASA's directions and instructions in matters of complex detail. They typically contain technical detail and requirements that complement the requirements set out in the relevant CAR regulations;
- Airworthiness Directives (ADs) – which address unsafe conditions on aircraft and aeronautical equipment;
- Australian Technical Standard Orders (ATSOs) – which contain minimum performance standards for specified articles (i.e. materials, parts, processes and appliances) used on civil aircraft; and
- Manuals of Standards (MOS) – which comprise specifications (standards) made by CASA pursuant to the relevant CASR regulations, of uniform application, determined to be necessary for the safety of air navigation.

CASA also issues a range of publications which are advisory rather than legislative in their nature and effect, such as:

- Civil Aviation Advisory Publications (CAAPs) – which provide guidance and information in a designated subject area, or show a method for complying with a related Civil Aviation Regulation. CAAPs should always be read in conjunction with the regulations;
- Advisory Circulars (ACs) – which are intended to provide recommendations and guidance to illustrate a means (but not necessarily the only means) of complying with the CASR

regulations. ACs may explain certain regulatory requirements by providing interpretive and explanatory material; and

- Guidance Material e.g. Airworthiness Bulletins (AWBs) – which are made to inform the aviation industry, in a systematic way, of essential information not considered mandatory. The information contained in an AWB is for information only, and issued by CASA to disseminate information as quickly and as clearly as possible.

CASA also produces a number of procedural manuals, which provide guidance to CASA staff, delegates and authorised persons related to matters dealing with, amongst other things, the preparation, assessment and processing of applications for various certificates, authorisations, approvals, permissions and exemptions.

More about aviation safety regulations and associated guidance material can be found at:

https://www.casa.gov.au/standard-page/regulations-and-policy

Appendix C

Australian Aviation Safety – Roles and Responsibilities

Minister for Infrastructure and Transport

The Australian Government, through the Minister for Infrastructure and Transport, sets the overall aviation policy direction. The Minister is responsible to Parliament for civil aviation matters, including safety and security.

Department of Infrastructure and Regional Development (the Department)

The Department is the coordinating point for ICAO purposes, and is responsible for the development and maintenance of Australia's SSP and for monitoring progress against and reporting on the associated implementation plan. The Department has responsibility for policy development and coordination in civil aviation; and provides overall aviation policy advice to the Australian Government on civil aviation matters.

The Department is responsible for implementing Australia's obligations under Annexes 9, 16 and 17 of the Chicago Convention.

The Bureau of Infrastructure, Transport and Regional Economics (BITRE) is part of the Department and provides economic analysis, research and statistics on infrastructure, transport and regional development issues to inform Australian Government policy development.

BITRE holds unique aviation, maritime, road and rail transport data collections which are made available in a number of publication series.

More information about the Department can be found at:
https://infrastructure.gov.au/department/about/index.aspx

Information about BITRE's aviation statistics can be found at:
www.bitre.gov.au/statistics/aviation/index.aspx

Civil Aviation Safety Authority (CASA)

CASA is the independent statutory authority established under the *Civil Aviation Act 1988*. CASA is responsible for the safety regulation of civil air operations in Australian territory and Australian aircraft operating outside Australian territory. CASA is also responsible for regulating aspects of the administration of Australia's airspace.

CASA is responsible for implementing Australia's obligations under Annexes 1, 2, 6, 7, 8, 10, 11, 14, 18 and 19 of the Chicago Convention.

Australian Transport Safety Bureau (ATSB)

The ATSB is Australia's independent no blame safety investigator, and operates under the *Transport Safety Investigation Act 2003*.

ATSB is responsible for the independent investigation of accidents and other safety occurrences involving civil aircraft in Australia, and taking part in the investigation of accidents and other occurrences involving Australian aircraft overseas.

ATSB is also responsible for Australia's system for mandatory reporting of all aviation safety occurrences and operates schemes for voluntary and confidential reporting of aviation safety concerns. Its analysis and research functions derive from this responsibility for the collection and management of aviation safety data.

ATSB is responsible for implementing Australia's obligations under Annex 13 and 19 of the Chicago Convention.

Airservices Australia (Airservices)

Airservices was established in 1995 as the independent air navigation service provider and related airside services to the Australian aviation industry. Airservices is a Commonwealth authority with statutory responsibilities and is wholly owned by the Australian Government. It operates under the *Air Services Act 1995.*

While Airservices is primarily a service provider, in carrying out its functions safety is the priority as legislated. In this way, Airservices is an integral part of Australia's SSP. At the same time, as a service provider, Airservices operates under an SMS which is overseen by CASA.

Airservices is responsible for implementing Australia's obligations under Annexes 3, 4, 5, 10, 11, 15 and 19 of the Chicago Convention.

Australian Maritime Safety Authority (AMSA)

AMSA is the national safety agency responsible for maritime safety, protection of the marine environment and aviation and marine search and rescue. It is a statutory authority established by the *Australian Maritime Safety Authority Act 1990 (*the AMSA Act*).* The AMSA Act provides that AMSA's search and rescue service must be in a manner consistent with Australia's obligations under the Chicago Convention and agreements between Australia and other countries relating to the provision of search and rescue.

AMSA's primary areas of responsibility to the aviation community include meeting the requirements of Annex 12 of the Chicago Convention in operating the joint aviation and maritime rescue coordination centre (JRCC) and providing two ground stations and a Mission Control Centre for the Cospas-Sarsat satellite distress beacon system.

Bureau of Meteorology (BoM)

BOM is Australia's national weather, climate and water agency and operates under the authority of the *Meteorology Act 1955* and the *Water Act 2007*. The Director of Meteorology is the designated Meteorological Authority in accordance with Annex 3 to the Chicago Convention. The Director of Meteorology has an authorising function, set out in Regulation Part 120 of the *Civil Aviation Act 1988*, for the meteorological observations and forecasts used in civil aviation. BOM is the aeronautical meteorological service provider for Australia.

Department of Defence

Defence is responsible for safety and airworthiness of military aviation systems. While civilian agencies remain responsible for managing aviation safety of Australia's civil aviation and systems, Defence remains responsible for managing aviation safety of Australian Defence Force aircraft and aviation support systems.

It is essential that Defence aviation, which includes its support systems, operates under a robust safety management system that retains the operational flexibility to achieve its capability outcomes without duplicated or incompatible civil-military regulatory overlap.

Defence cooperates with Australia's civil aviation agencies to harmonise its safety management system and associated regulation. Areas of commonality include airspace management, air traffic services, aviation rescue and fire fighting services and aerodrome infrastructure, particularly where these may be used by civil aviation.

The Chicago Convention (Article 3) acknowledges that the convention shall not be applicable to State aircraft. The *Civil Aviation Act of 1988* excludes State aircraft; State aircraft being one that is part of the Defence Force. Article 3 further requires a contracting state, when issuing regulations for state aircraft, that they will have due regard for the safety of navigation of civil aircraft.

Defence regulates the operation of Australian State Aircraft and Aviation Support Systems by the implementation of the Defence Aviation Safety Program. Acknowledging Annex 19 and the SSP as contemporary global practice, Defence has developed, and continues to implement, the Defence Aviation Safety Program which replicates the elements of a SSP, with due consideration of the Defence aviation context and relevant Commonwealth legislation.

The context of military aviation is different to that of civil aviation; notwithstanding, Defence aims to cooperate to harmonise with civil aviation. Commitment is demonstrated by active participation as a member of the coordinating bodies including the APG and as stated in the *Agreement on the Promotion of Aviation Safety and Airworthiness* between CASA and Defence. There is a focus on the civil-military interfaces for military air bases and joint user (civil/military) aerodromes that are also used by civil aviation.

The Defence Aviation Safety Program is a contemporary and effective programme for Defence operations.

Appendix D

Other Cooperative arrangements

Civil/military cooperation in search and rescue

AMSA and Defence have formalised a cooperative arrangement through a letter of promulgations. The letter promulgates the acceptance by Defence of the National Search and Rescue Manual (NATSARMAN) as the standard procedural guide for the conduct of search and rescue activities within the Australian search and rescue region (SRR), except for Joint Personnel Recovery (commonly known as Combat SAR). This acceptance makes NATSARMAN the primary document underpinning civil/military cooperation in search and rescue. The document also recognises the Australian National Search and Rescue Council as the sponsor of the NATSARMAN.

Common Risk Management Framework for airspace and air traffic management

The Common Risk Management Framework (CRMF) aims to ensure that the work of the agencies (Department, CASA, Airservices and Defence) in relation to airspace and air traffic management is complementary and based on a shared sense of understanding and purpose, and a consistent approach.

The CRMF provides high level guidance to the agencies in conducting their risk management activities in relation to airspace and air traffic management without interfering with, or restricting, the performance of their respective roles.

More information about the CRMF can be found at:
http://www.infrastructure.gov.au/aviation/airspace_reform/crmf.aspx

International cooperative arrangements

Australia's aviation safety agencies have ongoing involvement in the Asia Pacific region through various regional engagement programmes. These programmes improve aviation safety for the benefit of Australia's regional neighbours and the Australian travelling public by strengthening safety capability.

Australia has also entered into a range of bilateral agreements and arrangements, including Bilateral Air Services Agreements, which are economic in focus but include provisions for safety oversight. Australia has also entered into a Bilateral Aviation Safety Agreement (BASA) with the United States which is intended to provide more efficient and effective safety regulation, particularly in relation to aircraft certification and products.

Australia has also entered into a number of SAR memorandum of understanding agreements with its Asia Pacific and Indian Ocean neighbours in accordance with International Aeronautical and Maritime Search and Rescue (IAMSAR)

There are a range of other safety arrangements that mainly relate to airworthiness certification and maintenance requirements.

Appendix E

Aviation Safety Risk Management in CASA

Consistent with the increased international emphasis on a state safety risk management programme, and as highlighted in ICAO Annex 19 (Safety Management) and ICAO Doc 9859 (Safety Management Manual), CASA adheres to the AS/NZS ISO 31000:2009 Risk Management principles and guidelines to effectively identify, evaluate, control (where CASA has risk ownership) and monitor aviation safety risks.

As outlined in Chapter 2 – State Safety Risk Management, management of Australian aviation safety risk is undertaken through a multi-layered process that has the capacity to identify and manage risks at various levels of the aviation industry. The system is comprised of the following levels of risk management.

Regulatory risk management

Aviation safety regulations must be shown to be necessary.

They are developed on the basis of addressing known or likely safety risks that cannot be addressed adequately by non-regulatory means. Each proposed regulation must be assessed against the contribution it will make to aviation safety. The regulations must not impose unnecessary costs or unnecessarily hinder high levels of participation in aviation and its capacity for growth.

Surveillance outcomes risk management (2016-2020)

Risk-based surveillance seeks to assess an authorisation holder's management system and its ability to identify and keep operational risks to an acceptable level of safety performance while at the same time ensuring compliance with Australian aviation legislation is maintained. Risk-based surveillance is a structured process used by CASA in its oversight of authorisation holders to prioritise surveillance activities based on authorisation holders' risk profiles. It focuses on the effectiveness of an authorisation holder's management of its risks and enables targeted surveillance of high-risk areas of an authorisation holder's systems.

Sector risk profiling

Sector risk profiling is a proactive approach to identifying the risks that exist within the sector at a defined point in time. It is a data-driven process for identifying the current and emerging risks. The process output is a collection of risks that is the aggregate of known and predicted risks impacting the sector operations as a consequence of factors within the operating environment, supporting infrastructure/services and deviations associated with the growth and change in the sector. Risk profiling outputs supplement CASA's oversight and decision-making through proactive risk

identification and risk management processes to ensure the sector risks are maintained within acceptable limits.

Industry risk profiling (2016-2020)

The industry risk profiling process links to the SSP and CASA safety governance system by providing an aviation industry review of the impact of the risks on industry.

CASA's role in regulating safety requires the identification of potential risks within the industry. Aggregating safety-related information gathered from multiple sectors provides an industry level understanding of the risks and enables the development of a baseline measurement for safety performance.

The risk profiling process at an industry level draws on the aviation body of knowledge, which includes updated strategic studies that reflect how the industry and economy are evolving and system and sector risks identified.

The current risks and the emerging risks identified at an industry level are compared and prioritised based on their relevance and impact on system safety. The industry risk profile involves high level analysis taking a strategic approach to the risk. Aggregating the risks enables the development of safety performance measures at the industry level.

System risk profiling (2017-2020)

The system risk profile consists of the systemic safety risk that exists within the entire aviation community. The system risk profile provides a high-level risk management summary categorising significant aviation system safety risks and contributes to the CASA Safety Plan and State Safety Performance Indicators.

CASA Safety Plan (2017-2020)

The CASA Safety Plan is the documented output of an aggregated safety risk analysis conducted in CASA's safety risk management processes. The plan provides a risk picture of the aviation safety system in Australia from a CASA perspective.

The purpose of the CASA Safety Plan (four year plan, updated annually) is to outline to CASA stakeholders where CASA will, in addition to normal regulation oversight activities, target resources over the next 3-5 years.

The plan aligns to Section 3A of the Act '… enhancing and promoting the safety of civil aviation, with particular emphasis on preventing aviation accidents and incidents' and Section 9(1)(g) of the Act ' conducting regular reviews of the system of civil aviation safety in order to monitor the safety performance of the aviation industry, to identify safety-related trends and risk factors and to promote the development and improvement of the system.

Appendix F

Requirements for Civil Aviation Service Providers SMS

Air Operators	Information about CAO 82.3 and 82.5 can be found at: *https://www.casa.gov.au/standard-page/parts-43-45-48-50-51-82-and-92*
Air Traffic Service Providers	Information about CASR Part 172 can be found at*:* *https://www.casa.gov.au/standard-page/casr-part-172-air-traffic-service-providers*
Aerodromes	Information about CASR Part 139 can be found at*:* *https://www.casa.gov.au/standard-page/casr-part-139-aerodromes*
Maintenance providers	Information about CASR Part 145 can be found at: *https://www.casa.gov.au/education/standard-page/legislation-and-guidance*
Aeronautical telecommunication and radionavigation service providers	Information about CASR Part 171 can be found at*:* *https://www.casa.gov.au/standard-page/casr-part-171-aeronautical-telecommunication-service-and-radio-navigation-service*
Flight training organisations	Information can be found at: *https://www.casa.gov.au/standard-page/flight-training-organisations%E2%80%93transition-0*
Integrated and multi-crew pilot flight training	Information about Part 142 can be found at*:* https://www.casa.gov.au/standard-page/casr-part-142-integrated-and-multi-crew-pilot-flight-training-and-contracted-recurrent
Instrument flight procedure design	Information about CASR 173 can be found at*:* *https://www.casa.gov.au/standard-page/casr-part-173-instrument-flight-procedure-design*

Data analysis and reporting

ATSB transport safety occurrence data	*www.atsb.gov.au/safety-awareness/transport-safety-occurrence-data.aspx*
ATSB aviation statistical data	*www.atsb.gov.au/aviation/aviation-statistics.aspx*

ATSB research & data analysis programme	*www.atsb.gov.au/safety-awareness/research-data-analysis-program.aspx*
ATSB completed research reports	*http://www.atsb.gov.au/publications/publications-list/?mode=all&publicationType=Research%20and%20Analysis%20Report*
Bureau of Infrastructure, Transport and Regional Economics	*http://bitre.gov.au/statistics/aviation/index.aspx*

Appendix G

Acronyms and Abbreviations

ACs	Advisory Circulars
ACMA	Australian Communications and Media Authority
AC-MAC	Australian Civil-Military Air Traffic Committee
ADs	Airworthiness Directives
ADREP	Accident/Incident Data Reporting
AHSQ	AOC Holder Survey Questionnaire
AIG	Aviation Implementation Group
Airservices	Airservices Australia
ALoSP	Acceptable Level of Safety Performance
AMSA	Australian Maritime Safety Authority
AOC	Air Operators Certificate
APG	Aviation Policy Group
ARFFS	Aviation Rescue and Fire Fighting Service
AS/NZS	Australian/New Zealand Standard
ASRS	Aviation Safety Reporting Scheme
ATC	Air Traffic Control
ATM	Air Traffic Management
ATSB	Australian Transport Safety Bureau
ATSOs	Australian Technical Standard Orders
AWBs	Airworthiness Bulletins
BASAs	Bilateral Aviation Safety Agreements
BITRE	Bureau of Infrastructure and Transport Regional Economics
BOM	Bureau of Meteorology
CAAPs	Civil Aviation Advisory Publications
CAOs	Civil Aviation Orders
CAR	Civil Aviation Regulations 1988
CASA	Civil Aviation Safety Authority
CASR	Civil Aviation Safety Regulations 1998
Chicago Convention	Convention on International Civil Aviation
CRMF	Common Risk Management Framework
Defence	Department of Defence
ICAO	International Civil Aviation Organization
MOS	Manual of Standards
MOU	Memorandum of Understanding
NATSARMAN	National Search and Rescue Manual
RAAF	Royal Australian Air Force
REPCON	Aviation Confidential Reporting Scheme
RPT	Regular Public Transport
RVSM	Reduced Vertical Separation Minima
RSMP	Regulatory Safety Management Program
SAR	Search and Rescue
SARPs	Standards and Recommended Practices
SMS	Safety Management System
SM ICG	Safety Management International Collaboration Group
SRR	Search and Rescue Region
SSP	State Safety Programme
USOAP	Universal Safety Oversight Audit Program
WMO	World Meteorological Organization