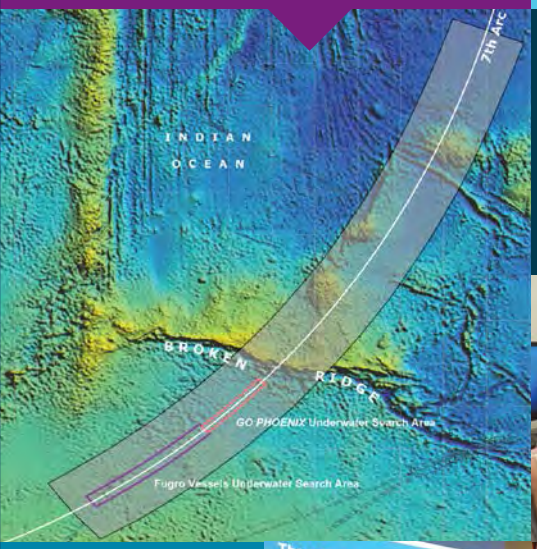
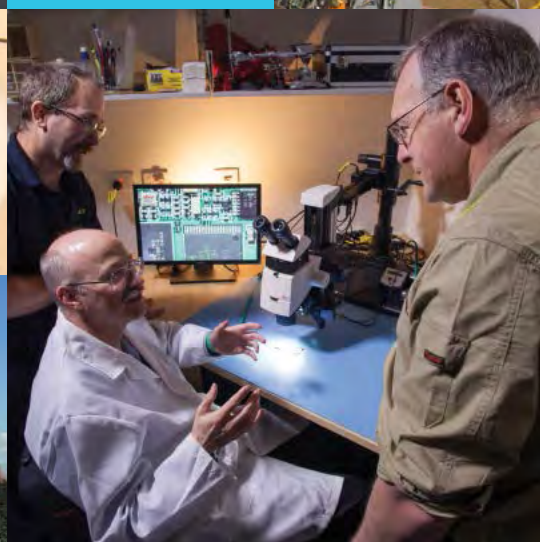
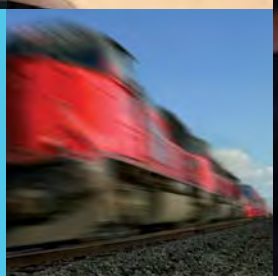
Australian Government

Australian Transport Safety Bureau







ATSB Annual Report

2014–15

Australian Government

Australian Transport Safety Bureau

ATSB Annual Report

2014–15

New digital report features

The ATSB Annual Report 2014–15 is available in an easy-to-use digital format. This year, our digital report includes new features to help you learn more about the ATSB and the work we do.

Look for the following symbols in the digital version to find out more about how the ATSB's work improves transport safety.

VIDEO LINKS

Watch videos on the ATSB's activities and safety initiatives.

NEWS LINKS

Read about the safety lessons from the ATSB's investigations, research activities and occurrence reports.

WEBSITE LINKS

Go directly to investigation and safety reports published on our website.

PHOTO LINKS

See more of our work in pictures.

CONTACT ATSB

Get the right contact details to ask a question, order a publication or report a safety occurrence.

View the online version from our website at www.atsb.gov.au/annualreport

Australian Government
Australian Transport Safety Bureau

Chief Commissioner

12 October 2015

The Hon Warren Truss MP
Deputy Prime Minister and
Minister for Infrastructure and Regional Development
Parliament House
CANBERRA ACT 2600

Dear Deputy Prime Minister

We are pleased to present the Annual Report of the Australian Transport Safety Bureau, reporting on the ATSB's operations for the year ended 30 June 2015.

This annual report has been prepared in accordance with section 63A of the *Transport Safety Investigation Act 2003* (TSI Act). Subsection 63A (1) of that Act requires that we give this report to you.

In addition to fulfilling the requirements of section 63A of the TSI Act, the report is consistent with the normal provisions for annual reports specified under the *Requirements for Annual Reports - for Departments, Executive Agencies and other Non-Corporate Commonwealth Entities* issued on 25 June 2015 and summarises the ATSB's performance for the year. Accordingly, we recommend that you make the report available to Parliament as required by the guidelines.

The report includes the ATSB's financial statements as required by section 42 of the *Public Governance, Performance and Accountability Act 2013* and an audit report on those statements in accordance with section 43 of the same Act.

Yours sincerely

Martin Dolan	Noel Hart	Chris Manning	Carolyn Walsh
Chief Commissioner/CEO	Commissioner	Commissioner	Commissioner

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Introduction

The Australian Transport Safety Bureau (ATSB) 2014–15 Annual Report outlines performance against the outcome and program structure in the **2014–15 Infrastructure and Regional Development Portfolio Budget Statements.**

Guide to the report

Information about this report

Information about this report is available from:

The Annual Report Coordinator
Telephone: 1800 020 616
Fax: 02 6247 3117
Email: atsbinfo@atsb.gov.au

Mark your enquiry 'Attention Annual Report Coordinator'.

Other sources of information

Annual reports are available in printed form from more than 20 libraries around Australia under the Australian Government library deposit and free issue scheme. A list of participating libraries can be found at www.finance.gov.au/librarydeposit

This report is also available from our website at www.atsb.gov.au

Before making decisions on the basis of information contained in this report, you are advised to contact the ATSB. This report was up to date at the time of publication but details change over time due to legislative, policy and other developments.

SECTION 1

Chief Commissioner's review 2014–15

This was the ATSB's sixth year as a fully independent body within the Infrastructure and Regional Development portfolio. In addition to the continuing search for the missing **Malaysia Airlines Flight MH370**, 2014–15 saw the completion of a range of significant investigations and some significant governance changes for the ATSB.

In July 2013, I requested the **Transportation Safety Board of Canada (TSB)** to conduct an independent objective review of our safety investigation methodologies and processes. I asked that they benchmark Canadian methodologies with ours and compare both with international standards. The TSB looked, in particular, at three of our substantial investigations including the ditching of a Pel-Air Westwind jet off Norfolk Island in 2009 **(AO-2009-072)**. This investigation had been strongly criticised in some quarters and was the subject of a report by the Senate Rural and Regional Affairs and Transport Committee.

The **TSB report**, released in December 2014, found that the ATSB's investigation methodology and analysis tools represent best practice, and have been shown to produce very good results. At the same time, the report highlighted room for improvement, particularly in relation to the way our processes were applied to the Pel-Air ditching investigation.

In response to the TSB review, the ATSB decided to **reopen the investigation into the Pel-Air accident.** A completely new team was appointed to review the original investigation and associated report in light of any fresh evidence, relevant points from the TSB review and other recent aviation reviews. The ATSB expects to complete the reopened investigation in the first quarter of 2016.

After carefully considering the other findings and recommendations of the TSB report, the ATSB accepted all of them. We have worked our way methodically and carefully through implementation of the recommendations of the TSB review, resulting in improvements to the future work of the ATSB. Being able to compare our approaches and learn from our respected colleagues in Canada has been a valued opportunity.

In November 2013, in keeping with a pre-election commitment, the Deputy Prime Minister and Minister for Infrastructure and Regional Development, the Hon Warren Truss MP, commissioned a review of Australia's aviation safety regulation system. This was to see how our safety regulation system is placed to deal with this economically important industry. Following completion of the report the ATSB contributed to the Government's response.

On 3 December 2014, the Deputy Prime Minister made a statement in Parliament confirming that the Government fully supports the vital role of the ATSB. To give effect to a pre-election commitment, he undertook to appoint an additional Commissioner with aviation experience and to issue a new Statement of Expectations.

In accordance with the Deputy Prime Minister's announcement, **Mr Chris Manning was appointed as a Commissioner** with effect from 9 March 2015. Chris has brought a wealth of experience in aviation as an expert pilot and prominent aviation manager, and from his arrival has made a very valuable contribution to our work.

The Deputy Prime Minister issued a revised **Statement of Expectations** on 19 April 2015. The statement largely confirmed our existing focus and direction, but also required us to implement the relevant parts of the Government's response to the Aviation Safety Review Report and the agreed recommendations of the TSB review. The ATSB's response to the Statement of Expectations is set out in our **Corporate Plan**.

The issuing of a Corporate Plan was part of our implementation of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act). To meet the requirements of the new PGPA Act, we have implemented more comprehensive business planning and risk management processes. These are all being managed consistently with our safety priorities, which have been at the centre of our **SafetyWatch** communication and safety awareness direction for the last three years.

The search for Malaysia Airlines Flight MH370

The **search for the missing Malaysia Airlines Flight MH370** in the Southern Indian Ocean has been a major commitment during the whole year. It has involved complex and challenging activities including:

- conducting ground-breaking technical analysis to determine the appropriate search area
- determining the processes and standards necessary to undertake an unprecedented underwater search
- selecting highly capable contractors with the expertise and equipment to conduct the search
- continuing project and financial management
- dealing with the incredible level of interest and enquiry from all over the world.

We have worked with our Minister and our Malaysian and Chinese counterparts to keep them informed of the search progress and enable joint decisions to be made when required.

Aviation

During the year we completed 40 aviation investigations and more than 100 short factual investigations.

The most significant of these was the crash of a Robinson R44 helicopter at Bulli Tops on 21 March 2013 **(AO-2013-055)**. This, as well as two previous similar accidents involving R44 helicopters, highlighted the danger of rigid fuel tanks in low-impact helicopter crashes, where post-impact fires may make otherwise survivable accidents deadly. We confirmed this trend with detailed statistical analysis of similar accidents in Australia and the US over a 10-year period.

While the Civil Aviation Safety Authority (CASA) had recommended that owners and operators implement the manufacturer's service bulletin recommendation to replace the fuel tanks with bladder-type tanks that would improve resistance to post-impact fuel leaks, it was clear that they would be unlikely to meet the 30 April 2014 deadline. Accordingly, the ATSB recommended that CASA mandate the requirement by the due date. As a result, all R44 helicopters in Australia are now compliant.

Following this action, other safety authorities in **South Africa, New Zealand and Europe have also mandated the change**. The ATSB has issued safety recommendations to the US Federal Aviation Administration that they also take action to mandate fitting of bladder-type fuel tanks. The outcome of this investigation illustrates the importance of our investigations and the far-reaching influence safety investigations can have in ensuring transport safety for all travellers, not only those in Australia or our immediate region.

Other significant aviation investigations have also led to improvements in the way air ambulance and rescue services undertake winching of patients. There have also been changes to air traffic control procedures and training of air traffic controllers following our investigation into a loss of separation assurance.

Marine

During the year we completed five marine investigations. These were mainly concerned with **marine work practices** and confirmed that ships are inherently dangerous places of employment. It is essential that employees implement sound risk management and occupational health practices. The most serious of these incidents was the unexpected deployment of a lifeboat and the subsequent serious injury to an employee.

Errors by maritime pilots and other ship operators are still contributing to collisions and other mishaps.

Rail

We completed 20 rail investigations this year. Some of these concerned derailments, raising serious questions about the way operators are building and maintaining their rail networks. Disappointingly, we are still seeing many instances where breaches of **safe work practices** put maintenance crews and operators at risk. This issue has been one of our safety priorities for the last three years. Continuing notifications suggest the existence of broader safety issues associated with work on track. Consequently, we have initiated a **safety issues research project** looking into the protection issues that provide for safe work on track. The project has commenced with an analysis of our statistical data which aims to present the Australian experience with safe work occurrences and highlight the key areas where further attention should be focussed.

We continue to work on a national approach to rail safety investigation and have been holding negotiations with Western Australia and Queensland to complete the process of establishing a unified national system of rail safety investigation.

Resource constraints

As reported last year, our resource situation led us to reduce our workforce by approximately 12 per cent. We have experienced further budgetary restraint this year despite the additional resources provided to undertake the search for MH370. Budget restraints have had a significant effect on our responsiveness and flexibility and continues to affect our capacity to conduct investigations. Our performance statistics for the year show this very clearly, particularly in regard to the timeliness of our investigations. This year, I have incorporated a table in our performance reporting which shows our longitudinal results over the past three years.

Safety priorities

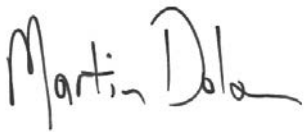
Through our SafetyWatch initiative we maintain a continuing focus on nine safety priorities:

- flying with reduced visual cues
- general aviation pilots
- handling the approach to land
- data input errors
- safety around non-controlled aerodromes
- under-reporting of occurrences
- safe work on rail
- marine work practices
- maritime pilotage.

Outlook for 2015–16

Resources continue to be constrained. It is a simple fact that with fewer resources we can do fewer investigations, or we must constrain the scope of some of the investigations we do undertake. More than ever, we need to choose those accidents or incidents that have the greatest potential to yield the greatest safety benefit. There remains a substantial risk we will miss an important issue. To minimise this risk, we are focussing strongly on analysis of our data and our investigation findings to identify emerging trends. Our short investigations also play an important role in enabling us to take a closer look at accidents and serious incidents which have the potential for more detailed systemic investigation. The importance of the work has not diminished and I am pleased that the Government has reaffirmed the value of our work.

Once again I would like to acknowledge the first class work of our investigators and other staff, and to thank them for their continued commitment to the ATSB. I am also grateful for the continuing attention, support and wise counsel of my fellow Commissioners.



Martin Dolan
Chief Commissioner/CEO


ATSB
ATSB

SECTION 2

Agency overview

The Australian Transport Safety Bureau (ATSB) was established under the *Transport Safety Investigation Act 2003* (TSI Act) as Australia's national transport safety investigation agency. Its primary function is to improve aviation, marine and rail safety. It does this by receiving information about accidents and other safety occurrences, and by investigating selected occurrences in order to identify and communicate factors that affect, or might affect, transport safety.

The ATSB is part of the Infrastructure and Regional Development Portfolio. Within the portfolio are other important transport agencies whose roles are focused on delivering an efficient, sustainable, competitive, safe and secure transport system for all transport users through regulation, financial assistance and safety investigations. These include:

- Department of Infrastructure and Regional Development
- Australian Maritime Safety Authority
- Civil Aviation Safety Authority
- National Transport Commission
- Airservices Australia.

Our role

The ATSB's primary role is to improve aviation, marine and rail safety. Our focus is on improved safety for those who work, or participate, in the various transport industries and for the travelling public. We do this by:

- receiving and assessing reports of transport safety matters, including notifications of safety occurrences and confidential reporting
- independently conducting no-blame investigations of accidents and other safety occurrences
- conducting research into transport statistics and technical issues
- identifying factors that contribute to accidents and other safety occurrences that affect, or have the potential to affect, transport safety
- encouraging safety action in response to safety factors by acknowledging safety action taken by operators, and by issuing safety recommendations and advisory notices
- raising awareness of safety issues by reporting publicly on investigations and conducting educational programs
- assisting Australia to meet its international regulatory and safety obligations, and conducting an active program of regional engagement with other transport safety agencies.

Our objectives

In fulfilling our role of improving transport safety and cooperating with others, the ATSB:

- focuses its resources in the areas that are most likely to result in safety improvements
- harnesses expertise and information necessary to its safety role
- conducts impartial, systemic and timely investigations
- identifies safety issues clearly and objectively without attributing blame or liability
- ensures the significance of safety issues is clearly understood by all concerned
- promotes effective safety action.

Cooperation with the transport industry

The ATSB works cooperatively with the aviation, marine and rail industries, as well as with transport regulators and governments at state, national and international levels to improve safety standards for all Australians.

The ATSB relies on its ability to build trust and cooperation with the transport industry, and the community, for its success in improving safety. The TSI Act requires the ATSB to cooperate with government agencies, private organisations and individuals who have transport safety functions and responsibilities, or who may be affected by our transport safety activities. The ATSB also cooperates with equivalent national bodies in other countries, and international organisations with responsibilities for worldwide transport safety standards.

The ATSB actively targets communications to ensure that transport industry stakeholders understand the importance of 'no blame' investigations. In order to cultivate a strong reporting culture within the transport industry, the ATSB promotes an appropriate level of confidentiality and protection for sensitive safety information provided to us in the course of our work.

Notifications and reporting

The TSI Act requires any responsible person who has knowledge of any accident (or any immediately reportable matter) to report it as soon as is reasonably practicable.

While the terms of this requirement may seem broad, the Transport Safety Investigation Regulations 2003 provides a list of persons who, by the nature of their qualifications, experience or professional association with a particular transport vehicle, or number of transport vehicles, would be likely to have knowledge of an immediate or routine reportable matter for their associated mode of transport. In addition responsible persons are not required to report a transport safety matter if they believe, on reasonable grounds, that another responsible person has already reported, or is in the process of reporting that matter.

There are various bodies to which notifications can be made but most notifications are required to be made directly to the ATSB—specifically in aviation the ATSB maintains a 24-hour service to receive these notifications, including a toll-free telephone number and a secure online notification form. Relevant notifications submitted to other agencies are forwarded to the ATSB, where they are recorded and evaluated, in order to decide whether an investigation is to be undertaken.

Every year the ATSB's Notifications and Confidential Reporting Team receives over 15,000 notifications of safety occurrences. These are spread over the three modes of transport. Inevitably, there are duplicate notifications and many of the notifications submitted concern matters not required to be reported under the TSI Act. Nevertheless, each one is reviewed and recorded.

In 2014–15, the ATSB's Notifications Team received 15,520 aviation notifications in the form of telephone calls, emails, facsimiles, postal letters and website contact. From those, the team identified 5,176 individual accidents, serious incidents and incidents.

While not all the reported occurrences are investigated, the details of each occurrence are retained within the ATSB's records database. These records are a valuable resource, providing a detailed portrait of transport safety in Australia. The ATSB, industry and regulators analyse the database to identify trends and patterns. A wide variety of researchers, including scholars and the media, use it to research past events and emerging issues. The searchable public version of the aviation occurrence database is available on the ATSB website. It contains data from July 2003 onwards.

Aviation

The ATSB investigates accidents and other occurrences involving civil aircraft in Australia. The ATSB also analyses data on all notified accidents and incidents. It conducts research into specific matters of concern that emerge from data analysis and specific incidents or matters that may be referred by other organisations. It does so in a manner consistent with the Convention on International Civil Aviation (Chicago Convention 1944) Aircraft Accident and Incident Investigation (Annex 13).

The ATSB may also investigate serious accidents or incidents involving Australian-registered aircraft overseas, or assist with overseas investigations involving Australian-registered or foreign aircraft if an overseas investigating authority seeks assistance, and the ATSB has suitable resources available. The ATSB may also have observer status in important overseas investigations. This provides valuable opportunities to learn from overseas organisations and to benchmark our knowledge and procedures against our sister organisations.

The ATSB cooperates with organisations such as the Civil Aviation Safety Authority (CASA), Airservices Australia and aircraft manufacturers, and operators, who are best placed to improve safety. The ATSB is also working collaboratively with the Department of Infrastructure and Regional Development and other safety agencies to assist the government in implementing the outcomes of the Aviation Safety Regulation Review.

Marine

The ATSB investigates incidents and accidents involving Australian-registered ships anywhere in the world and foreign ships in Australian waters or en route to Australian ports.

We work cooperatively with international regulatory authorities, Australia's maritime regulator, the Australian Maritime Safety Authority (AMSA), the state and territory maritime regulatory authorities, other transport safety investigatory agencies and ship owners and operators.

We publish a range of marine transport safety reports and safety educational material, which are distributed to the international maritime community, the International Maritime Organization, educational institutions and maritime administrators in Australia and overseas.

Rail

Since the implementation of the national transport reform process in January 2013, the ATSB has had primary responsibility for investigating rail safety occurrences (accidents and incidents) on the Defined Interstate Rail Network, regional networks and metropolitan passenger networks in participating states and territories (New South Wales, Victoria, South Australia, Tasmania and the Northern Territory). The ATSB is working to complete the transition to become the national rail safety investigator, as established through the Council of Australian Governments' Intergovernmental Agreement on Rail Safety Regulation and Investigation Reform.

The ATSB works cooperatively with organisations such as the Office of the National Rail Safety Regulator (ONRSR), state and territory rail regulators and rail operators—all of whom share a responsibility to improve safety. The ATSB also has collaboration agreements with the New South Wales and Victorian state safety investigation organisations.

Technical analysis

The ATSB Technical Analysis team provides the direct, in-house ability to examine, extract and analyse, in detail, the physical and recorded evidence associated with safety occurrences from all modes of transport. Nine specialists in forensic engineering, failure analysis, data recovery and systems analysis, work with other ATSB investigators and external stakeholders to provide a detailed insight into the often complex set of factors that underlie many transport safety occurrences. The team maintains a centre of excellence for rail, marine and flight data 'black box' analysis in the South East Asian and Asia-Pacific regions—providing our international neighbours with technical advice, support and assistance in occurrence investigation and capability development.

Short investigations

In addition to its more complex investigations, the ATSB undertakes short, office-based investigations of less complex safety occurrences. Our capacity to conduct a large number of these short investigations provides us with the opportunity to deliver safety messages, and for industry participants to learn from the experience of others. Although many of these investigations examine occurrences that are common, and for which the underlying factors are well known, they also enhance the quality and completeness of the occurrence data held by the ATSB. As a result, a more extensive database expands our ability to identify situations where more detailed investigation may be warranted.

A small team manages and processes these investigations and produces short summary reports. The summary reports detail the information gathered from individuals or organisations involved in the occurrence, the circumstances and what safety action may have been taken or identified as a result. The summary reports are released periodically in a bulletin format.

Confidential reporting (REPCON)

The ATSB operates the voluntary and confidential reporting scheme (REPCON) for the aviation, marine and rail industries. Any person within these industries, or member of the travelling public, may submit a REPCON report of a reportable safety concern (RSC). The scheme is designed to capture safety concerns—including unsafe practices, procedures and risk controls within an organisation or affecting part of the industry. The scheme is not about individuals.

Each RSC is de-identified by the ATSB by removing all personal details concerning the reporter and any individual named in the report. This de-identified text is passed back to the reporter who must authorise the content before the REPCON can proceed further. The de-identified text is then forwarded to the relevant organisation that is best placed to address the RSC. The organisation's response will then be forwarded to the regulator for further action as deemed necessary.

The aim of the REPCON scheme is to ensure safety action is taken to address the RSC. This can include variations to standards, orders, practices and procedures, or an education campaign. The ATSB may use the de-identified version of the RSC to issue an information brief, or an alert bulletin, to whichever person or organisation is best placed to take safety action in response to the safety concern. The ATSB publishes the outcome of each REPCON on its website.

Research investigations and data analysis

The Research Investigations and Data Analysis Team researches and analyses the ATSB occurrence databases. In the case of aviation occurrences, the research and analysis provides an opportunity to uncover trends and safety issues across many, rather than individual, occurrences.

Across the transport modes, the team produces official Australian statistics (Aviation Occurrence Statistics, Shipping Occurrence Statistics), in-depth analysis of issues and trend monitoring of all occurrences for the benefit of government and industry. The research team also contributes to the ATSB's occurrence investigations in all three modes.

The ATSB is not currently funded for research in the marine and rail transport modes.

International cooperation

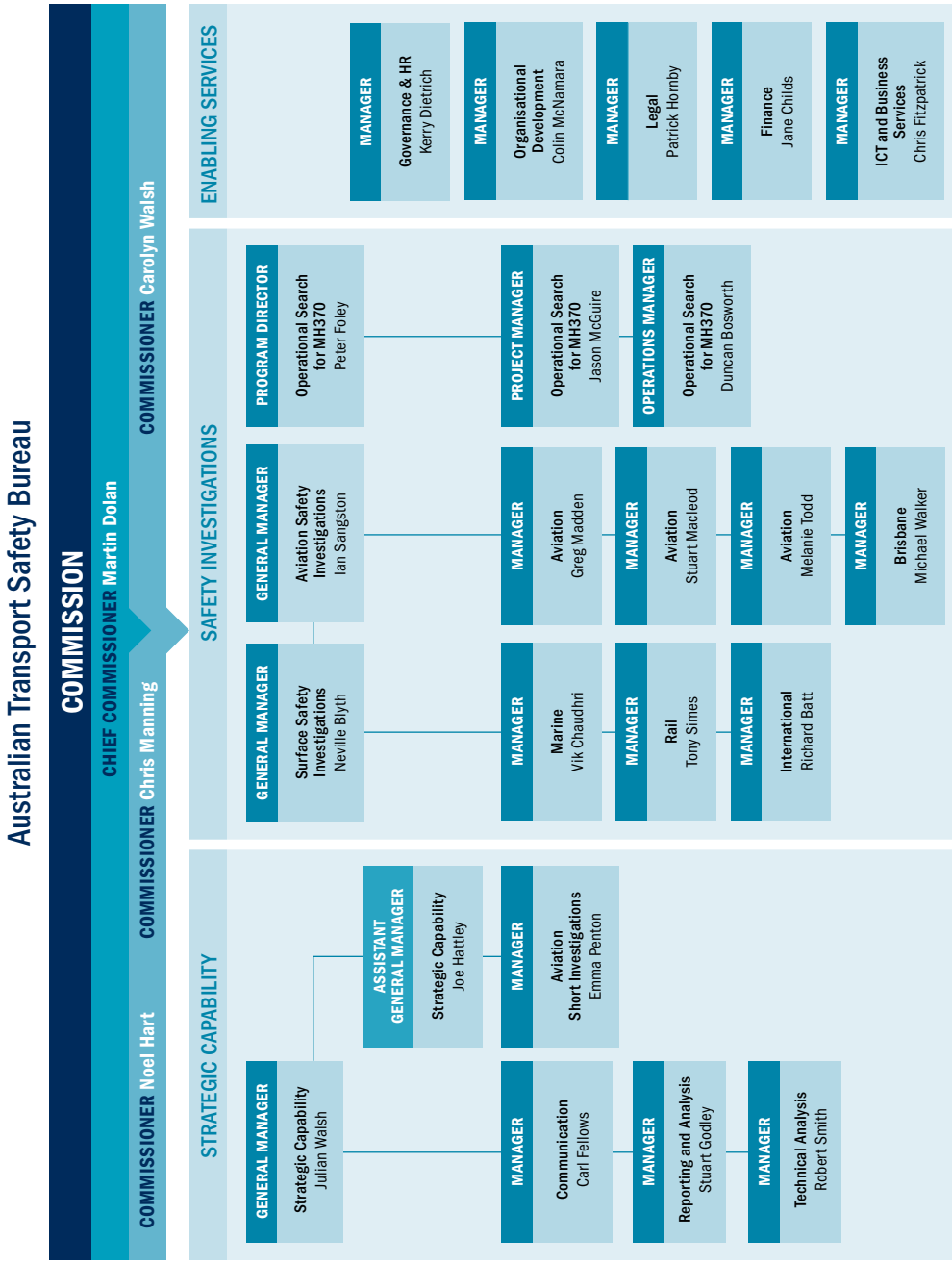
The ATSB is committed to promoting engagement with its international counterpart agencies and with relevant multilateral organisations. It works to assist Australia's regional neighbours through international agreements and participation in intergovernmental programs. It actively supports initiatives to build aviation and maritime safety investigation capability in the Asia-Pacific region.

The philosophy underpinning the ATSB's regional engagement is one of cooperation and mutual respect. The strategic intent is to improve transport safety for the benefit of our regional neighbours and the Australian travelling public.

The ATSB is actively involved in the work of the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO).

Executive management

Our organisational structure as of 30 June 2015



Martin Dolan

CHIEF COMMISSIONER

Martin Dolan was appointed as the first Chief Commissioner of the ATSB on 1 July 2009 for a term of five years. The term of the appointment was subsequently extended by two years.

Mr Dolan has worked as a Commonwealth public servant for 35 years. Prior to the ATSB, he was Chief Executive Officer of Comcare, with responsibility for occupational health and safety and workers' compensation of Commonwealth employees.

From 2001–2005 he was Executive Director, Aviation and Airports at the Department of Transport and Regional Services, with responsibility for airport sales and regulation, aviation security, aviation safety policy and international aviation negotiations.

Previously, Mr Dolan had undertaken various corporate management roles in the Department of Agriculture, Fisheries and Forestry, including Chief Finance Officer and Head of Corporate Management. He started his public service career in 1980 with AusAid, managing aid projects in developing countries.

Noel Hart

COMMISSIONER

Noel Hart has over 40 years' experience in the shipping, oil and gas industries. His qualifications include a Master Mariner Class One qualification, and business administration and MBA certificates.

Mr Hart left his seagoing career to join BP Australia in 1985 and held management positions with BP Shipping in Melbourne, London and Chicago. From 2006 to 2009 he held the position of General Manager of the North West Shelf Shipping Service Company, based in Perth. In his position he was responsible for the safe shipping of natural gas from north-western Australia to Asian and other global customers.

While based in London, Mr Hart was Chairman of the General Purposes Committee of both the Oil Companies International Marine Forum and the Society of International Gas Tanker and Terminal Operators. He also served as a director of the Middle East Navigational Aids Service, and was an alternate director of the Alaskan Tanker Company and the Marine Preservation Society in the USA, and the Marine Oil Spill Response Centre in Australia.

On 23 June 2015, the Deputy Prime Minister and Minister for Infrastructure and Regional Development, the Hon Warren Truss MP, announced the extension of Mr Hart's appointment from 1 July 2015 for a further two years.

Chris Manning

COMMISSIONER

Chris Manning was appointed a Commissioner of the ATSB in March 2015. He has over 40 years' experience in the aviation industry. In the early 1970s he was an air traffic controller. From 1975 until 2008 he was a pilot for Qantas.

He flew several Boeing types gaining a B767 command in 1989. He was a check and training captain throughout the 1990s, and was president of the Australian and International Pilots' Association from 1999 until 2002.

From 2003 until his retirement from Qantas in 2008 he was Chief Pilot and Group General Manager Flight Operations. He chaired The Australian Aviation Associations' Forum from 2008 until 2015. He is a director of Aviation Development Australia Limited (Avalon Airshow), is chairman of Airport Coordination Australia and is a founding director of the Australian Aviation Hall of Fame.

Carolyn Walsh

COMMISSIONER

Carolyn Walsh has over 30 years' experience in policy development, regulation and safety management at both the Commonwealth and state levels. She has 15 years' experience in the transport sector, initially as Executive Director of Strategy in the NSW Office of the Coordinator-General of Rail, and then as Chief Executive of the NSW Independent Transport Safety and Reliability Regulator.

In addition to her role as a Commissioner of the ATSB, Ms Walsh is currently Deputy Chair of the National Transport Commission and Vice President of Palliative Care NSW. She is also a member of the Audit and Risk Committees for the City of Sydney, NSW Police Integrity Commission, the Aboriginal Lands Council, Western Sydney Local Health District, Office of the Director of Public Prosecutions and NSW Mental Health Commission.

Ms Walsh has specialist expertise in safety (both transport and occupational health and safety), risk management and the regulatory framework governing transport operations in Australia.

Ms Walsh has a Bachelor of Economics degree and is a graduate of the Australian Institute of Company Directors (Company Directors Course).

Neville Blyth

ACTING GENERAL MANAGER, SURFACE SAFETY INVESTIGATIONS

Neville Blyth has held the position of Acting General Manager, Surface Safety Investigations since August 2014. He is responsible for the ATSB's marine and rail safety investigations, reforms to the National Transport Regulatory Framework and the ATSB's international programs.

Mr Blyth joined the ATSB's Technical Analysis team in 2000, stepping up from a career within the engineering, testing and consulting metallurgical industry. Since joining the ATSB he has been responsible for key technical support of a large number of high-profile aviation, rail and marine investigations. He has also been an active contributor to the ATSB's training, development and international support programs. In 2009, Mr Blyth was appointed as Manager of the Technical Analysis team. His skills and experience have expanded, and strengthened, the ATSB's capability in the forensic analysis of physical and recorded evidence.

Mr Blyth holds professional qualifications in metallurgy and transport safety investigation.

Peter Foley

PROGRAM DIRECTOR, OPERATIONAL SEARCH FOR MALAYSIA AIRLINES FLIGHT MH370

Peter Foley has held the position of Program Director Operational Search for MH370 since May 2014. He is responsible for the ATSB's operational search activities for missing Malaysia Airlines Flight MH370.

Mr Foley joined the ATSB in 1999 after a career at sea as a marine engineer with Australian shipping companies—including ANL Ltd, the Commonwealth shipping line. Since joining the ATSB he has held a number of roles, most recently as General Manager Surface Safety Investigations. This role included responsibility for marine and rail safety investigations, the ATSB's work on reforms to the National Transport Regulatory framework, and the ATSB's international programs. He has been responsible for performing and managing a large number of marine and rail investigations, many of them significant. He has represented the ATSB, and Australia, at many international marine and rail industry meetings and conferences.

Mr Foley holds professional qualifications in marine engineering and transport safety investigation, degrees in marine and mechanical engineering and a Graduate Diploma in Business Management.

Ian Sangston

GENERAL MANAGER, AVIATION SAFETY INVESTIGATIONS

Ian Sangston, General Manager, Aviation Safety Investigations joined ATSB as a Senior Transport Safety Investigator (STSI) in April 2002 after 23 years' service in the Australian Defence Force. In addition to a number of pilot qualifications, he has an undergraduate degree and two master's degrees in Management Studies and Employment Relations.

Mr Sangston managed a number of high profile investigations as an STSI, and completed a Diploma of Transport Safety Investigation in June 2005. He was promoted to Team Leader, Transport Safety Investigation in mid-2006 and assumed responsibility for the Perth Regional Office. As team leader he oversaw more than 80 aviation safety investigations. Mr Sangston was promoted to his present position in August 2009 and has been instrumental in the ATSB's development of a project management approach to investigation management.

Julian Walsh

GENERAL MANAGER, STRATEGIC CAPABILITY

Julian Walsh, General Manager, Strategic Capability joined the ATSB as a Senior Transport Safety Investigator (STSI) in September 1998 after nearly 21 years' service as an officer in the Royal Australian Air Force.

In the Air Force, Mr Walsh gained extensive experience as an Air Traffic Controller and an Air Traffic Services Manager. He is a graduate of the Royal Australian Navy Staff College and held a range of command, personnel, project management, training and aviation safety-related positions within the Department of Defence.

Since joining the ATSB, Mr Walsh has been responsible for a number of significant aviation investigations and has overseen a range of functions within the ATSB. He has served as a Team Leader of the Notifications and Technical Analysis Team and as an Aviation Investigation Team Leader. He was Director, Aviation Safety Investigation from March 2006 to June 2009.

Outcome and program structure

PROGRAMME 1.1 OBJECTIVE

The ATSB will work actively with the aviation, marine and rail industries, transport regulators and governments at a state, national and international level to improve transport safety standards for all Australians, particularly those travelling within Australia and overseas. Investigations and related activities seek to raise awareness of identified safety issues and to encourage stakeholders to implement actions to improve future safety. There are three core functions which arise from the ATSB's functions under the *Transport Safety Investigation Act 2003*:

1. **Independent 'no blame' investigation of transport accidents and other safety occurrences**
   Independent investigations that are selective and systemic, and which focus on future safety rather than on blame, increase stakeholder awareness and action on safety issues and foster industry and public confidence in the transport system.
2. **Safety data recording, analysis and research**
   Timely receipt and assessment of transport accident and other safety occurrence notifications allows the ATSB to identify and refer safety issues at the earliest opportunity. The maintenance and analysis of a body of safety information (including transport safety data and research and investigation reports) enables stakeholders and researchers to gain a better understanding of safety trends and safety issues.
3. **Fostering safety awareness, knowledge and action**
   Awareness and understanding of transport safety issues is increased through a range of activities including consultation, education, and the promulgation of research and investigation findings and recommendations. These contribute to the national and international body of safety knowledge and foster action for the improvement of safety systems and operations.

How the ATSB reports

Section 63A of the *Transport Safety Investigation Act 2003* (TSI Act) requires that:

The annual report prepared by the Chief Executive Officer and given to the Minister under section 46 of the *Public Governance, Performance and Accountability Act 2013* for a period must include the following:

a) prescribed particulars of transport safety matters investigated by the ATSB during the period (no particulars are currently prescribed)

b) a description of investigations conducted by the ATSB during the period that the Chief Commissioner considers raise significant issues in transport safety.

The ATSB observes and complies with the *Requirements of Annual Reports for Departments, Executive Agencies and Other Non-corporate Commonwealth Entities,* published by the Department of the Prime Minister and Cabinet. This report is based on the guidelines for 2014–15 published on 25 June 2015.

The ATSB will report performance against the program objectives, deliverables and key performance indicators published in the Infrastructure and Regional Development 2014–15 Portfolio Budget Statements. The ATSB annual report also includes audited financial statements in accordance with the PGPA Act.

PRIORITIES FOR INVESTIGATION

The ATSB's highest priority is to investigate accidents and safety occurrences that have the greatest potential to deliver improved transport safety for the travelling public.

The ATSB is not resourced to investigate every single accident or incident that is reported, but allocates priorities within the transport modes to ensure that investigation effort achieves the best outcomes for safety improvement. The ATSB recognises that there is often more to be learned from serious incidents and patterns of incidents and places some focus on these investigations as well as on specific accident investigations.

THREE WAYS TO ACTION

The TSI Act requires specified people and organisations to report to the ATSB on a range of safety occurrences (called 'reportable matters'). Reportable matters are defined in the Transport Safety Investigation Regulations 2003. In principle, the ATSB can investigate any of these reportable matters. In practice, they are actioned in one of three ways to contribute to the ATSB's functions:

1. A report of an occurrence that suggests a safety issue may exist will be investigated immediately. Investigations may lead to the identification/confirmation of the safety issue and evaluation of its significance. It will then set out the case for safety action to be taken in response.
2. A report of an occurrence that does not warrant full investigation may warrant additional fact gathering for future safety analysis, to identify safety issues or trends.
3. Basic details of an occurrence, based primarily on the details provided in the initial occurrence notification, can be recorded in the ATSB's occurrence database to be used in future safety analysis —to identify safety issues and trends.

Note: In the third approach, the occurrence is not investigated immediately, but may be the subject of a future safety issue or research investigation.

AVIATION BROAD HIERARCHY

The ATSB allocates its investigation resources in line with the following broad hierarchy of operation types:

1. passenger transport—large aircraft
2. passenger transport—small aircraft:
   - regular public transport and charter on small aircraft
   - humanitarian aerial work (for example, Royal Flying Doctor Service, search and rescue flights)
3. commercial (fare-paying and recreation—for example, joy flights)
4. aerial work with participating passengers (for example, news reporters, geological surveys)
5. flying training
6. other aerial work:
   - non-passenger carrying work (for example, agriculture, cargo)
   - private transport or personal business
7. high risk personal recreation/sports aviation/experimental aircraft operations.

On 20 March 2013 the Commissioners decided, that in future, the ATSB will investigate all fatal accidents involving VH-registered powered aircraft.

MARINE BROAD HIERARCHY

The ATSB allocated its investigative resources in line with the following broad hierarchy of marine operation types:

1. passenger operations
2. freight and other commercial operations
3. non–commercial operations.

RAIL BROAD HIERARCHY

The ATSB allocated its investigative resources in line with the following hierarchy of rail operation types:

1. marine operations that impact on passenger service
2. freight and other commercial operations
3. non-commercial operations.

LEVEL OF RESPONSE

The level of investigative response is determined by resource availability and factors such as those detailed below. These factors (expressed in no particular order) may vary in the degree to which they influence the ATSB's decisions to investigate and respond. Factors include:

- the anticipated safety value of an investigation, including the likelihood of furthering the understanding of the scope and impact of any safety system failures
- the likelihood of safety action arising from the investigation, particularly of national or global significance
- the existence and extent of fatalities/serious injuries and/or structural damage to transport vehicles or other infrastructure
- the obligations or recommendations under international conventions and codes
- the nature and extent of public interest—in particular the potential impact on public confidence in the safety of the transport system
- the existence of supporting evidence, or requirements, to conduct a special investigation based on trends
- the relevance to identified and target safety programs
- the extent of resources available, and projected to be available, in the event of conflicting priorities
- the risks associated with not investigating—including consideration of whether, in the absence of an ATSB investigation, a credible safety investigation by another party is likely
- the timeliness of notification
- the training benefit for ATSB investigators.

The objective of the classification process is to identify quickly, allocate resources for, and manage appropriately those occurrences that:

- require detailed investigation
- need to be recorded by the ATSB for future research and statistical analysis
- need to be passed to other agencies for further action
- do not contribute to transport safety.

INVESTIGATION LEVELS

The ATSB's response to reported safety matters is classified by the level of resources and/or complexity and time they require.

The following safety investigation levels are used by the ATSB:

Major investigations

Investigations that are likely to involve, at times, significant ATSB and external resources for up to 24 months, and are likely to require additional one-off government funding.

Level 1

Investigations that are likely to involve a large number of ATSB resources, and possibly external resources, and are of a scale and complexity that usually require up to 18 months to complete.

Level 2

Investigations involving in-the-field activity, several ATSB and possibly external resources, and are of a scale and complexity that usually require up to 12 months to complete.

Level 3

Less complex investigations that require no more than nine months to complete (some of which are 'desktop' exercises requiring no in-field activity) and involve only one or two ATSB staff.

Level 4

Investigations that are less complex and require no more than five months to complete (in some cases, after initial in-the-field or other investigation activity, the investigation level may be changed or the investigation discontinued if it is determined that there is no safety value to be gained from continuing the investigation). These investigations generally involve only one or two ATSB staff.

Level 5

Short investigations are limited-scope factual information only investigations that result in a short summary report of one to two pages. Short investigations are generally completed within two months and are usually published in a monthly bulletin. They require only one ATSB staff member.

Note: For the purpose of reporting against the 2014–15 Portfolio Budget Statements performance measures, the ATSB defines its Level 5 investigations as 'less complex'.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SECTION 3

Report on performance

This section reviews the ATSB's performance in relation to the deliverables and key performance indicators set out in the 2014–15 Portfolio Budget Statements. The agency's effectiveness in achieving planned outcomes is also reviewed here.

Performance at a glance

Table 1: Performance at a glance

DELIVERABLE	YEAR	NUMBER COMPLETED[1]	PER CENT COMPLETED WITHIN 12 MONTHS
Complex investigations			
Aviation	2014-15	39	41%
	2013–14	44	45%
	2012–13	43	35%
Marine	2014-15	5	51%
	2013–14	7	58%
	2012–13	12	27%
Rail	2014-15	20	60%
	2013–14	16	57%
	2012–13	6	33%
Short investigations		**Number completed**	**Per cent completed within 2 months**
All modes	2014-15	110	36%
	2013–14	124	40%
	2012–13	102	N/A

1 Includes occurrence, safety issue, and external investigations. Excludes research investigations.

Key results

Table 2 summarises the ATSB's performance against key indicators as set out in Program 1.1 for 2014–15.

Table 2: ATSB performance against key indicators

	TARGET	PERFORMANCE	PAGE
Key Performance Indicators			
Safety actions completed that address safety issues identified by ATSB investigation reports: • critical safety issues • all other safety issues	 100% addressed 70% addressed	 N/A[2] 64% (25 of 39)[3]	 65
Complex investigation reports are published within 12 months.	90% investigation completed within 12 months.	27 of 64 (42%)	27
Short investigation reports are completed within two months.	90% investigation completed within 12 months.	40 of 110 (36%)	28
Stakeholder awareness is raised as a result of investigation, research and analysis of findings; and through safety education activities as measured through a biennial survey, scored on a seven point rating scale.	Five or higher.	Next survey due 2015–16	N/A
Deliverables			
Assess, classify and publish summaries of accident and incident occurrences received.	Details of occurrences being investigated are published within one working day. Summaries of aviation occurrences are published within ten working days of receipt.	73% within one working day 9% within ten days (average 81 days)	28
Assess confidential reports for clarity, completeness and significance for transport safety and, where appropriate, advise any responsible party in a position to take action in response to the safety concerns.	A de-identified summary of the confidential report will be provided to any relevant third party within ten working days. Within two months, advise a responsible party in a position to take safety action in response to the safety concern.	67% provided within ten days (average eight days) Third party advised within two months 100% (43 REPCONs)	28

2 There were no critical safety issues identified in 2014–15.

3 A further 36% of significant safety issues were still pending safety action at the time of publication.

Table 2: ATSB performance against key indicators (continued)

	TARGET	PERFORMANCE	PAGE
Deliverables			
Complete and publish investigations.	Up to 60 complex investigations. Up to 120 short investigations.	64 complex investigations completed. 110 Short investigations completed.	27
Complete and publish research and analysis reports, based on safety priorities and trends.	Up to eight reports as part of an annual research programme. Reports on aviation safety trends provided to the Minister and safety agencies biannually.	Two research investigations published. Two aviation trend monitoring reports produced.	38
Ensure preparedness for a major accident by reviewing and testing major accident response, and management capabilities, through participation in exercises.	One major exercise per annum.	Nil. Focus on development of new policy, procedures and guidance material.	31
Assist regional transport safety in the Asia Pacific region through direct cooperation with counterpart agencies and the delivery of approved support activities, provided for by programme funding agreements.	Delivery of approved projects within programme funding allocation.	See detailed report.	44
Publish and deliver an annual programme of safety communication and awareness.	Implementation of published programme.	See detailed report.	41
Conduct the sub-surface search for Malaysian Airlines Flight MH370 over an area of up to 60,000 square kilometres.	Successful completion of the search of the 60,000 square kilometre area, confirming either the location of black boxes and wreckage, or that they are not in the search area.	See detailed report.	32

Objective—Independent 'no-blame' investigations of transport accidents and other safety occurrences

This section describes the ATSB's performance against the deliverables set out in Program 1.1 for 2014–15, as published on page 166 of the Portfolio Budget Statements, which relate to the ATSB's role as the independent 'no blame' transport safety investigator.

Deliverables

We will:

- assess, classify and publish summaries of accidents and incident occurrences received
- assess confidential reports for clarity, completeness and significance for transport safety and, where appropriate, advise any responsible party in a position to take safety action in response to the safety concern
- complete and publish safety investigations
- ensure we are prepared for a major accident by reviewing, and testing, our major accident response and management capabilities
- lead the sub-surface search for Malaysia Airlines Flight 370 over an area of up to 60,000 square kilometres.

Aviation investigations

In 2014–15, the ATSB initiated 43 complex safety investigations received from 15,520 accident and incident notifications (of these notifications, 5,176 were classified as aviation occurrences). In addition, two other investigations started as complex, but were downgraded and continued as short Investigations.

During this reporting period, 39 complex investigations were completed (comprising 27 occurrence investigations, 12 external investigations and one safety issue investigation). Of the 39 complex investigations 16 were completed within 12 months.

As of 30 June 2015 there were 74 ongoing complex aviation investigations.

Marine investigations

In 2014–15, the ATSB initiated eight complex marine transport safety investigations from a total of 160 accident and incident occurrences. Five complex investigations were completed in this time period (four were occurrence investigations, one was an external investigation), three of which were completed within 12 months.

As of 30 June 2015, the marine investigation team continues to investigate eight marine occurrences.

Rail investigations

In 2014–15, the ATSB initiated 20 complex rail safety investigations (19 occurrence investigations and one safety issue investigation) from 323 notifications of immediately reportable matters.

The ATSB completed 20 complex rail investigations in 2014–15. Eight of the 20 investigations were completed within 12 months.

As of 30 June 2015, the ATSB continues to investigate 24 complex rail safety occurrences.

Short investigations

In 2014–15, the ATSB initiated 93 short investigations—85 in aviation, four in marine and four in rail.

During this past financial year, 102 aviation short occurrence investigations were completed (39 within two months). Five marine and three rail short occurrence investigations were also completed.

Reporting

The ATSB's target for assessing, classifying and publishing summaries of accident and incident occurrences is one day for occurrences being investigated and 10 days for summaries of other incidents to be published.

Of 143 occurrences investigated, 105 (73 per cent) were processed with summaries placed on the ATSB website within one working day of the start of the investigation.

In the 2014–15 year, only nine per cent of aviation occurrence notifications were processed and ready for publication within ten working days. The average time for processing was 81 working days.

Confidential reporting

In 2014–15, the ATSB's Confidential Reporting Scheme (REPCON) received 138 notifications (of which, 64 were classified as REPCONs). Of these 138 notification, 114 concerned aviation (44 REPCONs), 22 concerned rail (18 REPCONs) and two concerned marine (all of which were REPCONs).

The following shows some examples of safety concerns that were raised, along with the safety action taken after reporting safety concerns through REPCON.

Aviation

- The reporter expressed a safety concern relating to the crew rest facilities, which were available at Adelaide Airport for use by the operator's airline crews during a split duty. It was reported that the crew were provided with a three-seat couch, situated in a busy thoroughfare, as an area to rest between flights. As a result of this report, the Civil Aviation Safety Authority (CASA) is examining the matter in light of Civil Aviation Order 48 exemptions and will take appropriate action should any issues be identified.
- The reporter expressed a safety concern regarding the repair of an aircraft's wing. The wing had been damaged when the aircraft was not tied down during strong winds and the wingtip had struck the ground, resulting in substantial structural damage. As a result of the report, CASA conducted an inspection of the aircraft, identified a deficiency in airworthiness standards and took appropriate action with the owner.
- The reporter expressed a safety concern regarding a model aircraft club, which operates from an authorised landing area not marked on an aeronautical chart. The club had been instructed by CASA to monitor the radio frequency 126.7, despite changes to Civil Aviation Regulations 166-1(3) which requires operators at aerodromes not marked on an aeronautical chart to monitor the Area Frequency. As a result of this report, CASA liaised with the club to ensure they were operating on the correct frequency. The ATSB informed the Model Aeronautical Association of Australia of this report and they have ensured that clubs around Australia have been informed of changes to regulations.

Marine

- The reporter expressed a safety concern in relation to an operator's management of coastal pilots' fatigue during operations on the Inner Route along the Great Barrier Reef. The reporter provided examples of specific instances where pilots were not provided with sufficient rest periods to comply with Marine Orders Part 54, Issue 5 Provision 58, Fatigue Risk Management Plan. As a result of this report, the Australian Maritime Safety Authority (AMSA) undertook a spot audit of all providers to ensure compliance with the Fatigue Risk Management Plan (FRMP). The audit noted that each pilotage provider had a system in place for fatigue management, as part of their safety management system. A spot check of pilot voyages did, however, note some inconsistency in application of the systems which resulted in some non-compliance with the Fatigue Risk Management Plan. This has resulted in a request for pilotage providers to review their safety management systems. The ATSB also reassessed Safety Recommendations MI-2010-011-SR-050 and MI-2010-011-SR-051, which were released in response to the actions taken in relation to Safety Issue MI-2010-011-SI-03. The result of this assessment was that Recommendation MI-2010-011-SR-051 was closed, as all three operators working in this area have taken sufficient action to address the issues in the current regulatory environment. Safety Recommendation MI-2010-011-SR-050 is still being monitored, as the issue is still being addressed by AMSA.

Rail

- The reporter expressed a safety concern regarding track maintenance conducted by an operator. Mudding of the ballast had been observed along a particular track and the operator had imposed temporary speed restrictions. As a result of this report, the Office of the National Rail Safety Regulator (ONRSR) imposed a current condition on the operator's accreditation to ensure that the track was inspected more frequently. The track defect was subsequently rectified.
- The reporter expressed a safety concern regarding a driver not being removed from services as soon as a suspicious substance was found in the driver's compartment. As a result of this report, the operator advised that the owner of the substance could not be verified. The driver had been checked at the first available opportunity, and as there were no obvious signs they were under the influence of drugs, they were allowed to continue until they could be drug tested properly—with the results being negative. The ONRSR investigated this occurrence and was satisfied with the response from the operator.

Technical analysis

The Technical Analysis team completed or made significant contribution to 42 transport safety investigations published in 2014–15. The contribution made was primarily in the specialist areas of materials failure and recorded data analysis. However, the team also provided specialist input into tasks undertaken in support of ongoing ATSB's priorities, including in the search for MH370. Technical Analysis continues to provide a significant amount of external support and assistance with transport safety-related matters and capability development. The external agencies supported in 2014–15 included:

- domestic,
  - Civil Aviation Safety Authority
  - Recreational Aviation Australia
  - Gliding Federation of Australia
  - NSW Office of Transport Safety Investigation
- international,
  - Ministry of Transport Malaysia
  - National Transportation Safety Committee of Indonesia
  - Transport Accident Investigation Committee of New Zealand
  - Accident Investigation Commission of Papua New Guinea
  - Civil Aviation Authority of the Solomon Islands.

The ATSB continues to maintain support and readiness for the download of vehicle data from the range of recorders fitted to Australian aircraft and rail vehicles, and internationally-operating ships. The Technical Analysis team significantly enhanced its capability in the area of solid state memory data recovery through the purchase of state-of-the-art memory chip, rework and download equipment. This will enable the team to more successfully, and reliably, recover occurrence-related data from a range of accident-damaged recording devices—such as flight recorders, GPS units, avionics, tablets and smartphones. Another key purchase was an Energy

Dispersive Spectroscopy system upgrade, to replace the ageing unit attached to the ATSB's Scanning Electron Microscope. This equipment continues to be a valuable tool for the materials failure analysis tasks carried out by the team.

Preparedness for a major accident

During 2014–15, the focus on major investigation preparedness involved the completion of revised policy and procedures and guidance material. This was to satisfy the KPMG audit recommendation in developing 'a set of guidelines to reflect the specific requirements involved in aviation, rail and marine accidents'.

As a result of this work, a newly developed *Major Investigation Policy and Procedures Manual,* and a *Major Investigation Response Handbook,* were approved by the ATSB Executive. They were published in the ATSB Safety Investigation and Quality System in May 2015.

Implementing the ATSB's expanded role in rail

In August 2011, the Council of Australian Governments (COAG) agreed on reforms to rail safety regulation and investigation, with a view to the introduction of a consistent national agenda. Those agreements were subsequently adopted across New South Wales, Tasmania, South Australia and the Northern Territory in 2013, and Victoria in 2014. Since that time, the ATSB has worked closely with its collaborative and state government partners. This has resulted in significant progress in developing and consolidating arrangements for effective independent rail safety investigation, under the *Transport Safety Investigation Act 2003*. In particular, cooperation with the NSW Office of Transport Safety Investigation and Victoria's Chief Investigator of Transport Safety has been strong and productive. Through an ongoing program of ATSB-provided training and refresher programs, staff from both agencies have developed a strong working relationship with the bureau's policies, procedures and legislation.

Figure 1: Peter Newman, Senior Transport Safety Investigator from the NSW Office of Transport Safety Investigation, being presented with his Diploma of Transport Safety Investigation by ATSB Manager of Organisational Development, Colin McNamara.

In August 2014, the Queensland state government advised its decision *not* to participate in the national regulatory and safety investigation reforms. It indicated that these functions would continue to be administered by the state government department of Transport and Main Roads.

As such, and mindful of the pressing need to manage funding shortfalls, the difficult decision was taken to remove the rail safety investigation capability from the ATSB's Brisbane regional office—a reduction of two full-time equivalent positions.

While not stepping away from the transport reform agenda, the Western Australia state government also continues to experience delays in the implementation of legislation to embody national arrangements. These delays, like those experienced in Queensland prior to the withdrawal decision, have meant that the ATSB's operational funding shortfalls for rail safety investigation will continue into the 2015–16 financial year.

Despite these setbacks, the ATSB remains solidly committed to national transport reforms and will continue working with all states and territories to further strengthen and refine arrangements. The ATSB will also continue to advocate for the strong benefits that will flow from a fully integrated national system.

The search for Malaysia Airlines Flight MH370

On 8 March 2014, Malaysia Airlines Flight MH370, a Boeing 777-200ER was travelling on a scheduled international passenger flight from Kuala Lumpur to Beijing. There were 239 people on board—comprising 12 Malaysian crew members and 227 passengers. Six of the passengers were Australian citizens.

During the transition from Malaysian airspace to Vietnamese airspace, the aircraft, for unknown reasons, lost contact with air traffic control. It also disappeared from air traffic control secondary surveillance radar.

It was later determined (through review of primary radar data) that, after disappearing from secondary radar, the aircraft had turned and flown back over the Malaysian peninsular prior to a further turn in a north westerly direction to fly through the Malacca Strait. The aircraft was last detected on primary radar above the northern tip of Sumatra.

After the final detection of the aircraft on primary radar, the only available information relating to the aircraft's fight path was derived from information recorded during a series of satellite communications between the ground station and the aircraft's satellite communication system, via Inmarsat's Indian Ocean Region satellite. Analysis of this satellite data indicated that MH370 continued to fly for around six hours after radar contact was lost.

The data associated with the periodic satellite transmissions during the flight and the aircraft's performance have been extensively analysed. This analysis indicates that the aircraft entered the sea close to a long, but narrow, arc in the southern Indian Ocean.

Early searches

Under agreement between Australia and Malaysia, a surface search of probable impact areas along the arc was carried out from 18 March to 28 April 2014, coordinated by the Australian Maritime Safety Authority. This was followed by a search of the ocean floor, in the northern

section of the search area, for the flight recorders using towed pinger locators, sonar buoys and an autonomous underwater vehicle. This search was coordinated by the Joint Agency Coordination Centre (JACC) and was completed on 28 May 2014.

From then on, the ATSB became responsible for refining the search area and leading an expanded underwater search.

Identifying the search area

Since May 2014, the Search Strategy Working Group (SSWG), coordinated by the ATSB, has been working towards defining the most probable position of the aircraft at the time of the last satellite communication. The SSWG brought together satellite and aircraft specialists from the following organisations:

- Air Accidents Investigation Branch (UK)
- Boeing (USA)
- Defence Science and Technology Organisation (Australia)
- Department of Civil Aviation (Malaysia)
- Inmarsat (UK)
- National Transportation Safety Board (USA)
- Thales (UK).

These agencies worked, both independently and collaboratively, as the Flight Path Reconstruction Group. Using various techniques, the group undertook analysis of the satellite communication information to produce probable flight paths. The SSWG also continued to consult with the SATCOM sub-group, which is part of the wider Malaysian investigation group.

Following the surface search, the Flight Path Reconstruction Group continued to analyse both the flight and satellite data, and reached a consensus on the initial priority underwater search area. In June 2014, the ATSB published a report, *MH370—Definition of Underwater Search Areas*, describing the methods and means used to identify a priority search area of 60,000 square kilometres. Work continued on refinements to the analysis of the satellite communications data, with the understanding that the ongoing work could result in changes to the prioritisation and locale of search activity. In August 2014, the ATSB published an updated version of the report, which included additional explanatory material relating to the Perth ground station.

In October 2014, the ATSB published *MH370—Flight Path Analysis Update* to supplement the previously released report, *MH370—Definition of Underwater Search Areas*, which describes the continuing work to define the underwater search area. Among other insights, further analysis gave greater certainty about when the aircraft turned south into the Indian Ocean and produced a better understanding of the parameters within which the satellite ground station was operating during the last flight of MH370. The latest analysis indicated that the underwater search should be prioritised further south within the wide search area.

Work continues with refinements to the analysis of the satellite communications. This ongoing effort may result in changes to the prioritisation and location of search activity within the current search area along the seventh arc.

Funding

As announced in the Federal Budget on 13 May 2014, the Australian Government has committed up to $89.9 million over two years from 2013–14, as part of Australia's contribution to the search for MH370. This Australian Government funding included up to $60 million for the ATSB to undertake the deep water search.

On 28 August 2014, Australia and Malaysia signed a Memorandum of Understanding on areas of cooperation in search activities, including financial arrangements. At the same time, Malaysia committed up to $60 million to match Australia's financial commitment to the underwater search activities. In addition, Malaysia provided a number of vessels and equipment that have been utilised in the search.

Bathymetry

Prior to the search for MH370, the seafloor in the search area had never been mapped in detail. Before the deep water search for MH370 could begin, it was necessary to conduct a bathymetric survey to ensure that the sonar-equipped vehicles could be operated close to the sea floor.

The Chinese PLA-Navy survey vessel *Zhu Khezhen* was already in the area, having provided support to the earlier search activities. It was tasked to commence bathymetric survey operations in an area provided by the ATSB.

A second survey vessel, *Fugro Equator*, was contracted by the ATSB and arrived in the priority search area on 15 June 2014. The two vessels collaborated on survey operations, supported by the Chinese Maritime Safety Administration ship *Haixun* 01 and the Malaysian vessel *Bunga Mas 6.*

The survey vessels used multibeam sonar to gather data relating to the seafloor. That data was analysed and used to map the sea floor by experts at Geoscience Australia, revealing many seabed features for the first time. Newly discovered sea floor features included:

- seamounts (remnant submarine volcanoes)
- ridges (semi–parallel) up to 300 metres high
- depressions of up to 1,400 metres deep (compared to the surrounding seafloor depths).

It also revealed finer-scale seabed features that were not visible in the previous low-resolution, satellite-derived bathymetry data.

On 20 September 2014, *Zhu Khezhen* completed her survey work and returned to China. Similarly, on 30 September 2014, *Haixun 01* also completed her MH370 mission and commenced return passage to China.

By 26 October 2014, sufficient area had been surveyed for the underwater search to commence (over 150,000 square kilometres). *Fugro Equator* then commenced passage to Fremantle for mobilisation as an underwater search vessel.

Fugro Equator's mobilisation as an underwater vessel was delayed, however, due to issues associated with the installation of the deep tow winch and cable. While replacement equipment was freighted to Australia, the ATSB took the opportunity to conduct further bathymetric survey

work. *Fugro Equator* departed Fremantle on 16 November 2014 to survey additional portions of the search area, with that task completed on 17 December 2014. By this time around 208,000 square kilometres of the search area had been surveyed.

The ATSB used the data from the bathymetric survey to prepare the initial plan for the underwater search, to be followed and referred to by all parties involved. The plan includes search timings, methods, procedures, safety precautions and the initial search areas for the various vessels.

Underwater search

In June 2014, the ATSB, through AusTender, issued a request for tender for the underwater search of the sea floor. There were a number of qualified tenders received by the closing date of 30 June 2014. The tender submissions were comprehensively evaluated for technical merit and value for money. The process resulted in a contract being awarded to Fugro Survey Pty Ltd on 7 August 2014.

During this time the Malaysian Assets Deployment Committee had also been working to secure deep water search assets. They advised ATSB that they would be providing the vessel, *GO Phoenix*, with search equipment and experts provided by Phoenix International (Phoenix) and Hydrospherics Solutions International (HSI).

In September 2014, *Fugro Discovery* sailed from the United Kingdom, pausing in Durban, South Africa to undergo a dry docking in preparation for extended underwater search activities. On 5 October 2014, the vessel arrived at the Port of Fremantle to mobilise search equipment including a 6,000 m rated Edgetech DT1 deep tow system (towfish), winch and mission crew. These towfish are towed at slow speed of up to 10 km behind the search vessel, at an altitude of between 100 m and 150 m above the sea floor. Instruments fitted to the towfish include a side-scan sonar, which surveys a wide swathe of the sea floor either side of towfish, and a multibeam echo sounder—which surveys the sea floor immediately under the towfish.

Figure 2: The Dragon Prince deep towfish is recovered onto the back deck as *Fugro Discovery* completes the first stage of the search for MH370. Source: ATSB, photo by ABIS Chris Beerens, RAN.

On 4 September 2014, *GO Phoenix* commenced mobilisation in Singapore. The vessel was fitted with a deep water search system including HSI's ProSAS-60 synthetic aperture sonar equipped towfish, winch and mission crew. The HSI towfish is operated in a manner very similar to the Edgetech DT1. Broadly, the ProSAS-60 synthetic aperture sonar system gathers and processes data, in a way that results in higher resolution imagery of the sea floor than is possible using conventional side-scan sonar of a similar frequency and coverage.

The vessel sailed from Singapore, on 11 September 2014, to proceed to the search area. A port call was made at Jakarta en route and, following the port call, the ultrashort baseline system (the equipment used to position the towfish) was tested in the Sunda Strait. *GO Phoenix* then proceeded to an area close to Christmas Island where the sonar systems on the towfish were tested and calibrated before arriving in the search area on 6 October 2014, to commence underwater search operations.

On 10 October 2014, *Fugro Discovery* departed Fremantle to conduct sea trials and equipment testing off Rottnest Island, close to the Western Australian coast, before transiting to the deep-tow calibration site, 60 nautical miles southwest of Fremantle, for further trials. The vessel then returned to Fremantle to complete minor reconfiguration work, following procedural refinements developed during the sea trials.

Fugro Discovery sailed, early on 15 October 2014, for a further 36 hours of sea trials and then proceeded to the underwater search area, arriving on 22 October 2014. On 23 October 2014, the vessel commenced search operations.

Following the completion of bathymetric survey work on 17 December 2014, *Fugro Equator* returned to Fremantle to mobilise search equipment—including an Edgetech DT1 deep tow system (similar to that of *Fugro Discovery*), winch and mission crew. The vessel arrived in port on 22 December 2014 and departed on 6 January 2015 for system testing at the deep tow calibration range southwest of Fremantle, before transiting to the search area.

On 15 January 2015, *Fugro Equator* arrived in the search area and commenced underwater search operations.

In April 2015, senior Ministers from Malaysia, Australia and the People's Republic of China met to discuss the next steps in the search for MH370. The Ministers agreed that if MH370 was not be found within the current search area, the search area would be extended by an additional 60,000 square kilometres (bringing the total search area to 120,000 square kilometres) to cover the entire highest probability area identified by expert analysis.

On 20 June 2015, the Malaysian Government's contract with *GO Phoenix* ended. The vessel ceased search operations, commencing passage to Singapore where the search system and mission personnel were demobilized.

On 29 January 2015, *Fugro Supporter* joined the search. The vessel was equipped with a Hugin 4500 autonomous underwater vehicle (AUV) fitted with instruments identical to those carried by the DT1 towfish. An AUV is free swimming (it is not connected to the vessel by a cable) with a battery-powered propulsion system, which means that it is highly maneuverable and therefore capable of surveying the difficult terrain in some parts of the search area more effectively. The AUV, using a purpose-built launch and recovery system, dives to the seafloor where it executes

a pre-programmed mission. When the mission is complete, the AUV ascends and is recovered by the vessel in order for the acquired data to be downloaded and the AUV's batteries to be changed out with a spare charged set.

In May 2015, deteriorating weather brought sea conditions which were frequently beyond the safe launch and recovery limitations of the AUV. *Fugro Supporter* returned to Fremantle, where the AUV was offloaded and stored. It remains available to the search at short notice.

Figure 3: An aft view of sea conditions from *Fugro Discovery* in the southern Indian Ocean.
Source: ATSB, photo by ABIS Chris Beerens, RAN.

In May 2015, a debris field, subsequently identified as a shipwreck, was detected and mapped.

While various objects have been, and will continue to be, detected on the sea floor, most are related to geomorphology and none have yet fit the profile of an aircraft debris field. When a possible debris field is detected using the wide area coverage lower frequency sonar, the search operation will investigate it further using higher frequency sonar and optical imaging.

Recovery

In the event that the aircraft is found and accessible, Ministers from Malaysia, Australia and the People's Republic of China have agreed to plans for recovery activities, including securing all of the evidence necessary for the investigation, in accordance with the requirements of Annex 13 to the Chicago Convention.

On 22 January 2015, the ATSB called for expressions of interest to prepare for recovery operations in the event that MH370 is located in the search area. While no wreckage from the missing aircraft has yet been found, preparations have been made so that a recovery operation could be mobilised quickly and effectively when needed.

Objective—Safety data recording, analysis and research

The ATSB is funded to record data and conduct analysis and research into aviation matters. This section describes the ATSB's performance against the deliverable set out in page 167 of the Portfolio Budget Statements.

- We will undertake research and analysis investigations based on safety priorities and trends
- Reports on aviation safety trends will be provided to the Minister and safety entities twice per year.

In 2014–15, the ATSB continued to analyse occurrence data held in its aviation safety occurrence database as part of Australia's international obligation to determine if preventative safety measures are required.

In addition to the above two deliverables, the ATSB research and analysis section increased its role in supporting active aviation occurrence investigations during 2014–15. Significant data analysis was completed for 21 aviation and one marine occurrence investigations during the financial year. This work helped to determine the investigation scope, assist in making investigation conclusions, inform safety issue risk assessments and to document past occurrences of similar incidents. Data from the aviation occurrence database was also provided for other investigations.

The ATSB completed two research investigation reports to industry during 2014–15.

Aviation Occurrence Statistics 2004 to 2013 (AR-2014-084)

Every year the ATSB publishes Australia's official aviation occurrence statistics, which document safety across the previous ten years, with a focus on the more serious incidents and accidents from the previous year.

In 2013, there were 106 accidents, 221 serious incidents, and about 5,500 incidents reported to the ATSB involving Australian VH–registered aircraft. There were also 71 accidents, 33 serious incidents and 137 incidents involving Australian recreational aircraft. A further 200 foreign-registered aircraft operating within Australia, or its airspace, were involved in reportable safety occurrences.

Over the past nine years recreational aeroplane, aerial agriculture and private/business/sport operations had the most accidents per hour flown, with more than 160 accidents per million hours flown. Gyrocopters (recreational aviation) had the highest fatal accident rate over this period, followed by recreational aeroplane and private/business operations.

Commercial air transport aircraft were involved in the majority of occurrences. In 2013 the most common reported occurrences were wildlife strikes, weather affecting aircraft, and aircraft system problems. Most accidents and serious incidents involved reduced aircraft separation, engine malfunction, or runway excursions. The number of incidents reported by commercial air transport operators has increased in each of the last ten years, reflecting more flights and greater awareness of the importance of reporting safety occurrences.

General aviation aircraft, such as aircraft conducting flying training, aerial work, or private/pleasure flying, were involved in over one-third of occurrences reported to the ATSB in 2013. Wildlife strikes, runway events and aircraft separation issues were the most common incidents reported. In comparison, most accidents and serious incidents involved terrain collisions, reduced aircraft separation, or a loss of aircraft control. There was a fall in general aviation accidents and fatalities in 2013—particularly in private, business, sport flying (which is where most accidents and fatalities in general aviation happen) and in aerial work.

Recreational aviation aircraft (non-VH registered) were also involved in fewer reported accidents in 2013, although the number of fatal accidents doubled. Most accidents, and serious incidents, involved terrain collisions and engine malfunctions.

Visit **www.atsb.gov.au** and follow the link on the Aviation tab to Aviation publications. Search series number AR-2014-084.

Australian aviation wildlife strike statistics 2004 to 2013 (AR-2014-075)

Occurrences involving aircraft striking wildlife, particularly birds, are the most common aviation occurrence reported to the ATSB. Strikes with birds continue to be a significant economic risk for aerodrome, and airline operators, and a potential safety risk for pilots. The aim of the ATSB's statistical report series is to give information to pilots, aerodrome and airline operators, regulators, and other aviation industry participants to assist them in managing the risks associated with bird and animal strikes. This report is updated every two years.

Between 2004 and 2013, there were 14,571 birdstrikes reported to the ATSB, most of which involved high capacity air transport aircraft. Although the number of birdstrikes has continued to increase for all operation types, due to increasing aircraft movements, the rate per aircraft movement has actually decreased slightly in recent years. In the two years since 2011, the rates for seven of the ten major airports have reduced. Indeed, Adelaide, Melbourne, Perth and Sydney had lower rates in 2013 than in 2004. The largest increase in birdstrike rate was observed in Darwin, where the rate has more than doubled in the two years since 2011. It maintains the highest average birdstrike rate of all the major airports. Alice Springs Airport has shown the most significant reduction in rate.

Domestic, high-capacity, aircraft were those most often involved in birdstrikes. The strike rate per aircraft movement for these aircraft was significantly higher than all other categories. The number of engine ingestions for high capacity air transport operations had been increasing until 2011, but has since decreased to the lowest level in ten years. Still, one in nine birdstrikes for turbofan aircraft involved engine ingestion.

The four most commonly struck birds have not changed in the 2012 to 2013 period. They are kites, bats/flying foxes, lapwings/plovers and galahs. Kites had the most significant increase in number of reported strikes per year (in the last two years), with this species being involved in an average of 129 strikes per year for 2012 and 2013, compared with the average of 84 per year across the entire ten year reporting period. Galahs were more commonly involved in strikes involving multiple birds, with more than 38 per cent of galah strikes involving more than one galah. However, larger birds were more likely to result in aircraft damage.

Historically, birdstrikes have not been a significant safety risk to civilian air travel in Australia. ATSB data going back to 1969 shows no civilian aviation fatalities attributed to birdstrikes. Additionally, the vast majority (98.7 per cent) of birdstrikes over the ten year study period were assessed as being low risk occurrences, using the ATSB event risk classification framework.

Compared to birdstrikes, animal strikes are relatively rare. The most common animals involved were hares/rabbits, kangaroos, dogs/foxes and wallabies. Damaging strikes mostly involved kangaroos, wallabies and livestock.

Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation publications. Search series number AR-2014-075.

Aviation safety trends

When aviation safety incidents and accidents happen, they are reported to the ATSB. The most serious of these are investigated, but most reports are used to help the ATSB build a picture of how prevalent certain types of occurrences are in different types of aviation operations.

The ATSB uses this data to proactively look for emerging safety trends. By monitoring trends, issues of concern can be communicated and action taken to prevent accidents.

ATSB trend monitoring reviews the rate of reported aviation occurrences (per 100,000 departures or hours flown) biennially and compares it to the five year average. The ATSB performs this assessment independently for every type of occurrence involving high capacity regular public transport (RPT) and charter, low capacity RPT and charter, general aviation and recreational aviation.

Further analysis can show which aircraft models, operators, or locations account for most of the difference with prevailing trends, and whether this has been a long term trend or just a spike. When a single operator accounts for most of the difference, the ATSB contacts them for information and comment. Sometimes increases in recorded occurrences are solely due to a good reporting culture, because of changes to operations, aircraft, or regulations, and sometimes there is no apparent explanation.

In 2014–15, the ATSB produced two aviation safety trend reports. These reports were considered by ATSB management and appropriate follow-up actions taken. Safety action is appropriate when a concerning trend has been identified and can include:

- contacting an operator or industry association for more information
- reporting the trend to the regulator (Civil Aviation Safety Authority) or to the air navigation services provider (Airservices Australia and/or Department of Defence) for further monitoring
- targeting occurrences for new ATSB investigations or research
- having ATSB investigators closely monitor new reports of similar occurrences to gather more information.

The resultant trend monitoring reports were also distributed to other government aviation safety agencies, and sent directly to the aviation industry—with all airlines and aviation administration bodies sent a copy. A public summary of each trend analysis was also placed on the ATSB website.

Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation publications. Search series number AR-2015-021 or AR-2015-127.

Objective—Fostering safety awareness, knowledge and action

The ATSB is funded for activities relating to its responsibilities for increasing awareness of safety issues and complying with international safety obligation. This section describes the ATSB's performance against the deliverables set out on page 168 of the Portfolio Budget Statements.

- We will publish and deliver an annual program of safety communication and awareness.
- We will assist regional transport safety in the international region through direct cooperation and the delivery of approved projects and other support activities provided for by program funding agreements.

Strategic communication

As Australia's national transport safety investigator, we are committed to communicating the safety lessons from our investigation findings, research activity and occurrence reports. This information has valuable safety messages that can help improve transport safety and ultimately save lives.

In 2014–15 we continued to highlight, for the benefit of industry and the travelling public, emerging safety issues and trends using a range of communication channels and activities.

SafetyWatch

In 2014–15, we continued to promote our SafetyWatch initiative. SafetyWatch highlights the broad safety concerns identified from our investigations and from the occurrence data reported to us by industry.

The initiative includes priority areas where more can be done to improve safety. These include:

- general aviation pilots
- safety around non-controlled aerodromes
- data input errors
- handling approach to land
- flying with reduced visual cues
- safe work on rail
- maritime pilotage
- under-reporting of occurrences
- marine work practices.

Throughout the year, the ATSB undertook a range of communication activities (direct mail, web news items, social media and general media) to raise awareness of these issues within the transport industry.

Social media

The ATSB continues to use social media to better engage the transport industry, media and the travelling public. In 2014–15, we used Twitter, YouTube and the Chief Commissioner's blog as part of an integrated communications approach.

Twitter has proven to be particularly effective for releasing reports and investigation updates. Through this social media platform, we can provide a short safety message along with a link to more information on our website.

By the end of June 2015, the ATSB's Twitter followers increased to around 4,000 people. These include journalists, members of the public and transport industry specialists.

The ATSB's YouTube channel also continues to receive positive attention. The channel now hosts more than 30 videos. In 2014–15, we uploaded several videos containing footage of the search for MH370. The videos highlight the challenges of the search due to the rough sea conditions in the southern Indian Ocean.

InFocus

The Chief Commissioner's blog, InFocus, continues to be used as an online transport safety forum. Over the year 2014–15, the Chief Commissioner posted topics on:

- avoidable accidents
- human factors
- the search for Malaysia Airlines Flight MH370.

Media

The ATSB undertakes responsive and proactive media activity to inform the transport industry, and travelling public, of our investigations and activities. During the year we worked closely with local, national, state and international media to raise community awareness of transport safety.

In 2014–15, we issued 12 media releases highlighting safety advice and updates from our investigations. The media releases covered a range of safety matters including:

- the ATSB's support for the MH17 investigation
- our on-site media briefing on a fatal Cessna 182 aircraft accident near Burrumbuttock, NSW
- a warning to pilots about the dangers of partial power loss
- our on-site media briefing on a fatal amateur-built aircraft accident at Chelsea, Victoria
- the release of our 2013–14 annual report
- our human factors course for transport safety investigators in the Asia Pacific
- the ATSB response to the Canadian investigation review
- the dangers of visually flying at night
- the ATSB's recommendation to US and European regulators to reduce helicopter fires.

The ATSB also regularly contributed articles to key industry publications throughout the year.

Website

The ATSB website (**www.atsb.gov.au**) continues to be our principal communication channel. In 2014–15, the ATSB website received 2,495,801 page views. This represents an increase of 462,974 page views from the previous financial year.

Going digital

We are continually working to improve our website to meet audience needs and to allow for new, and emerging, technologies.

In 2014–15, we began a project to make the majority of our reports available in html format (along with current pdf and rich text formats).

Having our content in html format will allow us to embed more digital content—such as video, animation and audio. It also forms part of our response to the Australian Government's digital first agenda.

Online aviation database

The ATSB National Aviation Occurrence Database contains de-identified information on aviation accidents and incidents in a searchable format. The database has been designed to fulfil searches for information involving the most common requests received by the ATSB—this includes date range, aircraft and operation type, injury level, occurrence category and type, location and airspace type and class. Users are able to search aviation occurrence statistics from the ATSB website.

In 2014–15, the National Aviation Occurrence Database had 7,224 page views. This indicates that the database is being extensively used to find aviation occurrence statistics.

Industry engagement

In 2014–15, the ATSB continued with its industry engagement program. The program comprised of industry events in which the ATSB participated, presented and/or contributed. This comprised around 30 major events with stakeholders from the aviation, maritime and rail industries.

Regional cooperation

The importance of regional cooperation in an aviation safety investigation is compellingly demonstrated in the case of missing Malaysia Airlines Flight MH370. At the request of the Malaysian Government, Australia is leading the search for MH370.

The ATSB continues an active program of regional engagement with other transport safety agencies, over and above that required by its international obligations. Australia's reputation for high quality and rigorous investigations makes it uniquely placed to assist transport safety in the Asia Pacific region. In particular, the ATSB has an ongoing involvement in the Australian Government Indonesia Transport Safety Assistance Package (ITSAP) and cooperation with Papua New Guinea (PNG), consistent with the *Memorandum of Understanding on Cooperation in the Transport Sector.*

Many countries do not have a well-developed capability to investigate accidents and serious incidents. In this situation, the ATSB believes that the establishment of a regional accident investigation organisation, or the creation of a regional pool of qualified investigators, may be the best way to establish an effective accident and incident investigation and prevention system. Australia will pursue opportunities in this regard in the Asia Pacific region, including taking a leading role in the ICAO Asia Pacific Accident Investigation Group and the Marine Accident Investigators Forum in Asia.

Indonesia

The ATSB and the Indonesian National Transportation Safety Committee (NTSC) collaborated on a range of ITSAP activities in 2014–15. The very successful cooperation between the ATSB and NTSC aviation flight recorder laboratories was extended to cover marine data recorders. Activities included a 'train-the-trainer' project to develop a *Fundamentals of Marine Electronic Data* course that was successfully delivered to NTSC staff and Indonesian marine industry participants in the Indonesian ports of Batam, Banjarmasin, and Makassar. An NTSC aviation recorder specialist visited the ATSB for on-the-job training, and practical assistance, related to recorder work for NTSC aviation investigations.

The ATSB provided specialist assistance to the NTSC investigation into the crash of AirAsia Flight QZ8501 in the Java Sea on 28 December 2014, which resulted in the loss of 162 lives. The A320 aircraft was on a flight from Surabaya, Indonesia to Singapore. ATSB specialists provided operational, engineering and flight recorder analysis support to the NTSC investigation.

Figure 4: Participants in the joint ATSB/NTSC Fundamentals of Marine Electronic Data course. Source: ATSB.

Papua New Guinea

Under the PNG *Memorandum of Understanding on Cooperation in the Transport Sector*, the ATSB has an ongoing program of cooperation and capability building with the PNG Accident Investigation Commission (AIC). An ATSB Senior Transport Safety Investigator is deployed full-time to the AIC in Port Moresby, to assist PNG in developing the capability to meet international requirements for aviation safety investigation. Ongoing guidance and mentoring of PNG AIC investigators by the ATSB STSI included support of the AIC investigation into the crash a Twin Otter aircraft near the top of Mt. Lawes 12 kilometres east-north-east of Port Moresby Jacksons Airport, on 20 September 2014. Of the nine persons on board four, including the two pilots, did not survive the impact.

Other regional engagement activities

The ATSB continues to make its expertise and resources widely available in support of regional transport safety. Representatives from New Zealand, Germany, Denmark, Malaysia, Hong Kong, Saudi Arabia, Kenya, and Pakistan visited the ATSB during 2014–15 for discussions related to transport safety. In addition, participants from New Zealand, Papua New Guinea, Norway, Malaysia, Singapore, Cambodia, Taiwan, Korea, and Hong Kong, attended ATSB investigator training courses.

Financial performance

This section should be read in conjunction with the ATSB's audited financial statements for 2014–15 that appear in section 7 of this report.

The ATSB operates as a separate non-corporate Commonwealth entity, having been established on 1 July 2009. The main assets of the ATSB were transferred from the (then) Department of Infrastructure and Regional Development and include plant and equipment, specialised laboratory assets and intangible software assets.

During 2014-15 the ATSB received additional appropriation revenue of $20.577 million to assist with the search for missing Malaysia Airlines flight MH370. This additional appropriation will be fully offset by contributions from international counterparts.

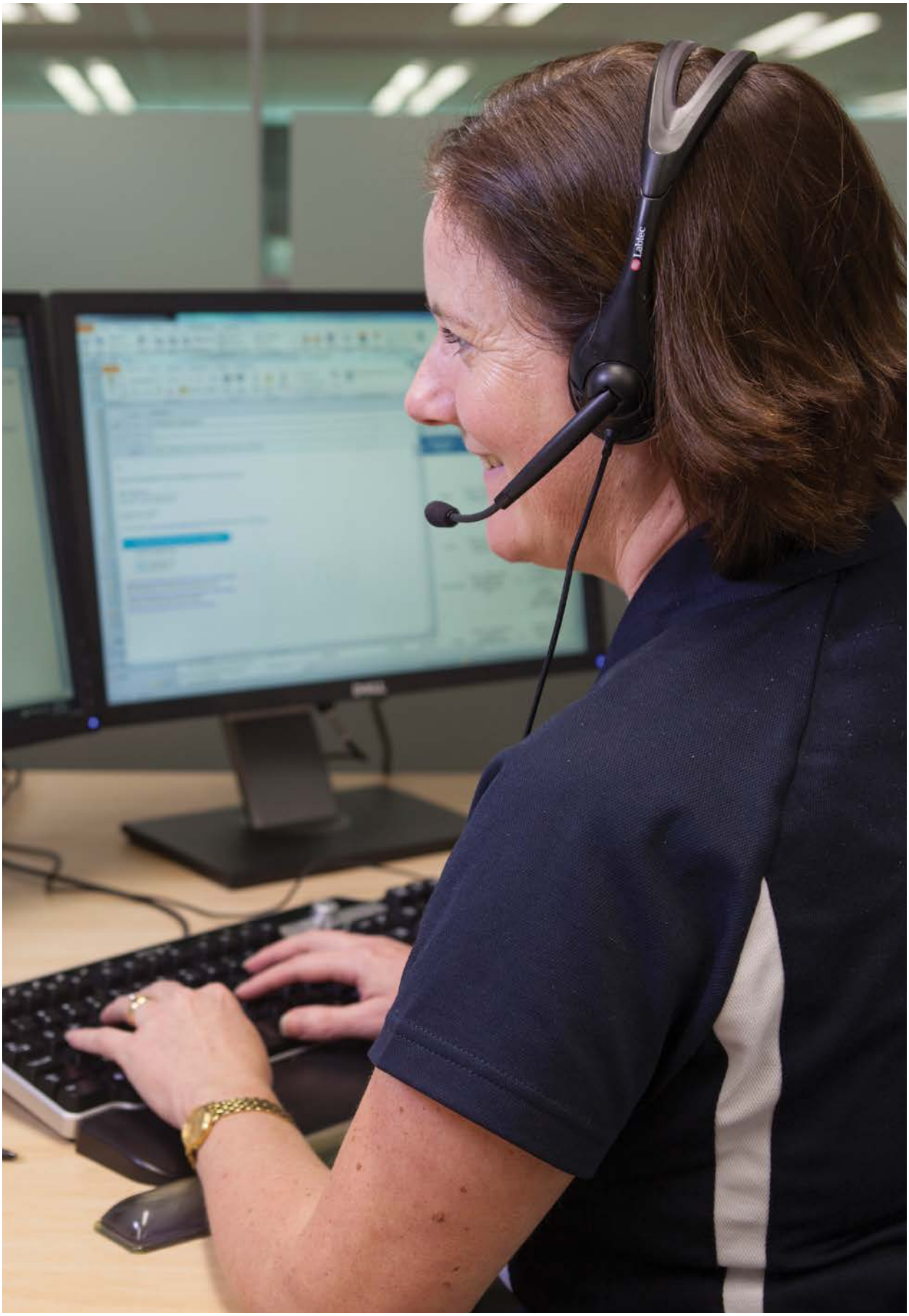
The Government no longer provides appropriation funding to cover non-cash expenses of depreciation and amortisation to non-corporate Commonwealth entities. In the absence of revenue for depreciation and amortisation, the ATSB and other non-corporate entities are more likely to deliver a negative operating result or deficit, and these will accumulate. Offsetting this build-up of retained deficits requires a commitment by the Government to provide annual capital injections to meet new capital requirements.

The ATSB's new capital requirements are detailed in its Departmental Capital Budget published in the 2014–15 Portfolio Budget Statements. Over time, the ATSB's estimated capital injections fall short of the deficits associated with the non-funding of depreciation and amortisation. Without adequate capital injections by Government, this presents a challenge to the ATSB in maintaining its underlying equity and asset capability going forward.

The ATSB recorded a surplus of $14.0 million for 2014–15, compared to a surplus of $5.6 million in 2013–14. Excluding depreciation and amortisation, the ATSB realised an underlying surplus of $14.9 million which compares to a $7.3 million surplus in 2013–14. The large operating surplus for 2014-15, is in relation to uncontrollable variables, such as weather in relation to the search for missing Malaysia Airlines Flight MH370. Other expenses in relation to the search for the missing aircraft have been slightly delayed, however the funds are expected to be fully utilised in 2015-2016.

Table 3: Summary of financial performance and position.

		2014–15 $M	2013–14 $M
Revenue from Government		98.5	31.3
Other revenue		34.6	3.3
Total income		133.1	34.6
Employee expenses		15.6	16.9
Supplier expenses		102.6	10.6
Depreciation and amortisation		0.9	1.5
Total expenses		119.1	29.0
Operating surplus/(deficit)		14.0	5.6
Financial assets	A	51.5	16.7
Non-financial assets	B	2.6	2.6
Liabilities	C	25.9	5.8
Net Assets - A + B – C		28.2	13.5


Labtec

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SECTION 4

Significant safety investigations

This section of the Annual Report fulfils the requirement, contained in section 63A of the TSI Act, that the Chief Commissioner report to the Minister describing investigations conducted during the financial year that he considers raise significant issues about safety.

Aviation investigations

A0-2013-055 Collision with terrain involving Robinson R44 helicopter, VH-HWQ at Bulli Tops, near Wollongong NSW on 21 March 2013

A low-impact crash of a helicopter that led to a post-impact fire and the loss of the pilot and three passengers has important messages on the safety of helicopter fuel tanks; messages that have been widely heeded by other safety administrations.

On 21 March 2013, a Robinson R22 helicopter landed on a grassed area adjacent to a function centre at Bulli Tops, New South Wales. Shortly after landing, the helicopter was observed to simultaneously lift off, yaw right through 180° and drift towards nearby trees. The helicopter struck branches before descending, impacting the ground nose low and rolling onto its right side. A short time after coming to rest, a fire started and engulfed the helicopter. The pilot and three passengers were fatally injured.

Figure 5: Helicopter wreckage with broken tree branches in the background. Source: ATSB.

The ATSB found that the circumstances of the accident were consistent with the helicopter lifting off following a deliberate or inadvertent collective input. The impact resulted in a substantial fuel leak that was followed by an intense fire.

This accident was similar to two other recent fatal accidents in Australia. These involved R44s fitted with all-aluminium fuel tanks in which there was a fatal post-impact fire following an otherwise survivable impact. Statistical analysis of helicopter accidents that occurred in Australia and the United States between 1993 and 2013 identified a significantly higher proportion of post-impact fires involving R44s than for other similar helicopter types. That analysis also identified that despite the introduction of requirements for newly-certified helicopters to have an improved crash-resistant fuel system (CRFS) some 20 years previously, several helicopter types were still being manufactured without a CRFS. Many of the existing civil helicopter fleet were similarly not fitted with a CRFS.

Following this accident, the Civil Aviation Safety Authority (CASA) took action to increase compliance with the helicopter manufacturer's Service Bulletin 78B (SB-78B), which requires the fitment of bladder-type fuel tanks and other fuel system improvements. While recognising the action taken by CASA, the ATSB was concerned that a significant number of Australian owners and operators had at that stage not taken steps to comply with the service bulletin and were very unlikely to be able to do so by the required date of 30 April 2013. As a result the ATSB released a safety recommendation to CASA that further action be taken. In response, CASA released an airworthiness directive requiring all owners of R22 helicopters in Australia to comply with the Service Bulletin by the required date.

Several other airworthiness authorities (the South African Civil Aviation Authority, the Civil Aviation Authority of New Zealand and the European Aviation Safety Agency) subsequently mandated compliance with SB-78B. At the time of the release of the ATSB's final investigation report, the United States had not mandated compliance. The ATSB issued a Safety Recommendation to the US Federal Aviation Administration (FAA) that they take action to ensure all R44 operators and owners comply with the manufacturers' service bulletin. In addition, the ATSB also recommended that the FAA and European Aviation Safety Agency take action to ensure an increase in the number of existing, and newly manufactured helicopters that are fitted with a crash-resistant fuel system.

AO-2013-136 Helicopter winching accident involving Bell Helicopter Co. 412EP, VH-VAS, 19km south-south-east of Mansfield, Victoria on 31 August 2013

The loss of a patient in a helicopter winching accident provided important safety messages for medical services, and other operators, who rescue patients by helicopter. On 31 August 2013, the crew of a Bell Helicopter 412EP were tasked to pick up a patient who was reported to have sustained injuries during a fall in the hills around Macs Cove, near Mansfield, Victoria. Due to the confined winch area, and possible fouling hazard associated with nearby trees, the crew elected to conduct a double-lift extraction with the patient in a rescue strop, accompanied by a paramedic.

As the paramedic and patient reached the helicopter's skid-landing gear, the patient became increasingly unresponsive and began slipping from the rescue strop. The paramedic and winch operator tried to restrain the patient. Despite these efforts, the patient slipped out of the rescue strop and fell to the ground, sustaining fatal injuries.

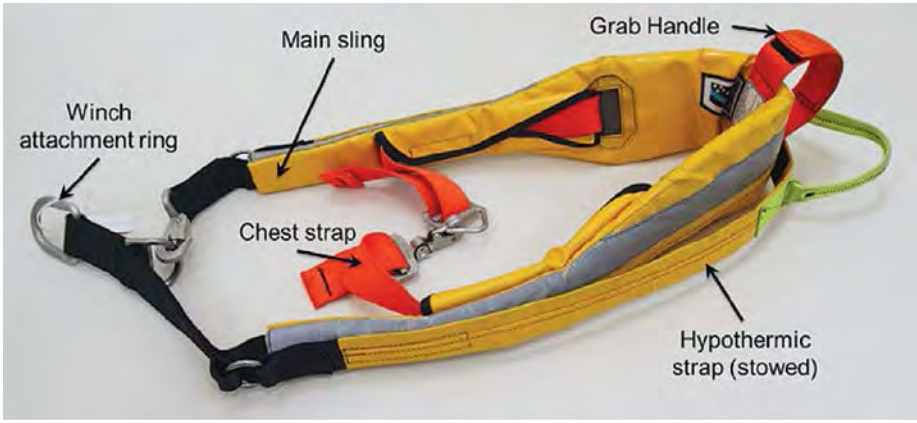

Figure 6: Rescue strop. Source: ATSB.

The ATSB found that due to the compressive nature of the rescue strop around the patient's chest, combined with his weight and pre-existing medical conditions, the patient probably lost consciousness during the winch operation. While the rescue strop was serviceable at the time, it was not suitable for the patient. Its unsuitability contributed to the patient's fall after his loss of consciousness. The ATSB also identified that the operator and Air Ambulance Victoria had limited documented guidance to assist rescue personnel to select the most appropriate winching rescue equipment.

Concurrent with the release of its preliminary investigation report on 10 October 2013, the ATSB issued a safety advisory notice to helicopter winch operators noting the circumstances of the accident. The notice advised operators to consider the risk to patients, or other persons being winched, of slipping out of a rescue/retrieval strop and the implications for their operations.

Figure 7: Accident scene looking south-west. Source: Victorian Police.

Following this accident, the operator and Air Ambulance Victoria introduced a seat-type harness for patient recovery via winch. They also issued guidance for their crews on priority of use for rescue equipment during over land winch operations. The Civil Aviation Safety Authority also issued an Airworthiness Bulletin clarifying the use and application of rescue/retrieval strops. Various helicopter emergency medical service providers have also improved information sharing to communicate operational knowledge and lessons learned.

AO-2012-132 Loss of separation assurance involving Boeing 737-8BK VH-VUM on 28 September 2012

An air traffic controller's error raised some important issues about the training of air traffic controllers and the interoperability of the separate air traffic control systems operated by Airservices Australia and the Department of Defence.

VH-VUM (VUM) was on a scheduled passenger flight from Sydney to Brisbane. During the flight, the aircraft's route was monitored by air traffic controllers responsible for the various sectors of the flight—for example, Sydney Departures North, Maitland, Nambucca, Inverell, Gold Coast before it commenced its approach to Brisbane.

In this case, an enroute air traffic controller acknowledged a Route Adherence Monitor (RAM) alert in respect of VUM. The controller believed VUM was destined for Newcastle Airport (which is controlled by the Department of Defence) and erroneously inhibited the flight data recorder (FDR) for VUM, which cancelled the RAM alert. The inhibition of the FDR meant that VUM was recorded in the air traffic control system as on a 'not concerned' aircraft track. As a result of this 'not concerned' status, the controller did not see or interrogate VUM's flight data record for the rest of the time it was under their jurisdiction. Similarly, the FDR did not attract the attention of two Inverell sector controllers after it entered, and crossed, their sector until they responded to a frequency change request from VUM's flight crew.

There was no loss of separation with other aircraft during the resulting period when the aircraft operated without the active provision of ATC services. During the course of the occurrence, two-way communications in controlled airspace remained available. However, maintenance of the minimum aircraft standards during this period was not assured. There was a loss of separation assurance.

High-reliability systems, like air traffic control, have many layers of controls to minimise the risks associated with operational hazards. These controls were ineffective in this case as a result of a number of factors including human perception and attention issues, the training of air traffic controllers in relation to 'not concerned' tracks and the level of system protection against the potential impact of such tracks. Specifically, error-tolerant system designs that aid in the detection and recovery of inadvertently-inhibited tracks which offer another line of defence against this type of occurrence.

Two safety issues were identified as a result of this investigation. The first relates to the provision of awareness training for enroute controllers who are routinely exposed to 'not concerned' radar tracks, which can lead to a high level of expectancy that such tracks are not relevant for aircraft separation purposes. The second issue relates to the limited protections against a controller

mistakenly inhibiting an aircraft, and the need for procedures to account for the limitations in the interoperability between the Australian Advanced Air Traffic System and the Australian Defence Air Traffic System.

Following this incident, Airservices Australia has amended its air traffic controllers' basic training exercises to include 'not concerned' radar tracks to ensure that the training emphasises the importance of scanning 'not concerned' radar tracks. Scenarios will also be included in operational simulation training when appropriate. Airservices has also raised awareness of the issue amongst its controllers concerning the need to scan 'not concerned' tracks.

Airservices, and the Department of Defence, are currently working towards implementing a harmonised joint civil military air traffic service system via the OneSky Program. Once implemented, this system will increase air traffic management interoperability between both organisations.

Marine investigations

Both marine safety investigations described below highlight the broad safety concerns surrounding marine work practices—one of the ATSB SafetyWatch program's priorities.

MO-2014-002 Unintentional release of the freefall lifeboat from *Aquarosa*, Indian Ocean

Lifeboat safety continues to be an important industry issue, with free-fall types presenting some unique challenges around maintenance and testing.

On 1 March 2014, the 190 m bulk carrier *Aquarosa* was transiting the Indian Ocean enroute to Fremantle, Western Australia, when its freefall lifeboat was inadvertently released during a routine inspection. A ship's engineer, the only person in the lifeboat at the time, was seriously injured in the accident.

About 5 hours after its release, the ship's crew recovered the lifeboat and resumed the voyage. On 8 March, the ship berthed in Kwinana, near Fremantle, and the injured engineer was transferred to hospital.

The ATSB found that when the lifeboat on-load release was last operated before the accident, it had not been correctly reset. Consequently, when the engineer operated the manual release pump to inspect the equipment, the incorrectly-reset release tripped unexpectedly. The simulation wires, designed to hold the lifeboat during a simulated release, failed and the lifeboat launched.

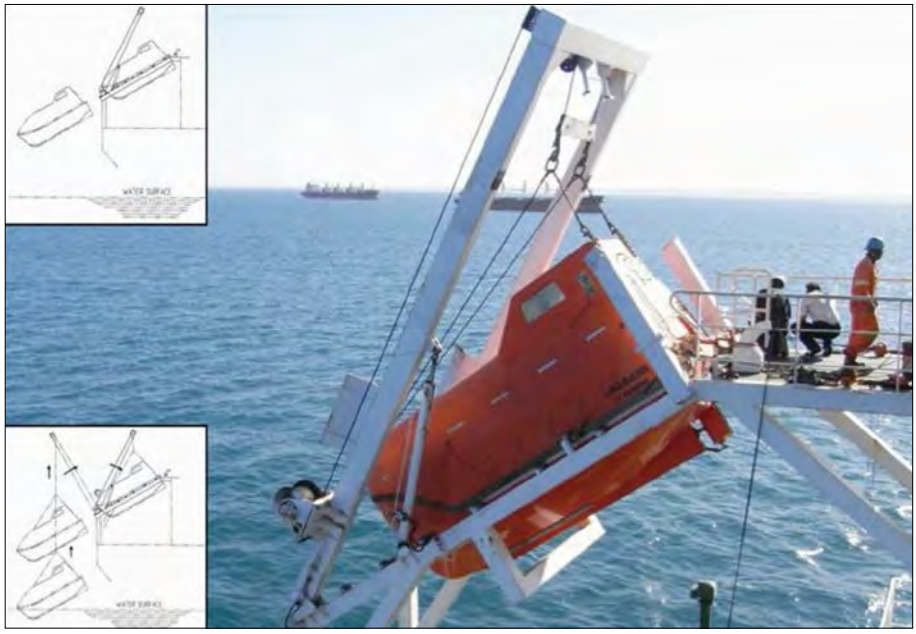

Figure 8: *Aquarosa*'s freefall lifeboat (inserts show launch and recovery). Source: ATSB and *Aquarosa*.

The investigation found that although there was an indicator to show when the release hook was in the correct position, there was nothing to indicate that the tripping mechanism was correctly reset. It was also found that the design and approval process for the lifeboat's simulated release system had not taken into account effects of shock loading on the simulation wires.

Aquarosa's shipboard procedures were revised shortly after the accident. Changes included the introduction of a requirement to notify the officer of the watch before entering the lifeboat. Notices were posted at the on-load release hydraulic pump positions, stating that the pumps must not be operated without the master's permission.

Aquarosa's managers, V.Ships, notified all ships in its fleet of the accident, and its internal investigation findings, through a fleet circular. The circular required the masters of all ships fitted with the same type of on-load release, to similarly revise the instructions for its operation and resetting. In addition, masters were required to review the simulation wire maintenance and inspection regime.

On 17 March 2014, the ATSB contacted V.Ships, the ship's flag State (Malta), Bureau Veritas, the lifeboat manufacturer, the International Association of Classification Societies and the Australian Maritime Safety Authority (AMSA) to advise them of the ATSB's preliminary findings. The parties were asked to identify ships equipped with similar free-fall lifeboat arrangements and to advise operators of those ships to take safety action to prevent a similar accident.

In response, AMSA informed its surveyors of the accident and the ATSB's preliminary findings, and asked them to pay particular attention to these issues during flag and Port State inspections.

Safety action by the manufacturer included placing alignment marks on the release segment of new on-load release mechanisms—to indicate when they are correctly reset. A lock-out 'maintenance pin' is also being provided for all new on-load releases to ensure the release cannot trip while maintenance is being performed.

The accident highlighted that the design and certification of equipment such as on-load release systems for lifeboats must take into account and allow for all facets of the equipment's possible operation, use and environment. Only then can fully comprehensive instructions be documented, enabling seafarers and others to safely use and maintain the equipment under all conditions.

MO-2014-001 Serious injury on board the passenger ship *Seven Seas Voyager*

When established and proven safety systems are not properly understood or not followed explicitly, even simple, uncomplicated maintenance work can pose significant threats to seafarer safety and wellbeing, as the following serious accident shows.

On 1 February 2014, a crew member carrying out routine maintenance on the passenger ship *Seven Seas Voyager*'s waste incinerator was injured when a pneumatically (air) operated valve closed against his body. The ship was berthed in Sydney and the crew member, a fitter, was taken to a local hospital.

The fitter was treated for serious bruising and shock, before returning to the ship. While it was expected that the fitter could resume duties after 2 days, his condition did not sufficiently improve and he was later discharged from the ship to recuperate at home.

The ATSB found that the incinerator ash dump valve's control systems had not been properly isolated and residual air pressure remained in the valve's operating system. The fitter assumed that it was safe to start his assigned task of replacing the incinerator ash grates and accessed the incinerator through the ash dump valve. He then inadvertently activated the electric sensor that automatically closed the valve—driven by the pressure of the residual air remaining in the valve operating system.

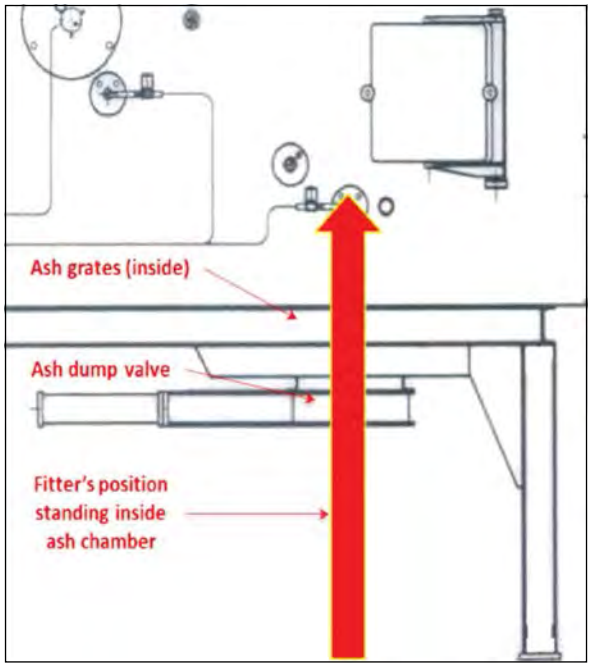

Figure 9: Fitter's position standing in the ash chamber. Source: ATSB.

The ATSB's investigation found that *Seven Seas Voyager*'s engineering staff did not have an adequate understanding of the incinerator's control systems nor its maintenance. Furthermore, the task of replacing the ash grates was not adequately planned and shipboard safety management system requirements were not complied with—including taking necessary risk mitigation measures and completion of a permit to work before undertaking the task.

The investigation also found that neither the ship's planned maintenance system (PMS) nor the incinerator manufacturer's instruction manual contained any information with respect to the maintenance, or replacement of the ash grates. Such information would have been useful to shipboard staff planning the grate replacement task, particularly with identifying all risks associated with the task.

The ATSB has issued a recommendation to *Seven Seas Voyager*'s manager to take action to address the safety issue with respect to the ship's PMS. The ATSB has also recommended that the incinerator manufacturer address the safety issue concerning the equipment's instruction manual.

This occurrence highlighted that shipboard equipment and machinery commonly incorporates automated, power-operated systems which must be isolated, the stored energy released and locked out before undertaking maintenance or repair tasks. Safely completing a task relies on personnel having a proper understanding of the system involved, coupled with adequate planning, risk assessment and the effective implementation of all safety management system requirements, including permits to work.

Rail investigations

RO-2014-013 Derailment of ST24 near North Melbourne Station, Victoria

On 11 July 2014, train ST24—a scheduled XPT passenger service returning to Sydney Central Station from Melbourne Southern Cross Station—derailed at turnout MYD887 near North Melbourne station in Victoria. Turnout MYD887 had recently been installed as part of the Regional Rail Link project. While certified for standard gauge revenue operations earlier that week, it had not been used by XPT services until the day of the derailment.

As a result of the derailment, there were minor injuries to some passengers and the train's crew, as well as damage to track and rolling stock.

Figure 10: Derailed carriage XAM2176 Source: CITS.

The ATSB found that the derailment of ST24 occurred at a type 37 mixed gauge turnout (MYD887), as the wheelset of a carriage transitioned from the standard gauge short stock rail onto the broad gauge switch blade through the transfer area. Design deficiencies of the type 37 turnout with respect to transfer area width, guard rail protection and capacity of the tie bar to resist elongation had contributed to the derailment.

Earlier that morning the same train, travelling from Sydney as ST21, derailed at a similar type 37 mixed gauge turnout (MYD882) but re-railed a short distance later. The train crew felt the train bounce but were unaware that it had derailed, so continued into Southern Cross Station. The incident was reported to operational staff and the track was being inspected at the time ST24 derailed at turnout MYD887.

Post-derailment, an examination of the type-approved design of the type 37 turnout identified some issues with the approval process—in that it had been assumed the type 37 turnouts would perform safely in service. This was based solely on the performance of a similar (type 29) dual gauge turnout, despite some significant differences between the two turnout types.

Responding to the safety issues, V/Line has actively managed the redesign, alteration and validation of the type 37 turnout, in order to support the safe operation of standard gauge rolling stock having wheel rim widths of 127 mm. A comprehensive review of the contractual arrangements, testing and commissioning processes has also been undertaken.

By way of a general finding, the ATSB advised that proposed infrastructure changes, including those put forward by contractors, need to be thoroughly assessed at the design stage to ensure that they meet all operational and safety requirements. Once constructed, infrastructure needs to be rigorously tested as part of the commissioning process to ensure that the changes are safe and perform to the original design intent.

RO-2014-006 Derailment of freight train 3MP9 near Malbooma SA

On 10 April 2014, SCT Logistics train 3MP9 derailed after travelling over track that had been undercut by floodwaters near a culvert at the 535.150 km mark between Tarcoola and Malbooma, South Australia. The floodwaters caused scouring of the track formation, compromising its capacity to support the train.

About 300 m behind the lead locomotive, the first of 18 wagons derailed including eight that rolled onto their sides.

Figure 11: Derailed wagon on the north side of the track. Source: ATSB.

There were no injuries to the train crew, however there was significant damage to the track, rolling stock and freight goods.

The ATSB determined that runoff from the heavy rain caused a flash flood event. The rain fell in the catchment area adjacent to Malbooma on 9 April 2014. The volume of floodwater exceeded the capacity of a double drainage culvert designed for a one in 50 year average flood recurrence interval. This resulted in water overtopping the track formation, with ballast and sub-grade scouring on the south side of the track.

The magnitude of the scouring meant that the track could not support the weight of train 3MP9 as it passed over the affected areas. The resulting deformation in the alignment of the track initiated the derailment.

Figure 12: Well wagons on skeletal track near point of derailment. Source: ATSB.

From a risk control perspective, the ATSB found that the Australian Rail Track Corporation's (ARTC) processes had been ineffective in developing, and implementing, changes to operational procedures from the findings of previous incident investigations. The ARTC did not have a comprehensive system in place to identify, and actively manage, the risks to their network from severe weather events, nor had they established a register for recording 'special locations' for the management of track infrastructure in areas prone to flooding.

There were no anomalies found with the operation of the train or the condition of rolling stock before the derailment.

Following this derailment, the ARTC implemented Operational Procedure OPP-01-05, *Monitoring and Responding to Extreme Weather Events in the East-West Corridor,* and has installed remote weather monitoring and recording stations at Barton, Cook, Rawlinna and Zanthus. The weather station data will be linked to the Early Warning Network to provide automated alerts. Four water flow monitors have been installed at culverts identified through a hydrology study of the Trans Australia Railway. Field evaluation of this equipment is being undertaken.

Upgrades of the ARTC's electronic asset management system are underway to optimise inspection and maintenance activities, including recording of 'special locations' affected by severe weather events.

The ATSB advised that, to ensure the safety of rail operations is not compromised during severe weather events, it is essential that rail transport operators have robust and responsive systems in place to actively monitor and manage the foreseeable risks.

RO-2012-011 Proceed authority exceeded by train 9104, Tarcoola, South Australia

On 26 November 2012, train 9104 was enroute from Rankin Dam, near Coober Pedy, South Australia, to Pelican Point at Outer Harbor, SA, when it exceeded the limit of its movement authority at Tarcoola, SA.

The crew of train 9104 had been issued with an authority (TA 84) to travel from Northgate to Tarcoola, occupy the Branch Line and wait for train 1PA8 to pass and opposing train 6WP2 to cross. Following the departure of 1PA8 from Tarcoola, the crew of the opposing train 6WP2 at Ferguson were issued with an authority to travel to Tarcoola once 1PA8 had cleared into Ferguson. After the arrival of 1PA8 at Ferguson, 6WP2 departed for Tarcoola as authorised.

At about this time, the crew of train 9104 were issued a further authority (TA 94) to travel from Tarcoola to Ferguson. That authority was conditional upon first fulfilling the instructions contained in their current authority (TA 84; cross 6WP2 at Tarcoola) which had been issued some 2 hours earlier. On receipt of TA 94, the crew set the route and immediately departed Tarcoola towards Ferguson. When clear of the yard limit, the crew reported the departure to the Australian Rail Track Corporation Network Control Officer. The Network Control Officer, realising that there was a conflicting movement on the section (train 6WP2), directed both drivers to stop their trains. The trains came to a stand about 13.5 km apart.

The ATSB found that the crew of train 9104 departed Tarcoola yard before completing the cross with train 6WP2 and contrary to the instructions contained in their current train authority TA84. The ATSB concluded that crew error, miscommunication and some procedural weaknesses within the Train Order Working system had contributed to the incident. In addition, the driver of train 9104 was likely experiencing some level of fatigue impairment—probably due to reduced restorative sleep during a recent illness.

The investigation also found that the ARTC train communication system had not been working as designed. As a result, the crew of train 9104 missed a prompt concerning the status of local train movements, such as train 6WP2 approaching Tarcoola from Ferguson.

The ARTC has restored the broadcast feature of the voice communications system at Tarcoola. In addition, the ARTC has installed Centralised Train Control with colour light signalling between Port Augusta (Spencer Junction) and Tarcoola. Final commissioning of the signalling system occurred in June 2014, replacing Train Order Working as the primary safeworking system in that area.

The ARTC has also implemented a trial to address procedural weaknesses within the Train Order Working system. The Office of the National Rail Safety Regulator (ONRSR) is liaising with the ARTC in relation to concluding this matter.

The ATSB advised that each member of a train crew must ensure they use effective communication strategies to confirm their shared understanding of an authority and compliance with its requirements. Train crew and rolling stock operators must also implement adequate strategies to safeguard against fatigue impairment.

Furthermore, network managers must ensure that communication protocols, and verification procedures, used in conjunction with a conditional proceed authority include controls sufficient to mitigate the risks associated with human performance.


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SECTION 5

Formal safety issues and advices

This section reports on the formal safety issues and advices issued by the ATSB in 2014–15 alongside their current status.

ATSB investigations primarily improve transport safety by identifying and addressing safety issues. Safety issues are events or conditions that increase safety risk and:

- can reasonably be regarded as having the potential to adversely affect the safety of future operations, and
- are characteristics of an organisation or a system, rather than of a specific individual, or operational environment at a specific point in time.

Safety issues will usually refer to an organisation's risk controls, or to a variety of internal and external organisational influences that impact on the effectiveness of its risk controls. They are factors for which an organisation has some level of control and responsibility and, if not addressed, will increase the risk of future accidents.

The ATSB prefers to encourage stakeholders to take proactive safety action to address safety issues identified in its reports. Nevertheless, the ATSB may use its powers under the TSI Act 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 already taken.

When safety recommendations are issued, they clearly describe the safety issue of concern but they do not provide instructions or opinions on a preferred corrective action. Like equivalent overseas organisations, the ATSB has no power to enforce the implementation of its recommendations. It is a matter for the agency to which an ATSB recommendation is directed to assess the costs and benefits of any means of addressing a safety issue and act appropriately.

When the ATSB issues a Safety Recommendation to a person, organisation or agency, they must provide a written response within 90 days. That response must indicate whether they accept the recommendation, any reasons for not accepting part or all of the recommendation and details of any proposed safety action to give effect to the recommendation.

The ATSB can also issue Safety Advisory Notices (SAN) suggesting that an organisation, or an industry sector, consider a safety issue and take action where it believes it appropriate. There is no requirement for a formal response to a Safety Advisory Notice.

Safety issues are broadly classified in terms of their level of risk:

- **critical safety issue**—associated with an intolerable level of risk and generally leading to the immediate issue of a safety recommendation, unless corrective safety action has already been taken
- **significant safety issue**—associated with a risk level regarded as acceptable only if it is kept as low as reasonably practicable. The ATSB will issue a safety recommendation or a safety advisory notice if it assesses that further safety action may be practicable
- **minor safety issue**—associated with a more broadly acceptable level of risk, although the ATSB will issue a safety recommendation or safety advisory notice to the appropriate agency when pro-active safety action is not forthcoming.

All ATSB safety issues and associated safety actions, along with the most recent status, have been posted on the ATSB website for all investigation reports released since July 2010.

Safety issues identified through ATSB investigations

All safety issues are risk assessed by the ATSB. In the 2014–15 year, the ATSB identified the following numbers of safety issues.

Table 4: Number of safety issues identified in 2014–15

SAFETY ISSUE RISK	AVIATION	MARINE	RAIL	TOTAL
CRITICAL	None	None	None	0
SIGNIFICANT	16	6	17	39
MINOR	4	6	42	52
Total	**20**	**12**	**59**	**91**

Safety action is sought to address any safety issues when proactive safety action is not forthcoming. Once safety action has been undertaken, the ATSB conducts another risk assessment of the safety issue. When the post-action risk assessment results in either an acceptable level of risk or a risk as low as reasonably practicable, the safety issue status is categorised as 'adequately addressed'.

The Portfolio Budget Statement (PBS) specifies, as two of the ATSB's key performance indicators, (KPIs) that:

- safety action is taken by stakeholders to address 100 per cent of critical safety issues identified
- safety action is taken by stakeholders to address 70 per cent of significant safety issues identified.

KPI status of critical safety issues identified in 2014–15

There were no critical risk safety issues identified through ATSB investigations in 2014–15.

Table 5: KPI status of significant safety issues identified in 2014–15

STATUS OF SIGNIFICANT SAFETY ISSUES	AVIATION	MARINE	RAIL	PER CENT
Adequately addressed	14	2	9	64%
Partially addressed	0	0	0	0%
Not addressed	0	0	0	0%
Safety action still pending	2	4	8	36%
Total	**16**	**6**	**17**	**100%**

Sixty-four per cent of significant risk safety issues were adequately addressed. At the time of publication, 14 safety issues (36 per cent) had not been finalised, as the ATSB is waiting for the completion of promised safety action.

Reponses to safety issues identified in 2014–15

The tables below document each safety issue identified in 2014–15 and its current status assigned by the ATSB, along with the justification for that status.

Table 6: Reponses to safety issues identified in 2014–15—Aviation

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
AO-2012-024 Wheels-up landing involving Fairchild SA227-AT Metro III, VH-UZA, Brisbane Airport, 15 February 2012		
AO-2012-024-SI-01: The proximity of the landing gear selector valve electrical wiring loom to the external hydraulic power connectors within the left engine nacelle on Fairchild SA227-AT Metro aircraft, resulted in the 'down selection' wire being damaged during routine maintenance activities.	Adequately addressed	The ATSB is satisfied that the action by Elbit Systems of America to re-route the landing gear selector valve electrical wiring loom in the worldwide fleet of Metro aircraft and advise operators of this new requirement will, when implemented across the fleet, minimise the risk of damage to the wires during routine maintenance. The proactive safety action by Toll Aviation Pty Ltd pre-empts this action.
AO-2012-029 Loss of separation involving Government Aircraft Factory N22C, VH-ATO and two Boeing 737s, VH-VZA and VH-TJY, 17 km NE of Melbourne Airport, Victoria, 16 February 2012		
AO-2012-029-SI-01: The limited guidance and training provided to controllers operating outside the towered environment, in the application of the visual (pilot) separation standard, increased the risk of the incorrect application of the standard.	Adequately addressed	The ATSB is satisfied that the action taken by Airservices Australia has adequately addressed the safety issue.

Aviation (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
AO-2012-116 Flap overspeed and altitude exceedance during go-around involving Airbus A321, VH-VWY, Cairns Airport, 3 September 2012		
AO-2012-116-SI-01: All-engine go-arounds in modern air transport aircraft are often challenging tasks when there is a requirement to level-off at a low altitude. Many pilots have had limited preparation for this task.	Adequately addressed	The ATSB is satisfied that sufficient safety action is being taken to address the safety issue, both within Jetstar Airways and throughout the aviation industry.
AO-2012-131 Loss of separation involving Boeing 717, VH-NXQ and Boeing 737, VH-VXM near Darwin Airport, Northern Territory, 2 October 2012		
AO-2012-131-SI-01: The Australian Defence Air Traffic System (ADATS) did not automatically process all system messages. In cases where transponder code changes were not automatically processed, the risk controls in place were not able to effectively ensure that the changes were identified and manually processed.	Adequately addressed	The ATSB is satisfied that the safety action undertaken, and action in progress, will satisfactorily address the safety issue.
AO-2012-131-SI-02: Darwin Approach controllers were routinely exposed to green (limited data block) radar returns that were generally inconsequential in their approach control environment. This led to a high level of expectancy that such tracks were not relevant for aircraft separation purposes. Refresher training did not emphasise the importance of scanning the green radar returns.	Adequately addressed	The ATSB is satisfied that the action taken by the Department of Defence has adequately addressed the safety issue. Controller scanning of green radar returns is covered in the RAAF School of Air Traffic Control initial, and approach controller, training syllabi and included in the simulator scenarios of DoD air traffic units at all military aerodromes to which civil scheduled services operate.
AO-2012-131-SI-03: The Department of Defence's risk assessment and review processes for the implementation of the Comsoft Aeronautical Data Access System, and removal of the flight data position, did not effectively identify or manage the risks associated with the resulting increased workload in the Darwin Approach environment—in particular with regard to the Planner position.	Adequately addressed	The ATSB is satisfied that the safety action, when fully implemented, will reduce the risk associated with this safety issue.
AO-2012-131-SI-04: The Darwin Approach long-range display was a low resolution screen that presented air traffic control system information with reduced clarity, resulting in its diminished effectiveness as a situation awareness tool.	Adequately addressed	The ATSB is satisfied that this safety action will, when fully implemented, satisfactorily address the safety issue.

Aviation (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
AO-2012-131-SI-05: The Department of Defence had not provided Darwin based controllers with regular practical refresher training in identifying and responding to compromised separation scenarios.	Adequately addressed	The ATSB is satisfied that the action taken by the Department of Defence (DoD) has adequately addressed the safety issue. Compromised separation recovery training is included in DoD air traffic controller initial and currency proficiency assessments. In addition, video and computer-based training in compromised separation recovery techniques is a pre-requisite for DoD controllers' 6-monthly currency assessments. It is also included in the simulator scenarios of DoD air traffic units at all military aerodromes to which civil scheduled services operate.
AO-2012-132 Loss of separation assurance involving Boeing 737-8BK from south of Williamtown to north of Grafton, NSW, 28 September 2012		
AO-2012-132-SI-01: Controllers were routinely exposed to 'not concerned' radar tracks that were generally inconsequential in the en route environment, leading to a high level of expectancy that such tracks were not relevant for aircraft separation purposes. Training did not emphasise the importance of scanning 'not concerned' radar tracks in jurisdiction airspace.	Adequately addressed	The ATSB is satisfied that the safety action, when fully implemented, will reduce the risk associated with this safety issue.
AO-2012-132-SI-02: The limited interoperability between The Australian Advanced Air Traffic System and Australian Defence Air Traffic System increased the risk of error due to the need for a number of manual interventions, or processes, to facilitate the coordination and processing of traffic.	Adequately addressed	The ATSB is satisfied that the safety action, when fully implemented, will reduce the risk associated with this safety issue.
AO-2012-138 Descent below the minimum permitted altitude involving Boeing 737-838, VH-VXB, 35 km SW of Canberra Airport, ACT, 17 October 2012		
AO-2012-138-SI-01: The company's Required Navigation Performance approach procedure allowed the flight crew to set the approach minimum altitude in the auto-flight system prior to commencing the approach. This did not ensure the altitude alerting system reflected the assigned altitude limit of 7,000 ft and removed the defence of that alert when the flight crew did not identify the disengagement of the flight management computer-derived VNAV PTH mode.	Adequately addressed	The procedure has been modified to ensure the last assigned altitude remains in the auto-flight system as a defence against a descent below this level.

Aviation (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
AO-2013-010 Navigation event involving Embraer E170 VH-ANO 232 km north-west of McArthur River Mine, Northern Territory, 10 January 2013		
AO-2013-010-SI-01: Although the operator's rostering practices were consistent with the existing regulatory requirements, it had limited processes in place to proactively manage its flight crew rosters and ensure that fatigue risk due to restricted sleep was effectively minimised.	Adequately addressed	The ATSB is satisfied that the changes made by the operator, and the increased requirements relating to fatigue management being imposed by the regulator, will reduce the risk associated with this safety issue.
AO-2013-046 In-flight propeller separation, Jabiru Aircraft J430, North of French Island, Vic, 8 March 2013		
AO-2013-046-SI-01: Jabiru engines manufactured before July 2011 have reduced strength and reliability of the crankshaft/propeller flange joint, compared with the later design that incorporated positive-location dowel pins.	Adequately addressed	The amendments to the Jabiru Engine overhaul should ensure the increased reliability of the propeller flange/crankshaft joint and the reduced likelihood of propeller loss due to joint fastener failure.
AO-2013-046-SI-02: The engine manufacturer's specified procedure for assembling and torqueing of the crankshaft/propeller flange fasteners was ineffective in ensuring resistance against subsequent joint movement in service.	Adequately addressed	The documentary changes should ensure the increased reliability of the propeller flange/crankshaft joint and the reduced likelihood of propeller loss due to joint fastener failure.
AO-2013-046-SI-03: The manufacturer's documents, with respect to the propeller-mounting flange, were technically inconsistent regarding torqueing and painting procedures.	Adequately addressed	The documentary changes should ensure the increased reliability of the propeller flange/crankshaft joint and the reduced likelihood of propeller loss due to joint fastener failure.
AO-2013-055 Loss of control involving Robinson R44 helicopter, VH-HWQ, Bulli Tops, NSW, 21 March 2013		
AO-2013-055-SI-03: Although certification requirements for helicopters to include a crash-resistant fuel system (CRFS) were introduced in 1994, several helicopter types certified before these requirements became applicable are still being manufactured without a CRFS.	Safety action still pending	
AO-2013-055-SI-04: Many of the existing civil helicopter fleet are not fitted with a crash-resistant fuel system, or do not have an equivalent level of safety associated with post impact fire prevention.	Safety action still pending	

Aviation (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
AO-2013-085 TAWS alert involving ATR-GIE Avions de Transport Regional ATR72-212A, VH-FVR, near Moranbah Airport, Qld, 15 May 2013		
AO-2013-085-SI-03: There was a significant underreporting by Virgin Australia Regional Airlines Pty Ltd of ATR72 terrain awareness warning system-related occurrences.	Adequately addressed	The ATSB is satisfied that the safety action by VARA has increased its TAWS reporting rates to the industry standard for similar aircraft models flown by similar Australian operators.
AO-2013-136 Helicopter winching accident involving Bell Helicopter Co. 412EP VH-VAS, 19 km south-south-east of Mansfield, Victoria, 31 August 2013		
AO-2013-136-SI-01: Limited guidance was provided by the operator, and Air Ambulance Victoria, to crews on the selection of the most appropriate winch rescue equipment given operational and medical considerations.	Adequately addressed	The Australian Transport Safety Bureau is satisfied that the relevant organisations have taken appropriate safety action to address this safety issue. In addition, safety advisory information was issued to other organisations conducting similar activities.
AO-2013-161 Loss of separation between Airbus A330 VH-EBO and Airbus A330 VH-EBS near Adelaide, SA, 20 September 2013		
AO-2013-161-SI-01: The convergence of many published air routes overhead Adelaide, combined with the convergence point being positioned on the sector boundary of the Augusta and Tailem bend sectors, reduced the separation assurance provided by strategically separated one-way air routes and increased the potential requirement for controller intervention to assure separation.	Adequately addressed	The ATSB is satisfied that the safety action undertaken, and action in progress, will satisfactorily address the safety issue.

Table 7: Reponses to safety issues identified in 2014–15—Marine

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
MO-2013-011 Grounding of *Bosphorus*, Brisbane River, Queensland, 29 October 2013		
MO-2013-011-SI-01: *Bosphorus*'s safety management system provided no guidance in relation to the allocation of functional roles and responsibilities to bridge team members during pilotage.	Safety action still pending	
MO-2013-011-SI-02: Brisbane Marine Pilots' 'Port of Brisbane Passage Plan' did not detail any guidance or instructions relating to watch handover, or changing the helmsman, during high risk areas of a pilotage.	Adequately addressed	Brisbane Marine Pilots has amended their safety management system procedures to address all of the contributing factors specific to pilotage issues detailed in this report.
MO-2013-011-SI-03: *Bosphorus*' safety management system did not detail any guidance or instructions relating to watch handover, or changing the helmsman, during high risk areas of a pilotage.	Safety action still pending	
MO-2013-012 Machinery failure on *HC Rubina* and subsequent contact with the wharf, Brisbane, 29 October 2013		
MO-2013-012-SI-01: *HC Rubina*'s electronic planned maintenance system did not contain any instructions to ensure that the shaft alternator flexible coupling was maintained in accordance with the manufacturer's requirements.	Adequately addressed	The action taken by IMM Shipping will help reduce the chance of a failure due to a lack of planned maintenance.
MO-2013-012-SI-02: The ship's managers did not have effective systems to ensure that the defective control system for the controllable pitch propeller was reported to the relevant organisations as required. Consequently, Brisbane's vessel traffic services, pilotage provider and the pilot remained unaware of the defect and could not consider it in their risk assessments before the pilotage started.	Partially addressed	Although IMM Shipping did not identify specific safety action to address the safety issue concerning the reporting of defects to external parties, the company issued a circular to all managed ships on the subject of the incident. The circular has the potential to form the basis of lessons learned from the incident across the company's fleet.
MO-2013-012-SI-03: The ship's agent's information questionnaire did not ask for all of the information required to complete the QSHIPS booking form and ensure that defects were reported.	Adequately addressed	The ongoing actions being taken by Asiaworld Shipping Service and Maritime Safety Queensland, in conjunction with Brisbane Marine Pilots, will better ensure that the information sourced is accurate and the downstream users will be better placed to use it as a base for risk analysis.

Marine (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
MO-2014-001 Serious injury on board the passenger ship *Seven Seas Voyager*, Sydney, New South Wales, 1 February 2014		
MO-2014-001-SI-01: *Seven Seas Voyager*'s planned maintenance system (PMS) contained no information about waste incinerator ash grate replacement, a task that would have been regularly undertaken by different engineering staff since 2003. Therefore, in this respect, the shipboard procedures that documented requirements for the PMS had not been effectively implemented.	Adequately addressed	The ship's planned maintenance system incinerator work order has been amended to provide specific instructions about the equipment's components. In addition, the revised monthly inspection routine for the incinerator will increase crew familiarity, and understanding, of the system and work requirements.
MO-2014-001-SI-02: The manufacturer's instruction manual for *Seven Seas Voyager*'s waste incinerator contained no specific instructions for ash grate maintenance or replacement. Such instructions would have provided useful information for the ship's crew to plan and safely complete periodic ash grate maintenance.	Safety action still pending	
MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 1 March 2014		
MO-2014-002-SI-01: While the design of the on-load release system allowed the reset position of the hook to be visually confirmed, it did not allow for visual confirmation that the release segment and mechanism had been correctly reset. Consequently, the hook device could appear to be properly reset when it was not.	Adequately addressed	The letter sent by the manufacturer should raise awareness with organisations that currently use this model of on-load release. The addition of the marker to show that the release segment is fully reset should reduce the likelihood of an inadvertent release on ships that receive the modified on-load release.
MO-2014-002-SI-02: An equivalent, alternative arrangement to the safety pin had not been provided to prevent inadvertent tripping of the freefall lifeboat's on-load release during routine operations, such as inspections and maintenance.	Safety action still pending	
MO-2014-002-SI-03: The manufacturer's calculations did not take into account the shock load imposed on the simulation wires or the boat and frame mounting points.	Safety action still pending	

Marine (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
MO-2014-002-SI-04: The Recognized Organization's process for the approval of the simulation wires for 'maintenance and testing' had not taken into account the shock loading that would be experienced during testing.	Safety action still pending	

Table 8: Reponses to safety issues identified in 2014–15—Rail

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2012-006 Collision between two road-rail vehicles Haig, Western Australia, 24 May 2012		
RO-2012-006-SI-02: The maintenance regime for Hino TS63 was inadequate and did not account for the accelerated wear and tear on the vehicle when used as a road-rail vehicle.	Adequately addressed	The ATSB is satisfied that the action taken by Transfield Services Australia in the identification and implementation of a more rigorous maintenance and risk assessment regime, which is tailored to road-rail vehicles, has addressed this issue.
RO-2012-006-SI-03: Transfield's training regime did not ensure that the track workers involved in this occurrence were trained in new or updated work practices relating to road-rail vehicle operations. Similarly, relevant amended procedures, safety bulletins and alerts had not been effectively promulgated to these employees	Adequately addressed	The ATSB is satisfied that the action taken by Transfield Services Australia to review and update its training regime has addressed this issue.
RO-2012-006-SI-04: Transfield did not provide oversight sufficient to identify and rectify the non-compliant work practices in the road-rail vehicle operation involved in this occurrence.	Adequately addressed	The ATSB is satisfied that the action taken by Transfield Services Australia in the improved measures for identification and rectification of non-compliant work practises has addressed this issue.
RO-2012-006-SI-05: The absence of a national standard that addresses the design, fitment and maintenance of rail guidance equipment, and the safety performance for road-rail vehicles while on-rail, increases the risks associated with operating road-rail vehicles.	Safety action still pending	
RO-2012-006-SI-06: Transfield did not have adequate systems in place to ensure workers were not adversely affected by drugs or alcohol while conducting safety related work in a remote work environment.	Adequately addressed	The ATSB is satisfied that the action taken by Transfield Services Australia to effectively manage and reduce the presence of drugs and alcohol within the workplace has addressed this issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2012-011 Proceed Authority Exceedance by Train 9104S at Tarcoola, SA, 26 November 2012		
RO-2012-011-SI-01: SBR's fatigue-management processes were ineffective in identifying the fatigue impairment experienced by the driver leading up to, and at the time of, the occurrence.	Adequately addressed	The ATSB is satisfied that the actions taken by SBR will adequately address this safety issue.
RO-2012-011-SI-02: The ARTC communication protocols did not provide the NCO with adequate guidance with respect to standardised phraseology to ensure messages are clear and unambiguous.	Adequately addressed	The ATSB is satisfied that the actions taken by ARTC will adequately address this safety issue.
RO-2012-011-SI-03: The procedures in the ARTC CoP for the use and verification of a conditional proceed authority were ineffective in mitigating the risk to the effectiveness of that authority arising from human error.	Safety action still pending	At the time of this report release, the safety actions advised by ARTC has not yet been fully implemented. The ATSB is satisfied that the actions proposed by ARTC and the ONRSR will, when completed, adequately address this safety issue.
RO-2013-002 Derailment of 3PS6 near Yunta South Australia, 17 January 2013		
RO-2013-002-SI-02: There was no Track Stability Management Plan in place for the section of track where the buckle developed —as was required by the ARTC's CoP.	Adequately addressed	The ATSB is satisfied that the action taken by the Australian Rail Track Corporation will adequately address the safety issue.
RO-2013-007 Derailment of train 9614S near Port Augusta, SA, 17 February 2013		
RO-2013-007-SI-01: The ARTC's inspection and maintenance practices were ineffective in identifying and correcting the deteriorating condition of track infrastructure exhibiting accelerated wear —such as 38A points at Spencer Junction.	Adequately addressed	The ATSB is satisfied that the timely implementation of remedial action, such as more frequent condition monitoring and rectification of potential deficiencies within infrastructure, will better manage and reduce the likelihood of a similar occurrence in the future.
RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013		
RO-2013-008-SI-01: For eastbound road users approaching the B. McCann Road level crossing along the left-side of the road, the view to the track was restricted due to the acute road-to-rail interface. This was particularly problematic for trucks with the viewing opportunity to the left limited to the cab's passenger-side window.	Adequately addressed	The ATSB is satisfied that the action taken by Cumco Gypsum Pty Ltd has reduced the risk associated with this safety issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2013-008-SI-02: V/Line did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the rail operator in 2009.	Adequately addressed	The ATSB is satisfied that the safety action taken by V/Line has reduced the risk associated with this safety issue.
RO-2013-008-SI-03: Gannawarra Shire did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the shire in 2009.	Adequately addressed	The ATSB is satisfied that the safety action taken by the Gannawarra Shire has reduced the risk associated with this safety issue.
RO-2013-008-SI-04: The road incline on the west-side approach to the crossing increased the time required for loaded trucks to transit the crossing.	Adequately addressed	The ATSB is satisfied that the action by Cumco Gypsum Pty Ltd has reduced the risk associated with this safety issue.
RO-2013-008-SI-05: The 'give-way' protection installed at the crossing was inconsistent with the available approach sighting distances on both approaches to the crossing. Sighting was affected by vegetation, embankments formed by a rail cutting and the curved road approaches.	Partially addressed	The ATSB is satisfied that the interim action taken by V/Line will reduce the risk associated with this safety issue, pending further assessment and infrastructure works.
RO-2013-008-SI-06: The level crossing safety coordination processes did not involve a key stakeholder—the gypsum mine owner—who had knowledge of the changing traffic profile. The mine owner was aware of the increasing numbers of heavy vehicles using B. McCann Road, since 2010, and the associated changing risk profile of the level crossing.	Adequately addressed	The ATSB is satisfied that action taken by V/Line reduces the risk associated with this safety issue.
RO-2013-008-SI-07: When the crossing was last surveyed under the ALCAM program, the measurement of the road angle resulted in an overestimate of the acute road-to-rail interface angle. The implication of overestimating the acute interface angle is that sighting deficiencies may be underestimated, or not identified.	Adequately addressed	The ATSB is satisfied that the action taken by VicTrack reduces the risk associated with this safety issue.
RO-2013-008-SI-08: There existed an inconsistency between the track speed used for crossing assessment and permitted train speeds. The ALCAM process used a train speed equal to the track line speed, whereas V/Line systems for evaluating driver behaviour permitted an exceedence of line speed by up to 10 km/h for short distances.	Adequately addressed	The ATSB is satisfied that the action taken by VicTrack reduces the risk associated with this safety issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2013-009 Derailment of freight train 9501V, South Dynon Junction, West Melbourne, Victoria, 2 March 2013		
RO-2013-009-SI-01: The train control system screen display provided no direct indication to the network control officer that one section of the established route was dual-gauge and another section single-gauge.	Adequately addressed	A clearly visible and audible on-screen alert for the network controller can be expected to contribute towards preventing a recurrence of this incident.
RO-2013-009-SI-02: When train 9501 approached signal DYN114, which was displaying a 'stop indication', there was minimal indication to the network control officer that the train gauge and the selected route were incompatible.	Adequately addressed	Addressed by the addition of a warning control in software.
RO-2013-009-SI-03: The configuration of the dual-gauge points assembly led to truncated broad-gauge rail in one of the turn-out directions.	Adequately addressed	Addition of an on-screen warning prompt to NCOs, changes made to the Caution Order issuing process and label instruction affixed to point machines have addressed this safety issue.
RO-2013-009-SI-04: The train operator's Route Knowledge Package did not include track layout diagrams, or specific information warning of the existence of dual-gauge turnouts where track terminated in one direction.	Adequately addressed	The ATSB is satisfied that the additional action taken by Pacific national has addressed the safety issue.
RO-2013-009-SI-05: There was no warning indication at signal DYN114 to warn train crews that the broad-gauge rail terminated in the straight-ahead direction.	Adequately addressed	The Australian Transport Safety Bureau is satisfied that the action proposed by ARTC will adequately address the safety issue.
RO-2013-009-SI-06: The guidance documentation and procedures for authorising movement past signals displaying a 'stop indication' were ambiguous.	Adequately addressed	Mandating that NCOs complete a written Caution Order, and the development of a new Standing Notice, will better inform operators of track configurations, thus reducing the risk of a recurrence of this incident.
RO-2013-009-SI-07: The process undertaken by the network control officer for issuing a Caution Order did not require validation of compatibility between the gauge of the train and the established route.	Adequately addressed	The Australian Transport Safety Bureau is satisfied that the action taken by ARTC adequately addresses the safety issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2013-010 Derailment of grain train 9054 near Pyramid Hill, VIC, 5 March 2013		
RO-2013-010-SI-01: The track inspection regime did not identify the deteriorated rail condition at the O'Tooles Road level crossing. The regime placed an over-reliance on ultrasonic testing and did not include sufficient supplementary systems for monitoring the condition of buried track at unsealed level crossings.	Safety action still pending	
RO-2013-010-SI-02: The ultrasonic testing regime was not reliable in identifying the deterioration of rail at unsealed level crossings.	Adequately addressed	The ATSB is satisfied that the action taken by Speno has increased the reliability of its ultrasonic inspection of corrosion defects in rail at unsealed level crossings.
RO-2013-010-SI-03: The method of constructing crossings at unsealed roads heightened the potential for corrosion and track degradation, and limited the opportunity for effective visual inspection. The network standard for crossing construction did not directly address the particular challenges of unsealed roads.	Safety action still pending	
RO-2013-017 Safeworking breach involving a Local Possession Authority, Revesby, New South Wales, 10 July 2013		
RO-2013-017-SI-02: There were non-compliances to the repeat back provision because it was viewed as onerous under certain Local Possession Authorities (LPAs). An opportunity exists to review rule non-conformance with the implementation of LPAs.	Safety action still pending	
RO-2013-017-SI-03: Sydney Trains validation processes were not effective in detecting errors in Special Train Notice (STN) 1004 prior to the Local Possession Authority (LPA) implementation.	Adequately addressed	The Australian Transport Safety Bureau is satisfied that the action taken by Sydney Trains adequately addresses the safety issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2013-018 Safeworking breaches involving Absolute Signal Blocking, Blackheath, NSW, 13 June 2013, Newcastle NSW, 13 July 2013 and Wollstonecraft NSW, 17 July 2013		
RO-2013-018-SI-01: Rule NWT 308 (Absolute Signal Blocking) and procedure NPR703 (Using Absolute Signal Blocking) did not provide any guidance on acceptable methods for determining the location of rail traffic in the section, nor confirming the clearance of rail traffic past a proposed work location.	Safety action still pending	
RO-2013-018-SI-02: There were no forms or checklists to provide practical guidance for completing the steps required to implement Absolute Signal Blocking, nor to provide an auditable record of the process.	Safety action still pending	
RO-2013-018-SI-03: Differences exist in the way signallers and Protection Officers identify trains to each other.	Safety action still pending	
RO-2013-018-SI-04: Not all major infrastructure was marked on the ATRICS screens for the North Shore panel.	Safety action still pending	
RO-2013-018-SI-05: The Sydney Trains regime for auditing worksite protection arrangements was not effective in identifying emerging trends, or safety critical issues, when using Absolute Signal Blocking (ASB).	Safety action still pending	
RO-2013-019 Train 6MP5 overran its limit of authority at Blamey, WA on 14 July 2013		
RO-2013-019-SI-01: The instructions relating to the arranging of refuelling at Parkeston, contained in the Pacific National train management plan and the intermodal procedures manual, were inconsistent.	Adequately addressed	Pacific National has reviewed the relevant procedures for arranging the refuelling of locomotives at Parkeston and removed inconsistencies in instructions contained within the documents.
RO-2013-021 Derailment of freight train 9101 near Ouyen, Victoria, 10 August 2013		
RO-2013-021-SI-01: V/Line's track inspection regime did not identify the degraded condition of the mechanical rail joints.	Adequately addressed	The ATSB is satisfied that the action taken by V/Line Pty Ltd addresses this safety issue.
RO-2013-021-SI-02: Track walking inspections were not conducted at intervals specified by V/Line's maintenance program.	Adequately addressed	The ATSB is satisfied that the action taken by V/Line Pty Ltd addresses this safety issue.

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2013-027 Derailment of freight train 9204 near Sims Street Junction, West Melbourne, Victoria on 4 December 2013		
RO-2013-027-SI-01: The Train Control System permitted the NCO to set an unviable route for the train and then displayed it as viable. The train control system alarm, designed to alert an NCO to the setting of an unviable route, was nullified by the absence of gauge detection.	Adequately addressed	ATSB believes that the safety action taken by ARTC will adequately address the safety issue.
RO-2013-027-SI-02: A caution order instrument was used, which lacked a specific requirement for train crews to check the points along their route. This requirement becomes critical under circumstances of signalling degradation.	Adequately addressed	The ATSB is satisfied with the action taken by ARTC to address the safety issue.
RO-2013-028 Derailment of freight train 2DA2 at Union Reef, NT, 30 December 2013		
RO-2013-028-SI-01: Union Reef was not treated as a special location, as defined in the ARA Code of Practice for the Australian Rail Network.	Adequately addressed	The ATSB is satisfied that the actions taken by Genesee Wyoming Australia should address this safety issue.
RO-2013-028-SI-02: The GWA guidance does not provide clear and unambiguous information for train crews on acceptable points approach speeds where sighting distance is reduced.	Safety action pending	
RO-2013-028-SI-03: The train crew had conflicting responsibilities distracting them from the safety critical task of driving. GWA did not have specific policies and procedures to define responsibilities of train crews approaching safety critical phases of operation.	Safety action pending	
RO-2014-003 Derailment of grain train 9130 at Emu, Victoria, 12 February 2014		
RO-2014-003-SI-01: V/Line's organisational processes for responding to and rectifying rail creep defects did not ensure that all such defects were addressed before the onset of warmer seasonal conditions.	Safety action still pending	

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2014-006 Derailment of train 3MP9 near Malbooma, SA, 10 April 2014		
RO-2014-006-SI-01: The ARTC's processes for developing and implementing changes to operational procedures, as a result of incident investigation findings, were ineffective at mitigating the risk of future similar incidents.	Adequately addressed	The ATSB is satisfied that the action taken by the ARTC addresses this safety issue.
RO-2014-006-SI-02: The ARTC did not have a comprehensive system in place to identify and actively manage risks associated with severe weather events that were likely to affect the safety of their rail network.	Adequately addressed	The ATSB is satisfied that the action taken by the ARTC addresses this safety issue.
RO-2014-006-SI-03: A register for recording 'special locations' in accordance with the ARTC Engineering (Track & Civil) *Code of Practice, Section 10—Flooding*, had not been established to manage track infrastructure prone to flood damage.	Adequately addressed	The ATSB is satisfied that the action taken by the ARTC addresses this safety issue.
RO-2014-008 Derailment of ore train 4413 Bonnie Vale, Western Australia, 14 May 2014		
RO-2014-008-SI-01: When travelling at speeds near 90 km/h on track having particular irregularities, the WOE class wagons appear to be susceptible to harmonic oscillations of sufficient magnitude to produce wheel unloading, flange climb and derailment.	Safety action still pending	
RO-2014-008-SI-02: After re-railing the track, permitted train speed was increased —without due consideration of the effects of cyclic track irregularities on the dynamic performance of the WOE class wagon.	Safety action still pending	
RO-2014-008-SI-03: The frequency of driver reporting, and locomotive cab rides by track inspectors, had been insufficient for identifying rough track through the derailment site.	Safety action still pending	
RO-2014-008-SI-04: The loss of brake pipe integrity during the derailment event did not result in the train brakes automatically activating.	Safety action still pending	

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2014-010 Locomotive Fire, Awaba, New South Wales, 5 June 2014		
RO-2014-010-SI-00: The procedures for locomotive inspection and maintenance were not effective at identifying, nor addressing, continuing fuel leakage problems on this type of fuel filter assembly.	Adequately addressed	PN/DEDI have increased the inspection requirements to address the mode of failure by the clevis.
RO-2014-012 Derailment of ore train KW24 near Whyalla, SA, 7 July 2014		
RO-2014-012-SI-01: GWA had no documented system in place to assess the suitability of second-hand components for re-use.	Adequately addressed	The ATSB is satisfied that the actions taken by GWA will adequately address this safety issue.
RO-2014-013 Derailment of train ST24 near North Melbourne, Victoria, 11 July 2014		
RO-2014-013-SI-01: Inherent in the design of many dual gauge turnouts is a region of reduced wheel rim contact on the broad gauge switch blade (rail head) through the transfer area. In circumstances where the switch blade is insufficiently restrained, and where the passing train has a narrow (127 mm) wheel rim width, there is an increased risk of derailment.	Adequately addressed	The ATSB is satisfied that the actions taken by the Office of National Rail Safety Regulator address this safety issue by encouraging all relevant rail service operators, and rail infrastructure managers, to note and consider the circumstances of the derailment outlined in this preliminary report. The ATSB acknowledges the additional action initiated by V/Line and will consider its adequacy as part of the ongoing investigation, the findings of which will be documented in the final report.
RO-2014-013-SI-02: The design of the VCA type 37 mixed gauge turnouts (MYD882 and MYD887) was such that they were not suitable for use by rolling stock with a 127 mm rimmed wheel.	Safety action still pending	
RO-2014-013-SI-03: Contract documentation and specifications within the Umbrella Agreement were generic and did not adequately specify the intended purpose of the type 37 turnout.	Safety action still pending	
RO-2014-013-SI-04: The VCA type 37 turnout design, and V/Line's provisional type approval process, did not fully identify the subtle design changes inherent with the VCA type 37 turnout in determining testing, commissioning and validation needs.	Safety action still pending	

Rail (continued)

SAFETY ISSUE	STATUS	STATUS JUSTIFICATION
RO-2014-013-SI-05: The physical testing and commissioning regime for the VCA type 37 turnout did not require the use of standard gauge trains with 127 mm rimmed wheels.	Safety action still pending	
RO-2014-013-SI-06: V/Line's processes for responding to the report by the driver of train ST21 did not limit, or prevent, the subsequent movement of train ST24 before checks had been carried out to identify and assess any potential track and/or rolling stock issue(s).	Safety action still pending	
RO-2014-015 Fire on freight train 3DA2 near Snowtown, South Australia, 21 August 2014		
RO-2014-015-SI-01: Genesee and Wyoming Australia had no procedure in place to verify (either in total or by random selection) that the nature, or condition, of freight provided by their customers complied with their Standard Condition of Carriage.	Adequately addressed	The ATSB considers that the scope of the audit as advised by GWA sufficiently addresses the key elements of the safety issue. As a result, the ATSB is satisfied that GWA has demonstrated its commitment to address the safety issue through an independent audit of their policies and procedures.

Safety actions

Table 9: Number of safety actions released in 2014–15

SAFETY ACTION TYPE	AVIATION	MARINE	RAIL	TOTAL
Associated with significant safety issues				
Proactive safety action	14	3	16	33
Safety Advisory Notice	0	1	1	2
Safety Recommendation	6	6	1	13
Associated with minor safety issues				
Proactive safety action	4	8	36	48
Safety Advisory Notice	0	2	0	2
Safety Recommendation	0	4	10	14
Total	**24**	**24**	**64**	**112**

ATSB recommendations closed in 2014–15

Table 10: ATSB recommendations closed in 2014–15—Aviation

Investigation	**AO-2011-115 Flight control system event, VH-JHF, Cessna 210N, Bourke Aerodrome, 272° M 48Km, 12 September 2011**
Safety issue	The Civil Aviation Regulations 1988 lack clarity regarding the requirement for aircraft manufacturers' supplemental inspections, where available, to be carried out when an aircraft is being maintained in accordance with the CASA maintenance schedule.
Number	AO-2011-115-SR-049
Organisation	Civil Aviation Safety Authority
Recommendation	The Australian Transport Safety Bureau recommends that CASA proceed with its program of regulatory reform, to ensure that the provisions of CAR Schedule 5 are clarified in relation to the incorporation of all relevant supplemental inspections specified for the aircraft type.
Released	16/08/2013
Final action	19/05/2015
Final action	CASA released Aviation Ruling 01/2014 and Airworthiness Bulletin 02-048 in April 2014 to clarify when manufacturer's supplemental inspection documents, however described—including Cessna Supplemental Inspection Documents (SIDs), issued as instructions for continuing airworthiness of an aircraft or the aircraft's aeronautical products—are required to be complied with. In relation to the outstanding safety issue, the Aviation Ruling states that 'if the registered operator has elected to use the CAR 42B CASA Maintenance Schedule…compliance with SIDs and other manufacturer's supplemental or structural inspection documents is mandatory.' The ATSB is satisfied that this action, taken by CASA, effectively addresses the safety issue.

Investigation	**AO-2012-012 Loss of separation between Airbus A320, 9V-TAZ and Airbus A340, A6-EHH near TANEM, 907 km NW of Karratha, Western Australia, 18 January 2012**
Safety issue	The air traffic services provider gave limited formal guidance to controllers and pilots regarding the conditions in which it was safe and appropriate to use block levels.
Number	AO-2012-012-SR-018
Organisation	Airservices Australia
Recommendation	The Australian Transport Safety Bureau recommends that Airservices Australia take safety action to address the limited formal guidance to controllers and pilots regarding the conditions in which it is safe and appropriate to use block levels.
Released	18/10/2013
Final action	13/08/2014

Aviation (continued)

Final action	On 14 January 2014, Airservices advised the ATSB that it had conducted an analysis, which confirmed the adequacy of existing Australian block level clearance guidance material and procedures in comparison with internal practices including Air Navigation Service Providers in the USA, UK and Canada. In late July 2014, the ATSB published, via its website, its determination that, whilst acknowledging the work Airservices has done to date, it does not consider the safety issue to have been addressed as no changes have been made to Airservices existing block level clearance guidance. Although no further recommendations have been made, Airservices has revisited the matter and would appreciate the ATSB's consideration of the following information in relation to safety issue AO-2012-012-SI-02 block level clearances. Airservices reaffirms that it considers the existing Australia block level clearance guidance material to be adequate. Airservices also considers that the existing separation ATC (air traffic control) standards have adequately addressed proximity considerations, and restrictions to the use of block level clearances are not required and would be difficult to specify in the existing rule sets as they are dependent on the ATS (air traffic services) operational environment. In addition to the actions previously advised, Airservices Learning Academy ATS School has strengthened the ATS ab-initio training course to include additional block level training scenarios to increase controller exposure and awareness, and reinforce rule set knowledge to improve ATC operational decision making. Airservices is also strengthening system-based risk controls (rather than procedural measures) to provide conflict detection when block level clearances are in use. For example, Flight Plan Safety Net Alert (FPSNA) is being rolled out across a number of Upper Airspace Services south and east sectors.

Investigation	**AO-2012-131 Loss of separation involving Boeing 717, VH-NXQ and Boeing 737, VH-VXM, near Darwin Airport, Northern Territory, 2 October 2012**
Safety issue	Darwin Approach controllers were routinely exposed to green (limited data block) radar returns that were generally inconsequential in their Approach control environment—leading to a high level of expectancy that such tracks were not relevant for aircraft separation purposes. Refresher training did not emphasise the importance of scanning the green radar returns.
Number	AO-2012-131-SR-041
Organisation	Department of Defence
Recommendation	The Australian Transport Safety Bureau recommends that the Department of Defence take further safety action to address the limited provision of regular simulator-based refresher training that emphasises the importance of scanning green radar returns.
Released	19/09/2014
Final action	18/05/2015

Aviation (continued)

Final action	DoD reported that they had implemented the use of a video that explores the reasoning behind compromised separation recovery, as well as the thought processes and tools available to execute when needed. The video uses the radar tape from the Williamtown 2011 occurrence. This video is then followed up by a computer-based training course which assesses the controller on the information presented in the video. Although not a direct response to this safety recommendation, DoD also reported the use of two packages related to separation assurance—titled 'Because they rely on us' and 'Can you look away'.

Investigation	**AO-2012-131 Loss of separation involving Boeing 717, VH-NXQ and Boeing 737, VH-VXM near Darwin Airport, Northern Territory, 2 October 2012**
Safety issue	The Department of Defence had not provided Darwin-based controllers with regular practical refresher training in identifying and responding to compromised separation scenarios.
Number	AO-2012-131-SR-042
Organisation	Department of Defence
Recommendation	The Australian Transport Safety Bureau recommends that the Department of Defence takes further safety action to address the provision of regular and practical simulator-based refresher Compromised Separation Recovery Training to all controllers.
Released	19/09/2014
Final action	18/05/2015
Final action	DoD reported that they had implemented the use of a video that explores the reasoning behind compromised separation recovery, as well as the thought processes and tools available to execute when needed. The video uses the radar tape from the Williamtown 2011 occurrence. This video is then followed up by a computer-based training course which assesses the controller on the information presented in the video. Although not a direct response to this safety recommendation, DoD also reported the use of two packages related to separation assurance—titled 'Because they rely on us' and 'Can you look away'.

Investigation	**AR-2012-034 Loss of Separation between aircraft in Australian airspace, 2008 to June 2012**
Safety issue	Loss of separation (LOS) incidents attributable to pilot actions in civil airspace are not monitored as a measure of airspace safety nor actively investigated for insight into possible improvements to air traffic service provision. As about half of all LOS incidents are from pilot actions, not all available information is being fully used to assure the safety of civilian airspace.
Number	AR-2012-034-SR-016

Aviation (continued)

Organisation	Civil Aviation Safety Authority
Recommendation	The Australian Transport Safety Bureau recommends that the Civil Aviation Safety Authority, in consultation with Airservices Australia and major aircraft operators, use all available information to assure the safety of civilian airspace through actively monitoring and investigating loss of separation incidents attributable to pilot actions, in addition to the current focus on air traffic services-attributable occurrences.
Released	18/10/2013
Final action	19/09/2014
Final action	CASA issued a Management Instruction on 14 August TMI-2014-003. The purpose of this TMI is to provide notification and direction to all CASA Divisions that, effective from 8th August 2014, all controlling offices are to assess all LOS events involving or related to an RPT aircraft. If that assessment indicates the event was caused by pilot error, CASA will conduct further investigations into the event and record the outcomes of that investigation.

Table 11: ATSB recommendations closed in 2014–15—Marine

Investigation	**MI-2010-011 Independent investigation into Queensland Coastal Pilotage operations**
Safety issue	The coastal pilot fatigue management plan is inadequate. Factors that limit the effectiveness of the fatigue management plan amongst the 82 pilots surveyed, included: • a largely self-managed approach where individual pilots may have conflicting priorities relating to remuneration and other working arrangements • pilot travel and transfer times regularly being included in rest periods • variations in sleep patterns due to irregular working hours and the effect of multiple, consecutive pilotages not being taken into account • dispensations being granted from requirements and, when granting dispensations, the pilot's agreement being used to support the fatigue risk assessment despite a clear conflict of interest with the pilot's remuneration • lack of effective measures to ensure that fatigue during a single-handed pilotage, particularly in the Inner Route, never exceeds an acceptable level.
Number	MI-2010-011-SR-051
Organisation	Australian Reef Pilots
Recommendation	The Australian Transport Safety Bureau recommends that Australian Reef Pilots takes further action to facilitate action taken by the Australian Maritime Safety Authority to address the safety issue.
Released	24/10/2012
Final action	29/07/2014

Marine (continued)

Final action	Update in regard to ATSB Issue MI-2010-011-SI-03 'Pilot Fatigue Management Plan' and further to ARP correspondence dated 22 January 2013 and 21 August 2013. Subject: Single pilot versus two pilot Inner Route pilotage. Following inconclusive theoretical studies by both ARP (through FAID consultants, Interdynamics Pty Ltd) and AMSA (through the Appleton Institute / CQU), ARP commenced a field study of single pilot fatigue utilising 'Smartcap' monitoring technology. A modest number of field recordings were captured prior to developments announced by AMSA, at the Combined Pilotage Group meeting on 30 October 2013 (CPG65). At that meeting, AMSA advised Pilot Providers that field trials would be undertaken to verify results from the earlier theoretical study and that AMSA would be progressing this via a request for quotation for such field studies. ARP suspended its own field studies at that time given the matter is now being progressed at the federal regulatory level. AMSA noted at the Combined Pilotage Group meeting on 06 March 2014 (CPG66) that bids received in response to the request for a quotation (for field studies) did not represent value for money and that the process was taking longer than expected, but was continuing, and that AMSA recognises fatigue management as a very important safety factor. Subject to specific details of the proposed AMSA field study, ARP intends to be a willing participant in this process. ARP remains cognisant of fatigue risk concerns raised by the ATSB, however does not view field studies conducted independent of AMSA to be appropriate or beneficial to the coastal pilotage industry as a whole. ARP will continue to adhere to the fatigue risk management controls, as established by the AMSA Default Fatigue Risk Management Plan (dated March 2013), until such time as AMSA studies are able to identify shortcomings in that plan.

Investigation	**MI-2010-011 Independent investigation into Queensland Coastal Pilotage operations**
Safety issue	The safety framework, prescribed by successive issues of Marine Orders Part 54 (MO 54), has not assigned responsibility for the overall management of safety risks associated with coastal pilotage operations to pilotage providers, nor any other organisation. This has allowed the following issues to exist: • the 2001 objective of MO 54 to ensure that all pilotage operations are covered by an approved safety management system has not been achieved • the absence of uniform, adequately risk-analysed procedures for the pilotage task and standardised passage plans to allow ship crews to pre-plan passages • pilotage provider safety management systems that only address the risks primarily associated with assigning pilots to ships and pilot transfer operations • the devolution of responsibility to manage the most safety critical aspects of coastal pilotage to the individual pilots without direct regulatory oversight.
Number	MI-2010-011-SR-048
Organisation	Australian Maritime Safety Authority (AMSA)

Marine (continued)

Recommendation	The Australian Transport Safety Bureau recommends that the Australian Maritime Safety Authority takes further safety action to address the safety issue by ensuring that the coastal pilotage regulations specifically assign responsibility for overall management of the safety risks associated with coastal pilotage operations to the pilotage providers or another organisation. The role, functions, operational and industry responsibilities of any organisation providing a coastal pilotage service should be clearly defined by the provisions of the regulations—with a primary focus on the safety of the pilotage service provided.
Released	24/10/2012
Final action	6/08/2014
Final action	A draft amended MO 54 was released for extended public consultation in December 2013 (closing 31 January 2014). In December 2013, AMSA met with each Pilotage Provider to discuss the draft Order in detail, and to provide an opportunity for direct input. 110 comments were included in the draft Order following consultation. The revised Order commenced on the 1st July 2014. The Order now requires pilotage providers to ensure their safety management systems describe how risks associated with all operations of pilotage crew are identified, and minimised, to the satisfaction of AMSA (per s43(1)(c)). Additionally, the MO 54 (2014) states: 8(b) a duty of a licensed pilotage provider is to provide pilots and pilot transfers to a vessel, and maintain a safety management system to ensure the safe navigation of the vessel in a compulsory pilotage area. As a result of these amendments to MO 54, AMSA considers this issue to have been addressed.

Investigation	**MO-2013-003 Fatality on board the private motor yacht *Calliope* while departing Sydney, 8 February 2013**
Safety issue	*Calliope* was not required to carry a pilot during Sydney Harbour voyages, because the yacht was considered to be a recreational vessel—even though the risks it posed to the port were the same as those posed by similarly sized commercially operated vessels.
Number	MO-2013-003-SR-006
Organisation	Sydney Port Corporation
Recommendation	The ATSB recommends that Sydney Ports Corporation takes safety action to address the pilotage requirements that apply to privately operated yachts like *Calliope*.
Released	12/05/2014
Final action	14/08/2014
Final action	Legislative changes to the New South Wales Marine Safety Act pilotage requirements are administered by Transport for New South Wales. On behalf of Sydney Ports, the Harbour Master has requested changes to the Marine Safety Act be considered during the 2014 review.

Marine (continued)

Investigation	MO-2013-003 Fatality on board the private motor yacht *Calliope* while departing Sydney, 8 February 2013
Safety issue	The Cayman Islands requirements, in relation to a yacht's compliance with the Large Commercial Yacht Code and other relevant legislation, are determined by the yacht's mode of operation. As a result, a commercially operated yacht in excess of 24 m in length must comply with the requirements of the Code, while a similar sized privately operated yacht that poses the same risks to safety of life at sea and the environment does not.
Number	MO-2013-003-SR-007
Organisation	Cayman Island Shipping Registry
Recommendation	The ATSB recommends that the Cayman Islands Shipping Registry take action to address this safety issue. Such action could include raising awareness of this safety issue and the need for regulatory change amongst the members of the International Maritime Organization.
Released	12/05/2014
Final action	5/08/2014
Final action	The Cayman Island Shipping Registry (CISR) acknowledged the wider safety implications of this recommendation, but did not consider it related directly to the accident. However, the CISR have taken safety action by requesting an agenda item to discuss this issue at the Red Ensign Group's (REG) Technical Forum 2014. This forum is made up of the United Kingdom and the Maritime Administrations of the UK's Overseas Territories and Crown Dependencies. CISR will present the findings, and safety recommendations, of this investigation to the REG Members.Any further action at the IMO level should be taken forward by the United Kingdom—as the UK is signatory to the Conventions of IMO on behalf of all REG Members.

Investigation	MO-2013-011 Grounding of *Bosphorus*, Brisbane River, Queensland, 29 October 2013
Safety issue	*Bosphorus*' safety management system did not detail any guidance or instructions relating to watch handover, or changing the helmsman, during high risk areas of a pilotage.
Number	MO-2013-011-SR-025
Organisation	Universal Shipping BV
Recommendation	The ATSB recommends that Universal Shipping take action to address this safety issue.
Released	22/09/2014
Final action	23/04/2015
Final action	Since the release of the investigation report, the ATSB regularly updates the Australian Maritime Safety Authority (AMSA) with responses received from Universal Shipping BV and, in particular, concerns in relation to the lack of safety action taken by the company.

Marine (continued)

Investigation	MO-2013-011 Grounding of *Bosphorus*, Brisbane River, Queensland, 29 October 2013
Safety issue	*Bosphorus*' safety management system provided no guidance, in relation to the allocation of functional roles and responsibilities, to bridge team members during pilotage.
Number	MO-2013-011-SR-026
Organisation	Universal Shipping BV
Recommendation	The ATSB recommends that Universal Shipping take action to address this safety issue.
Released	22/09/2014
Final action	23/04/2015
Final action	Since the release of the investigation report, the ATSB regularly updated the Australian Maritime Safety Authority (AMSA) with the responses received from Universal Shipping BV and, in particular, concerns in relation to the lack of safety action taken by the company.

Investigation	MO-2013-012 Machinery failure on *HC Rubina* and subsequent contact with the wharf, Brisbane, 29 October 2013
Safety issue	*HC Rubina*'s electronic planned maintenance system did not contain any instructions to ensure that the shaft alternator flexible coupling was maintained in accordance with the manufacturer's requirements.
Number	MO-2013-012-SR-028
Organisation	IMM Shipping GmbH & Co KG
Recommendation	The Australian Transport Safety Bureau recommends that IMM Shipping takes action to address the lack of instructions in the planned maintenance systems of its managed ships ensure that ship equipment is maintained in accordance with manufacturers' instructions.
Released	14/11/2014
Final action	14/03/2015
Final action	Safety action taken by IMM Shipping included obtaining the detailed maintenance history of the ship's critical equipment, such as main and auxiliary engines and associated propulsion components, from their manufacturers. The company's technical management then identified the maintenance and overhaul requirements for such equipment and machinery in the planned maintenance system. The same equipment on an identical ship in the company's fleet was also inspected and precautionary measures were taken—including replacing the shaft alternator flexible coupling.

Marine (continued)

Investigation	MO-2013-012 Machinery failure on *HC Rubina* and subsequent contact with the wharf, Brisbane, 29 October 2013
Safety issue	The ship's managers did not have effective systems to ensure that the defective control system for the controllable pitch propeller was reported to the relevant organisations, as required. Consequently, Brisbane's vessel traffic services, pilotage provider and the pilot remained unaware of the defect and could not consider it part of their risk assessment before the pilotage started.
Number	MO-2013-012-SR-029
Organisation	IMM Shipping GmbH & Co KG
Recommendation	The Australian Transport Safety Bureau recommends that IMM Shipping take safety action to ensure the reporting of defects, as required by regulatory requirements.
Released	14/11/2014
Final action	14/03/2015
Final action	The response from IMM Shipping identified safety action to address issues concerning planned maintenance and internal communications. No specific safety action was identified to address the safety issue concerning reporting of defects to external parties. However, the company issued a circular to all managed ships to promulgate incident information across its fleet.

Table 12: ATSB recommendations closed in 2014–15—Rail

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	Gannawarra Shire did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the shire in 2009.
Number	RO-2013-008-SR-068
Organisation	Gannawarra Shire
Recommendation	The Australian Transport Safety Bureau recommends that Gannawarra Shire reviews its processes and implements improvements in the follow-up of identified level crossing sighting deficiencies.
Released	7/10/2014
Final action	6/01/2015
Final action	Gannawarra Shire Council has amended its policies and procedures with respect to level crossing safety management throughout the Shire. The Council has also introduced six-monthly inspections of all level crossings in their jurisdiction. Meetings with all stakeholders are being held to discuss crossing issues.

Rail (continued)

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria on 12 February 2013
Safety issue	The 'give-way' protection installed at the crossing was inconsistent with the available approach sighting distances on both approaches to the crossing. Sighting was affected by vegetation, embankments formed by a rail cutting and the curved road approaches.
Number	RO-2013-008-SR-069
Organisation	V/Line Regional Network and Access
Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews the risks associated with inconsistency between the level of crossing protection provided and the sighting available—and takes appropriate action.
Released	9/10/2014
Final action	20/02/2015
Final action	V/Line has advised the Victorian Railway Crossing Safety Steering committee that B. McCann Road is a high priority location for upgrade to active protection.

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria on 12 February 2013
Safety issue	The level crossing safety coordination processes did not involve a key stakeholder—the gypsum mine owner—who had knowledge of the changing traffic profile. The mine owner was aware of the increasing numbers of heavy vehicles using B. McCann Road, since 2010, and the associated changing risk profile of the level crossing.
Number	RO-2013-008-SR-070
Organisation	V/Line Regional Network and Access
Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews its processes of level crossing safety coordination to ensure that all necessary stakeholders are consulted.
Released	7/10/2014
Final action	20/02/2015
Final action	V/Line has reviewed its process for level crossing interface issues and has established the role of a Rail Interface Coordinator, who will be responsible for stakeholder consultation.

Rail (continued)

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria on 12 February 2013
Safety issue	V/Line did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the rail operator in 2009.
Number	RO-2013-008-SR-067
Organisation	V/Line Regional Network and Access
Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews its processes and implements improvement in the follow-up of identified level crossing sighting deficiencies.
Released	7/10/2014
Final action	24/02/2015
Final action	V/Line has reviewed its processes for the follow-up of level crossing sighting deficiencies. The role of a Rail Interface Coordinator has been established that will have responsibility for ongoing liaison with road authorities with respect to level crossing interfaces.

Investigation	RO-2013-009 Derailment of freight train 9501V, South Dynon Junction, West Melbourne, Victoria, 2 March 2013
Safety issue	The train operator's Route Knowledge Package did not include track layout diagrams, or specific information warning of the existence of dual-gauge turnouts where track terminated in one direction.
Number	RO-2013-009-SR-066
Organisation	Pacific National Pty Ltd
Recommendation	The Australian Transport Safety Bureau recommends that Pacific National undertake further work to address this safety issue.
Released	4/09/2014
Final action	16/12/2014
Final action	Pacific National have advised that they will amend the Route Knowledge Package to correct the reference to 'verbal caution order' and the description of signal DYN114.

Rail (continued)

Investigation	RO-2013-027 Derailment of freight train 9204 near Sims Street Junction, West Melbourne, Victoria on 4 December 2013
Safety issue	The Train Control System permitted the NCO to set an unviable route for the train and then displayed it as viable. The train control system alarm, designed to alert an NCO to the setting of an unviable route, was nullified by the absence of gauge detection.
Number	RO-2013-027-SR-076
Organisation	ARTC
Recommendation	The Australian Transport Safety Bureau recommends that ARTC undertake further action to address the risk of directing trains onto incorrect gauge track in dual-gauge territory.
Released	13/01/2015
Final action	8/05/2015
Final action	ARTC have approved the following system safety enhancements: • a change to the Phoenix software program to prevent route setting when gauge detection has not been established. Under this condition an alarm will be displayed to the NCO and points on the affected route rendered unavailable for remote operation • mechanical gauge indicators will be installed to enhance information to train crews—by indicating the gauge compatibility of the points setting. The above actions, combined with those previously implemented, will ensure an appropriate level of operational safety during failure conditions.

Safety recommendations released in 2014–15

Table 13: Safety recommendations released in 2014–15—Aviation

Investigation	AO-2012-131 Loss of separation involving Boeing 717, VH-NXQ and Boeing 737, VH-VXM near Darwin Airport, Northern Territory, 2 October 2012
Safety issue	Darwin Approach controllers were routinely exposed to green (limited data block) radar returns that were generally inconsequential in their Approach control environment—leading to a high level of expectancy that such tracks were not relevant for aircraft separation purposes. Refresher training did not emphasise the importance of scanning the green radar returns.
Number	AO-2012-131-SR-041
Organisation	Department of Defence
Safety Recommendation	The Australian Transport Safety Bureau recommends that the Department of Defence take further safety action to address the limited provision of regular simulator-based refresher training that emphasises the importance of scanning green radar returns.
Released	19/09/2014

Aviation (continued)

Investigation	AO-2012-131 Loss of separation involving Boeing 717, VH-NXQ and Boeing 737, VH-VXM near Darwin Airport, Northern Territory, 2 October 2012
Safety issue	The Department of Defence had not provided Darwin-based controllers with regular practical refresher training in identifying and responding to compromised separation scenarios.
Number	AO-2012-131-SR-042
Organisation	Department of Defence
Safety Recommendation	The Australian Transport Safety Bureau recommends that the Department of Defence takes further safety action to address the provision of regular and practical simulator-based refresher Compromised Separation Recovery Training to all controllers.
Released	19/09/2014

Investigation	AO-2013-055 Loss of control involving Robinson R44 helicopter, VH-HWQ, Bulli Tops, NSW, 21 March 2013
Safety issue	Many of the existing civil helicopter fleet are not fitted with a crash-resistant fuel system, or do not have an equivalent level of safety associated with post impact fire prevention.
Number	AO-2013-055-SR-028
Organisation	US Federal Aviation Administration
Safety Recommendation	The ATSB recommends that the United States Federal Aviation Administration take action to increase the number of existing helicopters that are fitted with a crash-resistant fuel system or have an equivalent level of safety in respect of post-impact fire.
Released	4/06/2015

Investigation	AO-2013-055 Loss of control involving Robinson R44 helicopter, VH-HWQ, Bulli Tops, NSW, 21 March 2013
Safety issue	Many of the existing civil helicopter fleet are not fitted with a crash-resistant fuel system, or do not have an equivalent level of safety associated with post impact fire prevention.
Number	AO-2013-055-SR-029
Organisation	European Aviation Safety Agency
Safety Recommendation	The ATSB recommends that the European Aviation Safety Agency take action to increase the number of existing helicopters that are fitted with a crash-resistant fuel system or have an equivalent level of safety in respect of post-impact fire.
Released	4/06/2015

Aviation (continued)

Investigation	AO-2013-055 Loss of control involving Robinson R44 helicopter, VH-HWQ, Bulli Tops, NSW, 21 March 2013
Safety issue	Although certification requirements for helicopters to include a crash-resistant fuel system (CRFS) were introduced in 1994, several helicopter types certified before these requirements became applicable are still being manufactured without a CRFS.
Number	AO-2013-055-SR-030
Organisation	European Aviation Safety Agency
Safety Recommendation	The ATSB recommends that the European Aviation Safety Agency take action to increase the number of helicopters manufactured in accordance with the 1994 certification requirements that helicopters include a crash-resistant fuel system.
Released	4/06/2015

Investigation	AO-2013-055 Loss of control involving Robinson R44 helicopter, VH-HWQ, Bulli Tops, NSW, 21 March 2013
Safety issue	Although certification requirements for helicopters to include a crash-resistant fuel system (CRFS) were introduced in 1994, several helicopter types certified before these requirements became applicable are still being manufactured without a CRFS.
Number	AO-2013-055-SR-026
Organisation	US Federal Aviation Administration
Safety Recommendation	The ATSB recommends that the United States Federal Aviation Administration take action to increase the number of helicopters manufactured in accordance with the 1994 certification requirements that helicopters include a crash-resistant fuel system.
Released	4/06/2015

Table 14: Safety recommendations released in 2014–15—Marine

Investigation	MO-2013-011 Grounding of *Bosphorus*, Brisbane River, Queensland, 29 October 2013
Safety issue	*Bosphorus*' safety management system provided no guidance in relation to the allocation of functional roles and responsibilities to bridge team members during pilotage.
Number	MO-2013-011-SR-026
Organisation	Universal Shipping BV
Safety Recommendation	The ATSB recommends that Universal Shipping take action to address this safety issue.
Released	22/09/2014

Marine (continued)

Investigation	MO-2013-011 Grounding of *Bosphorus*, Brisbane River, Queensland, 29 October 2013
Safety issue	*Bosphorus*' safety management system did not detail any guidance or instructions relating to watch handover, or changing the helmsman, during high risk areas of a pilotage.
Number	MO-2013-011-SR-025
Organisation	Universal Shipping BV
Safety Recommendation	The ATSB recommends that Universal Shipping take action to address this safety issue.
Released	22/09/2014

Investigation	MO-2013-012 Machinery failure on *HC Rubina* and subsequent contact with the wharf, Brisbane, 29 October 2013
Safety issue	*HC Rubina*'s electronic planned maintenance system did not contain any instructions to ensure that the shaft alternator flexible coupling was maintained in accordance with the manufacturer's requirements.
Number	MO-2013-012-SR-028
Organisation	IMM Shipping GmbH & Co KG
Safety Recommendation	The Australian Transport Safety Bureau recommends that IMM Shipping takes action to address the lack of instructions in the planned maintenance systems of its managed ships, to ensure that ship equipment is maintained in accordance with manufacturers' instructions.
Released	14/11/2014

Investigation	MO-2013-012 Machinery failure on *HC Rubina* and subsequent contact with the wharf, Brisbane, 29 October 2013
Safety issue	The ship's managers did not have effective systems to ensure that the defective control system for the controllable pitch propeller was reported to the relevant organisations as required. Consequently, Brisbane's vessel traffic services, pilotage provider and the pilot remained unaware of the defect and could not consider it in their risk assessments before the pilotage started.
Number	MO-2013-012-SR-029
Organisation	IMM Shipping GmbH & Co KG
Safety Recommendation	The Australian Transport Safety Bureau recommends that IMM Shipping takes safety action to ensure the reporting of defects, as required by regulatory requirements.
Released	14/11/2014

Marine (continued)

Investigation	MO-2014-001 Serious injury on board the passenger ship *Seven Seas Voyager* Sydney, New South Wales, 1 February 2014
Safety issue	The manufacturer's instruction manual for *Seven Seas Voyager*'s waste incinerator contained no specific instructions for ash grate maintenance or replacement. Such instructions would have provided useful information for the ship's crew to plan, and safely complete, periodic ash grate maintenance.
Number	MO-2014-001-SR-002
Organisation	ISIR Impianti Srl
Safety Recommendation	The ATSB recommends that ISIR Impianti Srl take action to ensure that their equipment maintenance instructions contain all detail necessary to allow the safe completion of routine, and non-routine, maintenance activities.
Released	23/01/2015

Investigation	MO-2014-001 Serious injury on board the passenger ship *Seven Seas Voyager* Sydney, New South Wales, 1 February 2014
Safety issue	*Seven Seas Voyager*'s planned maintenance system (PMS) contained no information about waste incinerator ash grate replacement, a task that would have been regularly undertaken by different engineering staff since 2003. Therefore, in this respect, the shipboard procedures that documented requirements for the PMS had not been effectively implemented.
Number	MO-2014-001-SR-001
Organisation	Prestige Cruise Services
Safety Recommendation	The ATSB recommends that Prestige Cruise Services take action to ensure that all shipboard repetitive non-routine maintenance activities are addressed, and appropriately documented, within the ship's planned maintenance system.
Released	23/01/2015

Investigation	MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 01 March 2014
Safety issue	**The manufacturer's calculations did not take into account the shock load imposed on the simulation wires nor the boat and frame mounting points.**
Number	MO-2014-002-SR-006
Organisation	Jiangsu Jiaoyan Marine Equipment Co. Ltd

Marine (continued)

Safety Recommendation	The Australian Transport Safety Bureau recommends that Jiangsu Jiaoyan Marine Equipment Company takes safety action to address the lack of calculation of the shock loads imposed on the simulation wires. Further, the suitability of materials used to make up the simulation system, and how they dissipated the forces imposed on them, should also be assessed.
Released	19/05/2015

Investigation	**MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 01 March 2014**
Safety issue	The Recognised Organisation's process for the approval of the simulation wires for 'maintenance and testing' had not taken into account the shock loading that would be experienced during testing.
Number	MO-2014-002-SR-008
Organisation	Bureau Veritas (BV)
Safety Recommendation	The Australian Transport Safety Bureau recommends that Bureau Veritas takes safety action to address the lack of procedures governing the approval and certification process, so that all aspects of a piece of equipment's use is considered prior to certifying.
Released	20/05/2015

Investigation	**MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 1 March 2014**
Safety issue	An equivalent, alternative arrangement to the safety pin had not been provided to prevent inadvertent tripping of the freefall lifeboat's on-load release during routine operations—such as inspections and maintenance.
Number	MO-2014-002-SR-003
Organisation	Jiangsu Jiaoyan Marine Equipment Co. Ltd
Safety Recommendation	The Australian Transport Safety Bureau recommends that Jiangsu Jiaoyan Marine Equipment Company takes safety action to fully address the issue, by providing controls that ensure the freefall lifeboat maintenance pin is replaced by the safety pin after its use.
Released	20/05/2015

Marine (continued)

Investigation	MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 1 March 2014
Safety issue	An equivalent, alternative arrangement to the safety pin had not been provided to prevent inadvertent tripping of the freefall lifeboat's on-load release during routine operations—such as inspections and maintenance.
Number	MO-2014-002-SR-004
Organisation	V.Ships
Safety Recommendation	The Australian Transport Safety Bureau recommends that V.Ships takes safety action to fully address the issue, by providing controls that ensure the freefall lifeboat maintenance pin is replaced by the safety pin after its use.
Released	20/05/2015

Table 15: Safety recommendations released in 2014–15—Rail

Investigation	RO-2012-006 Collision between two road-rail vehicles Haig, Western Australia, 24 May 2012
Safety issue	The absence of a national standard that addresses the design, fitment and maintenance of rail guidance equipment—and the safety performance for road-rail vehicles while on-rail—increases the risks associated with operating road-rail vehicles.
Number	RO-2012-006-SR-018
Organisation	Rail Industry Safety and Standards Board
Safety Recommendation	The Australian Transport Safety Bureau recommends that the Rail Industry Safety Standards Board continue to progress the timely development of a standard to address this safety issue.
Released	15/09/2014

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer Near Lake Charm, Victoria on 12 February 2013
Safety issue	V/Line did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the rail operator in 2009.
Number	RO-2013-008-SR-067
Organisation	V/Line Regional Network and Access
Safety Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews its processes and implements improvement in the follow-up of identified level crossing sighting deficiencies.
Released	7/10/2014

Rail (continued)

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	Gannawarra Shire did not adequately address level crossing sighting issues at B. McCann Road as acknowledged by the shire in 2009.
Number	RO-2013-008-SR-068
Organisation	Gannawarra Shire
Safety Recommendation	The Australian Transport Safety Bureau recommends that Gannawarra Shire reviews its processes and implements improvements in the follow-up of identified level crossing sighting deficiencies.
Released	7/10/2014

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	When the crossing was last surveyed, under the ALCAM program, the measurement of the road angle resulted in an overestimate of the acute road-to-rail interface angle. The implication of overestimating the acute interface angle is that sighting deficiencies may be underestimated, or not identified.
Number	RO-2013-008-SR-071
Organisation	VicTrack
Safety Recommendation	The Australian Transport Safety Bureau recommends that VicTrack reviews its instructions for the measurement of road angle, to assure that worst case sighting scenarios are identified.
Released	7/10/2014

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	The 'give-way' protection installed at the crossing was inconsistent with the available approach sighting distances on both approaches to the crossing. Sighting was affected by vegetation, embankments formed by a rail cutting and the curved road approaches.
Number	RO-2013-008-SR-069
Organisation	V/Line Regional Network and Access
Safety Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews the risks associated with the inconsistency between the level of crossing protection provided and the sighting available, and takes appropriate action.
Released	7/10/2014

Rail (continued)

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	The level crossing safety coordination processes did not involve a key stakeholder—the gypsum mine owner—who had knowledge of the changing traffic profile. The mine owner was aware of the increasing numbers of heavy vehicles using B. McCann Road, since 2010, and the associated changing risk profile of the level crossing.
Number	RO-2013-008-SR-070
Organisation	V/Line Regional Network and Access
Safety Recommendation	The Australian Transport Safety Bureau recommends that V/Line reviews its processes of level crossing safety coordination, to ensure that all necessary stakeholders are consulted.
Released	7/10/2014

Investigation	RO-2013-008 Level crossing collision between passenger train and semi-trailer near Lake Charm, Victoria, 12 February 2013
Safety issue	There existed an inconsistency between the track speed used for crossing assessment and permitted train speeds. The ALCAM process used a train speed equal to the track line speed, whereas V/Line systems for evaluating driver behaviour, permitted an exceedance of line speed by up to 10 km/h for short distances.
Number	RO-2013-008-SR-074
Organisation	VicTrack
Safety Recommendation	The Australian Transport Safety Bureau recommends that VicTrack take action to address the inconsistency that exists between the crossing assessment that assumes a train travelling at line speed and the sighting that would be required for a train travelling at the 10 km/h greater speed that is procedurally permitted by the rail operator.
Released	7/10/2014

Investigation	RO-2013-009 Derailment of freight train 9501V, South Dynon Junction, West Melbourne, Victoria, 2 March 2013
Safety issue	The train operator's Route Knowledge Package did not include track layout diagrams, or specific information warning of the existence of dual-gauge turnouts—where track terminated in one direction.
Number	RO-2013-009-SR-066
Organisation	Pacific National Pty Ltd

Rail (continued)

Safety Recommendation	The Australian Transport Safety Bureau recommends that Pacific National undertake further work to address this safety issue.
Released	4/09/2014

Investigation	**RO-2013-017 Safeworking breach involving a Local Possession Authority, Revesby, New South Wales, 10 July 2013.**
Safety issue	There was non-compliance to the repeat back provision, because it was viewed as onerous under certain Local Possession Authorities (LPAs). An opportunity exists to review rule non-conformance with the implementation of LPAs.
Number	RO-2013-017-SR-055
Organisation	Sydney trains
Safety Recommendation	The Australian Transport Safety Bureau recommends that Sydney Trains undertake further work to address this safety issue.
Released	19/09/2014

Investigation	**RO-2013-018 Safeworking breaches involving Absolute Signal Blocking Blackheath NSW, 13 June 2013, Newcastle NSW, 13 July 2013 and Wollstonecraft NSW, 17 July 2013**
Safety issue	The Sydney Trains regime for auditing worksite protection arrangements was not effective in identifying emerging trends, or safety critical issues, when using Absolute Signal Blocking (ASB).
Number	RO-2013-018-SR-085
Organisation	Sydney trains
Safety Recommendation	The Australian Transport Safety Bureau recommends that Sydney Trains undertake further work to ensure future auditing of worksite protection arrangements is effective in identifying issues with the implementation and use of Absolute Signal Blocking, as a method of safeworking.
Released	2/03/2015

Rail (continued)

Investigation	RO-2013-027 Derailment of freight train 9204 near Sims Street Junction, West Melbourne, Victoria, 4 December 2013
Safety issue	The Train Control System permitted the NCO to set an unviable route for the train and then displayed it as viable. The train control system alarm, designed to alert an NCO to the setting of an unviable route, was nullified by the absence of gauge detection.
Number	RO-2013-027-SR-076
Organisation	ARTC
Safety Recommendation	The Australian Transport Safety Bureau recommends that ARTC undertake further action to address the risk of directing trains onto incorrect gauge track in dual-gauge territory.
Released	13/01/2015

Safety advisory notices released in 2014–15

Table 16: Safety advisory notices released in 2014–15—Marine

Investigation	MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 01 March 2014
Safety issue	The manufacturer's calculations did not take into account the shock load imposed on the simulation wires, nor the boat and frame mounting points.
Number	MO-2014-002-SAN-007
Organisations	Lifeboat manufacturers
Safety Advisory Notice	The Australian Transport Safety Bureau advises that all freefall lifeboat manufacturers should calculate all of the forces that will be imposed on their simulation system. Further, the suitability of the materials used to make up the simulation system, and how they dissipate the forces imposed on them, should also be assessed.
Released	20/05/2015

Investigation	MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 1 March 2014
Safety issue	The Recognised Organisation's process for the approval of the simulation wires for 'maintenance and testing' had not taken into account the shock loading that would be experienced during testing.
Number	MO-2014-002-SAN-009
Organisations	International Association of Classification Societies (IACS)

Marine (continued)

Safety Advisory Notice	The Australian Transport Safety Bureau advises that all Recognised Organisations, and the International Association of Classification Societies, should consider the safety implications when certifying simulation systems that are subject to forces that have not been calculated. Further, the materials and components used to make up the simulation system should be assessed for suitability and safety under all intended conditions of use.
Released	20/05/2015

Investigation	**MO-2014-002 Unintentional release of the free fall lifeboat from *Aquarosa*, Indian Ocean, 1 March 2014**
Safety issue	An equivalent, alternative arrangement to the safety pin had not been provided to prevent inadvertent tripping of the freefall lifeboat's on-load release during routine operations—such as inspections and maintenance.
Number	MO-2014-002-SAN-005
Organisations	Administrations
Safety Advisory Notice	The Australian Transport Safety Bureau advises that all manufacturers of freefall lifeboats, and operators of ships fitted with freefall lifeboats, should review their on-load release and associated instructions manuals. This should be done to ensure crew entering the lifeboat, for inspection and maintenance, are not exposed to an increased risk due to the removal of the safety pin from the on-load release.
Released	20/05/2015

Table 17: Safety advisory notices released in 2014–15—Rail

Investigation	**RO-2014-013 Derailment of train ST24 near North Melbourne, Victoria, 11 July 2014**
Safety issue	Inherent to the design of many dual-gauge turnouts is a region of reduced wheel rim contact on the broad gauge switch blade (rail head) through the transfer area. In circumstances where the switch blade is insufficiently restrained, and where the passing train has a narrow (127 mm) wheel rim width, there is an increased risk of derailment.
Number	RO-2014-013-SAN-001
Organisation	Office of the National Rail Safety Regulator
Safety Advisory Notice	The Australian Transport Safety Bureau encourages all relevant rail service operators, and rail infrastructure managers, to note the circumstances of the derailment outlined in this report and to undertake an examination of all dual-gauge turnouts under their control—to ensure all authorised rolling stock can safely transition the turnouts. Action number: RO-2014-013-SAN-01
Released	25/09/2014

SECTION 6

FEATURE

MH370 search discovers a shipwreck

During the course of the underwater search, the *Fugro Equator*'s deep tow system detected a cluster of small sonar contacts in the southern part of the search area, 12 nautical miles to the east of the 7th arc. The sonar data was carefully analysed and categorised as Class 2 (of potential interest but unlikely to be related to MH370). It could not, however, be ruled out.

There were characteristics of the contact that made it unlikely to be MH370, but there were also aspects that generated interest—including multiple small bright reflections in a relatively small area of otherwise featureless seabed.

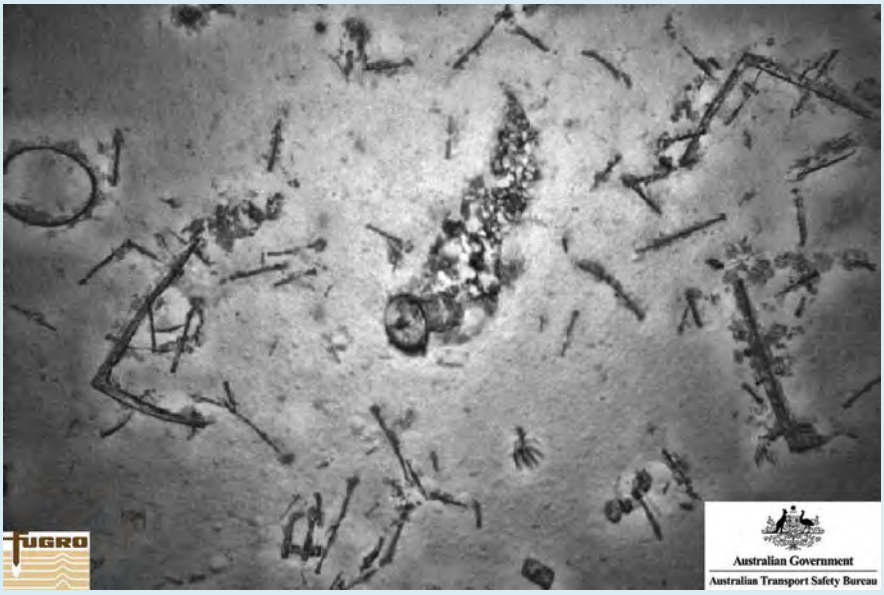

Figure 13: Ship-related debris on the sea floor. Source: ATSB, photo by *Fugro*.

All the sonar data gathered in the search goes through a detailed analysis and an exhaustive review process to ascertain its quality, coverage and—most importantly—any sonar contacts of interest. The analysis starts with the mission crew on board the search vessels, data is then reviewed again ashore by sonar analysts at *Fugro*'s office in Perth and then it is independently reviewed by the sonar experts in the ATSB's Operational Search team. The process is methodical, meticulous and designed to ensure that nothing is missed. In this case, the decision was made to resurvey the contact in more detail when the opportunity arose.

Consequently, *Fugro Supporter* was tasked to divert its passage between two search areas and further investigate the contact. A high-resolution sonar scan was performed using the AUV. The high-resolution data revealed a large number of sonar contacts lying very close to the seafloor, at a depth of around 3,900 m. The majority of the contacts were comparatively small—around the size of a cricket ball—interspersed with a few larger items, the biggest being box-shaped and approximately six metres in its longest dimension. The debris field appeared to be of man-made origin but, once again, it did not exhibit all the characteristics of a typical aircraft debris field.

An additional AUV low-altitude mission was then undertaken using the underwater camera to gather images of the field. Poor weather conditions, however, prevented the safe launching of the AUV for several days.

Analysis of the images revealed that the debris was indeed man-made, but indicated that it was actually the wreck of a ship. This wreck was previously uncharted and the imagery was provided to expert marine archaeologists for possible identification.

While the find is fascinating, the shipwreck was not the goal of the search. This event demonstrated, however, that the systems, people and the equipment involved in the search are working well and that, if there is a debris field in the search area, it will be found.

Figure 14: Ship-related debris on the sea floor, including an anchor. Source: ATSB, photo by *Fugro*.


ATSB

SECTION 7

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Australian National
Audit Office

INDEPENDENT AUDITOR'S REPORT

To the Minister for Infrastructure and Regional Development

I have audited the accompanying annual financial statements of the Australian Transport Safety Bureau for the year ended 30 June 2015, which comprise:

- Statement by the Accountable Authority and Chief Financial Officer;
- Statement of Comprehensive Income;
- Statement of Financial Position;
- Statement of Changes in Equity;
- Cash Flow Statement;
- Schedule of Commitments; and
- Notes to the financial statements, comprising a Summary of Significant Accounting Policies and other explanatory information.

Accountable Authority's Responsibility for the Financial Statements

The Chief Commissioner of the Australian Transport Safety Bureau is responsible under the *Public Governance, Performance and Accountability Act 2013* for the preparation and fair presentation of annual financial statements that comply with Australian Accounting Standards and the rules made under that Act. The Chief Commissioner is also responsible for such internal control as is necessary to enable the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on the financial statements based on my audit. I have conducted my audit in accordance with the Australian National Audit Office Auditing Standards, which incorporate the Australian Auditing Standards. These auditing standards require that I comply with relevant ethical requirements relating to audit engagements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgement, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not

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Phone (02) 6203 7300 Fax (02) 6203 7777

for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of the accounting policies used and the reasonableness of accounting estimates made by the Accountable Authority of the entity, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Independence

In conducting my audit, I have followed the independence requirements of the Australian National Audit Office, which incorporate the requirements of the Australian accounting profession.

Opinion

In my opinion, the financial statements of the Australian Transport Safety Bureau:

(a) comply with Australian Accounting Standards and the *Public Governance, Performance and Accountability (Financial Reporting) Rule 2015*; and

(b) present fairly the financial position of the Australian Transport Safety Bureau as at 30 June 2015 and its financial performance and cash flows for the year then ended.

Australian National Audit Office

Sean Benfield
Audit Principal
Delegate of the Auditor-General

Canberra
6 October 2015

Australian Government

Australian Transport Safety Bureau

STATEMENT BY THE ACCOUNTABLE AUTHORITY AND CHIEF FINANCIAL OFFICER

In our opinion, the attached financial statements for the year ended 30 June 2015 comply with subsection 42(2) of the Public Governance, Performance and Accountability Act 2013 (PGPA Act), and are based on properly maintained financial records as per subsection 41(2) of the PGPA Act.

In our opinion, at the date of this statement, there are reasonable grounds to believe that the non-corporate Commonwealth entity will be able to pay its debts as and when they fall due.

Julian Walsh
Acting Chief Commissioner

6 October 2015

Jane Childs
Chief Financial Officer

6 October 2015

Australian Transport Safety Bureau
Statement of Comprehensive Income
for the period ended 30 June 2015

	Notes	2015 $'000	2014 $'000
NET COST OF SERVICES			
Expenses			
Employee benefits	4A	**(15,563)**	(16,925)
Suppliers	4B	**(102,662)**	(10,583)
Depreciation and amortisation	4C	**(864)**	(1,529)
Finance costs	4D	**(7)**	(9)
Write-down and impairment of assets	4E	**(18)**	-
Losses from asset sales	4F	**-**	(15)
Total expenses		**(119,114)**	(29,061)
Own-Source Income			
Own-source revenue			
Sale of goods and rendering of services	5A	**15,888**	1,375
Other revenue	5B	**18,767**	1,982
Total own-source revenue		**34,655**	3,357
Gains			
Other gains	5C	**1**	1
Total gains		**1**	1
Total own-source income		**34,656**	3,358
Net cost of services		**(84,458)**	(25,703)
Revenue from Government	5D	**98,459**	31,292
Surplus attributable to the Australian Government		**14,001**	5,589
OTHER COMPREHENSIVE INCOME			
Changes in asset revaluation surplus		**-**	193
Total other comprehensive income		**-**	193
Total comprehensive income		**14,001**	5,782
Total comprehensive income attributable to the Australian Government		**14,001**	5,782

The above statement should be read in conjunction with the accompanying notes.

Australian Transport Safety Bureau
Statement of Financial Position
as at 30 June 2015

	Notes	2015 $'000	2014 $'000
ASSETS			
Financial assets			
Cash and cash equivalents	7A	**821**	562
Trade and other receivables	7B	**50,605**	16,147
Other financial assets	7C	**76**	3
Total financial assets		**51,502**	16,712
Non-financial assets			
Property, plant and equipment	8A,B	**1,501**	1,597
Intangibles	8C,D	**991**	859
Other non-financial assets	8E	**137**	152
Total non-financial assets		**2,629**	2,608
Total assets		**54,131**	19,320
LIABILITIES			
Payables			
Suppliers	9A	**(20,255)**	(984)
Other payables	9B	**(914)**	(564)
Total payables		**(21,169)**	(1,548)
Interest bearing liabilities			
Leases	10A	**(91)**	(119)
Total interest bearing liabilities		**(91)**	**(119)**
Provisions			
Employee provisions	11A	**(4,548)**	(4,082)
Other provisions	11B	**(72)**	(70)
Total provisions		**(4,620)**	(4,152)
Total liabilities		**(25,880)**	(5,819)
Net assets		**28,251**	13,501
EQUITY			
Parent entity interest			
Contributed equity		**12,031**	11,282
Reserves		**278**	278
Retained surplus		**15,942**	1,941
Total equity		**28,251**	13,501

The above statement should be read in conjunction with the accompanying notes.

Australian Transport Safety Bureau
Statement of Changes in Equity
for the period ended 30 June 2015

	Retained earnings		Asset revaluation surplus		Contributed equity/capital		Total equity	
	2015	2014	**2015**	2014	**2015**	2014	**2015**	2014
	$'000	$'000	**$'000**	$'000	**$'000**	$'000	**$'000**	$'000
Opening balance								
Balance carried forward from previous period	**1,941**	(3,648)	**278**	85	**11,282**	9,884	**13,501**	6,321
Adjusted opening balance	**1,941**	(3,648)	**278**	85	**11,282**	9,884	**13,501**	6,321
Comprehensive income								
Surplus for the period	**14,001**	5,589					**14,001**	5,589
Revaluation for the period	**-**	-	**-**	193	**-**	-	**-**	193
Total comprehensive income	**14,001**	5,589	**-**	193	**-**	-	**14,001**	5,782
Transactions with owners								
Contributions by owners								
Equity injection - Appropriations	**-**	-	**-**	-	**555**	973	**555**	973
Departmental capital budget	**-**	-	**-**	-	**360**	425	**360**	425
Other	**-**	-	**-**	-	**(166)**	-	**(166)**	-
Total transactions with owners	**-**	-	**-**	-	**749**	1,398	**749**	1,398
Closing balance as at 30 June	**15,942**	1,941	**278**	278	**12,031**	11,282	**28,251**	13,501
Closing balance attributable to Australian Government	**15,942**	1,941	**278**	278	**12,031**	11,282	**28,251**	13,501

The above statement should be read in conjunction with the accompanying notes.

Australian Transport Safety Bureau
Cash Flow Statement
for the period ended 30 June 2015

	Notes	2015 $'000	2014 $'000
OPERATING ACTIVITIES			
Cash received			
Appropriations		**73,929**	23,758
Sale of goods and rendering of services		**5,601**	1,377
Net GST received		**1,010**	317
Other		**177**	235
Total cash received		**80,717**	25,687
Cash used			
Employees		**(14,981)**	(17,428)
Suppliers		**(65,277)**	(8,307)
Borrowing costs		**(5)**	(7)
Other		**(169)**	(245)
Total cash used		**(80,432)**	(25,987)
Net cash from/(used by) operating activities	12	**285**	(300)
INVESTING ACTIVITIES			
Cash received			
Proceeds from sales of property, plant and equipment		**-**	1
Total cash received		**-**	1
Cash used			
Purchase of property, plant and equipment		**(480)**	(109)
Purchase of Software		**(435)**	(7)
Total cash used		**(915)**	(116)
Net cash used by investing activities		**(915)**	(115)
FINANCING ACTIVITIES			
Cash received			
Contributed equity		**915**	122
Total cash received		**915**	122
Cash used			
Repayment of Finance Leases		**(26)**	(32)
Total cash used		**(26)**	(32)
Net cash from financing activities		**889**	90
Net increase/(decrease) in cash held		**259**	(325)
Cash and cash equivalents at the beginning of the reporting period		**562**	887
Cash and cash equivalents at the end of the reporting period	7A	**821**	562

The above statement should be read in conjunction with the accompanying notes.

Australian Transport Safety Bureau
Schedule of Commitments
as at 30 June 2015

	2015	2014
BY TYPE	**$'000**	$'000
Commitments receivable		
Net GST recoverable on commitments	**(597)**	(593)
Total commitments receivable	**(597)**	(593)
Commitments payable		
Capital commitments		
Property, plant and equipment[1]	**16**	-
Total capital commitments	**16**	-
Other commitments		
Other[2]	**35,933**	6,829
Total other commitments	**35,933**	6,829
Total commitments payable	**35,949**	6,829
Net commitments by type	**35,352**	6,236
BY MATURITY		
Commitments receivable		
Other commitments receivable		
Within 1 year	**(208)**	(562)
Between 1 to 5 years	**(389)**	(31)
Total other commitments receivable	**(597)**	(593)
Total commitments receivable	**(597)**	(593)
Commitments payable		
Capital commitments		
Within 1 year	**16**	-
Total capital commitments	**16**	-
Other Commitments		
Within 1 year	**31,357**	6,485
Between 1 to 5 years	**4,576**	344
Total other commitments	**35,933**	6,829
Total commitments payable	**35,949**	6,829
Net commitments by maturity	**35,352**	6,236

The above schedule should be read in conjunction with the accompanying notes.

Note: Commitments were GST inclusive where relevant.

1. Property, plant and equipment commitments relate to contracts for specialised investigation equipment.

2. Other commitments mainly relate to contracts for the provision of payroll services, mobile phone carriage services, internal audit services and provision of services for the search for Malaysia Airlines Flight 370.

Table of Contents - Notes

Note 1: Summary of Significant Accounting Policies

1.1 Objectives of the Australian Transport Safety Bureau

The Australian Transport Safety Bureau (ATSB) is an Australian Government controlled entity established by the *Transport Safety Investigation Act 2003 (TSI Act)*, as the national transport safety investigation agency. It is a not-for-profit entity. The ATSB's primary function is to improve aviation, marine and rail safety.

The ATSB is structured to meet the following outcome:

Outcome 1: Improved transport safety in Australia including through: independent, 'no blame' investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

The continued existence of the ATSB in its present form and with its present programs is dependent on Government policy and on continued funding by the Parliament for the ATSB's administration and programs.

The ATSB has no Administered activities.

1.2 Basis of Preparation of the Financial Statements

The financial statements are general purpose financial statements and are required by section 42 of the *Public Governance, Performance and Accountability Act 2013*.

The financial statements have been prepared in accordance with:

a) Finance Reporting Rule (FRR) for reporting periods ending on or after 1 July 2014; and
b) Australian Accounting Standards and Interpretations issued by the Australian Accounting Standards Board (AASB) that apply for the reporting period.

The financial statements have been prepared on an accrual basis and in accordance with the historical cost convention, except for certain assets and liabilities at fair value. Except where stated, no allowance is made for the effect of changing prices on the results or the financial position.

The financial statements are presented in Australian dollars and values are rounded to the nearest thousand dollars unless otherwise specified.

Unless an alternative treatment is specifically required by an accounting standard or the FRR, assets and liabilities are recognised in the statement of financial position when and only when it is probable that future economic benefits will flow to the entity or a future sacrifice of economic benefits will be required and the amounts of the assets or liabilities can be reliably measured. However, assets and liabilities arising under executory contracts are not recognised unless required by an accounting standard. Liabilities and assets that are unrecognised are reported in the schedule of commitments or the contingencies note.

Unless alternative treatment is specifically required by an accounting standard, income and expenses are recognised in the statement of comprehensive income when, and only when, the flow, consumption or loss of economic benefits has occurred and can be reliably measured.

1.3 Significant Accounting Judgements and Estimates

In the process of applying the accounting policies listed in this note, the ATSB has made the following judgements that have the most significant impact on the amounts recorded in the financial statements:

a) The fair value of the ATSB's property, plant and equipment was determined using depreciated replacement cost as determined by an independent valuer for the period ended 30 June 2014. The ATSB has assessed that the carrying value of property, plant and equipment continues to represent fair value as at 30 June 2015 in accordance with the accounting policies disclosed in note 1.20; and

b) The estimate of the ATSB's long service leave liabilities as at 30 June 2015 were determined using the short hand method set out in the FRR and discounted to present value using Commonwealth Government bond rates.

No accounting assumptions and estimates have been identified that have a significant risk of causing a material adjustment to carrying amounts of assets and liabilities within the next reporting period.

1.4 New Australian Accounting Standards

Adoption of New Australian Accounting Standard Requirements

The following new, revised or amended standards and interpretations that were issued prior to the signing of the Statement by the Chief Commissioner and Chief Financial Officer were applicable to the current reporting period and had a material effect on the entity's financial statements.

Standard/ Interpretation	Nature of change in accounting policy, transitional provisions[1], and adjustment to financial statements
AASB 1055 Budgetary Reporting	New requirement to report budgetary information and explain significant variances between budget and actual at the individual entity level.

[1] When transitional provisions apply, all changes in accounting policy are made in accordance with their respective transitional provision

In addition to the above, the ATSB has early adopted *AASB2015-7 Amendments to Australian Accounting Standards – Fair value disclosures of Not-for-profit public sector entities.* AASB2015-7 amends AASB13 to provide relief to not-for-profit public sector entities to no longer disclose certain quantitative and narrative information for fair value measurements categorised within Level 3.

All other new or revised standards and interpretations issued prior to the signing of the Statement by the Chief Commissioner and Chief Financial Officer that were applicable to the current reporting period had no material financial effect on the entity, and are not expected to have a future material effect.

Future Australian Accounting Standard Requirements

The following new, revised or amended standards and interpretations were issued by the Australian Accounting Standards Board prior to the signing of the statement by the Chief Commissioner and Chief Financial Officer, which are expected to have a material impact on the entity's financial statements for future reporting period(s):

Standard/ Interpretation	Application date for the entity[1]	Nature of impending change/s in accounting policy and likely impact on initial application
AASB 2015-2 Amendments to Australian Accounting Standards – Disclosure Initiative: Amendments to AASB 10	1 January 2016	Amendments to AASB 101 Presentation of Financial Statements will amend financial statement disclosures from 2016-17, encouraging entities to eliminate immaterial disclosures. Likely impact: Minimal
AASB 2015-6 Amendments to Australian Accounting Standards – Extending Related	1 July 2016	Extends the scope of AASB 124 Related Party Disclosures to include application by not-for-profit (NFP) public sector entities

Party Disclosures to Not-for-Profit Public Sector Entities		and includes implementation guidance for these entities. Likely impact: Minimal
AASB 15 Revenue from Contracts with Customers	1 January 2017	Changes to Revenue from Contracts with Customers will change aspects of the accounting treatment for all departmental revenue other than Gains and Revenues from Government. These revisions first apply in the 2017-18 financial statements, but will require retrospective adjustments for affected accounting treatments for the 2016-17 comparative disclosures. Likely impact: The likely impact is currently not known. Depending on the nature of the department's transactions, the new standard may have a significant impact on the timing of the recognition of revenue.
AASB 9 Financial Instruments	1 July 2017	Changes to the Financial Instruments standard will impact on classification and measurement of financial assets and liabilities of the entity. These revisions are first effective in 2018-19, but will require retrospective adjustments for the 2017-18 comparative disclosures. Likely impact: Minimal due to the value and type of the entity's financial assets and liabilities.

[1] The entity's expected initial application date is when the accounting standard becomes operative at the beginning of the entity's reporting period

1.5 Revenue

Revenue from the sale of goods is recognised when:

a) the risks and rewards of ownership have been transferred to the buyer;
b) the entity retains no managerial involvement or effective control over the goods;
c) the revenue and transaction costs incurred can be reliably measured; and
d) it is probable that the economic benefits associated with the transaction will flow to the ATSB.

Revenue from rendering of services is recognised by reference to the stage of completion of contracts at the reporting date. The revenue is recognised when:

a) the amount of revenue, stage of completion and transaction costs incurred can be reliably measured; and
b) the probable economic benefits associated with the transaction will flow to the ATSB.

The stage of completion of contracts at the reporting date is determined by reference to the proportion that costs incurred to date bear to the estimated total costs of the transaction.

Receivables for goods and services, which have 30 day terms, are recognised at the nominal amounts due less any impairment allowance account. Collectability of debts is reviewed at the end of the reporting period. Allowances are made when collectability of the debt is no longer probable.

Interest revenue is recognised using the effective interest method as set out in AASB 139 *Financial Instruments: Recognition and Measurement.*

Resources Received Free of Charge
Resources received free of charge are recognised as revenue when, and only when, a fair value can be reliably determined and the services would have been purchased if they had not been donated. Use of those resources is recognised as an expense. Resources received free of charge are recorded as either revenue or gains depending on their nature.

Contributions of assets at no cost of acquisition or for nominal consideration are recognised as gains at their fair value when the asset qualifies for recognition, unless received from another non-corporate or corporate Commonwealth entity as a consequence of a restructuring of administrative arrangements (refer to Note 1.7).

Revenue from Government

Amounts appropriated for departmental appropriations for the year (adjusted for any formal additions and reductions) are recognised as Revenue from Government when the ATSB gains control of the appropriation, except for certain amounts that relate to activities that are reciprocal in nature, in which case revenue is recognised only when it has been earned. Appropriations receivable are recognised at their nominal amounts.

1.6 Gains

Sale of Assets

Gains from disposal of assets are recognised when control of the asset has passed to the buyer.

1.7 Transactions with the Australian Government as Owner

Equity Injections

Amounts appropriated which are designated as 'equity injections' for a year (less any formal reductions) and Departmental Capital Budgets (DCBs) are recognised directly in contributed equity in that year.

1.8 Employee Benefits

Liabilities for 'short-term employee benefits' (as defined in AASB 119 *Employee Benefits*) and termination benefits due within twelve months of the end of reporting period are measured at their nominal amounts.

The nominal amount is calculated with regard to the rates expected to be paid on settlement of the liability.

Other long-term employee benefits are measured as a net total of the present value of the defined benefit obligation at the end of the reporting period minus the fair value at the end of the reporting period of plan assets (if any) out of which the obligations are to be settled directly.

Leave

The liability for employee benefits includes provision for annual leave and long service leave. No provision has been made for sick leave as all sick leave is non-vesting and the average sick leave taken in future years by employees of the ATSB is estimated to be less than the annual entitlement for sick leave.

The leave liabilities are calculated on the basis of employees' remuneration at the estimated salary rates that will be applied at the time the leave is taken, including the ATSB's employer superannuation contribution rates to the extent that the leave is likely to be taken during service rather than paid out on termination.

The liability for long service leave has been determined by reference to the Australian Government Shorthand Method outlined in the FRR for reporting periods ending on or after 1 July 2014. The estimate of the present value of the liability takes into account attrition rates and pay increases through promotion and inflation.

Separation and Redundancy

Provision is made for separation and redundancy benefit payments when the ATSB has developed a detailed formal plan for the terminations and has informed those employees affected that it will carry out the terminations.

Superannuation

The ATSB's staff are members of the Commonwealth Superannuation Scheme (CSS), the Public Sector Superannuation Scheme (PSS) or the PSS accumulation plan (PSSap).

The CSS and PSS are defined benefit schemes for the Australian Government. The PSSap is a defined contribution scheme.

The liability for defined benefits is recognised in the financial statements of the Australian Government and is settled by the Australian Government in due course. This liability is reported in the Department of Finance and Deregulation's administered schedules and notes.

The ATSB makes employer contributions to the employees' superannuation scheme at rates determined by an actuary to be sufficient to meet the current cost to the Government. The ATSB accounts for the contributions as if they were contributions to defined contribution plans.

The liability for superannuation recognised as at 30 June 2015 represents outstanding contributions for the final fortnight of the year.

1.9 Leases

A distinction is made between finance leases and operating leases. Finance leases effectively transfer from the lessor to the lessee substantially all the risks and rewards incidental to ownership of leased assets. An operating lease is a lease that is not a finance lease. In operating leases, the lessor effectively retains substantially all such risks and benefits.

Where an asset is acquired by means of a finance lease, the asset is capitalised at either the fair value of the lease property or, if lower, the present value of minimum lease payments at the inception of the contract and a liability is recognised at the same time and for the same amount.

The discount rate used is the interest rate implicit in the lease. Leased assets are amortised over the period of the lease. Lease payments are allocated between the principal component and the interest expense.

Operating lease payments are expensed on a straight-line basis which is representative of the pattern of benefits derived from the leased assets.

1.10 Borrowing Costs

All borrowing costs are expensed as incurred.

1.11 Fair Value Measurement

The ATSB deems transfers between levels of the fair value hierarchy to have occurred at the date of the event or change in circumstances that caused the transfer.

1.12 Cash and Cash Equivalents

Cash is recognised at its nominal amount. Cash and cash equivalents includes:

a) cash on hand; and
b) demand deposits in bank accounts with an original maturity of 3 months or less that are readily convertible to known amounts of cash and subject to insignificant risk of changes in value.

1.13 Financial Assets

The ATSB classifies its financial assets in the following categories:

a) cash and cash equivalents; and
b) loans and receivables.

The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Financial assets are recognised and derecognised upon 'trade date'.

Effective Interest Method
The effective interest method is a method of calculating the amortised cost of a financial asset and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset, or, where appropriate, a shorter period.

Income is recognised on an effective interest rate basis except for financial assets that are recognised at fair value through profit or loss.

Receivables
Trade receivables and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'receivables'. Receivables are measured at amortised cost using the effective interest method less impairment. Interest is recognised by applying the effective interest rate.

Impairment of Financial Assets
Financial assets are assessed for impairment at the end of each reporting period.

Financial assets held at amortised cost - if there is objective evidence that an impairment loss has been incurred for loans and receivables or held to maturity investments held at amortised cost, the amount of the loss is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the asset's original effective interest rate. The carrying amount is reduced by way of an allowance account. The loss is recognised in the Statement of Comprehensive Income.

Financial assets held at cost - if there is objective evidence that an impairment loss has been incurred, the amount of the impairment loss is the difference between the carrying amount of the asset and the present value of the estimated future cash flows discounted at the current market rate for similar assets.

1.14 Investments in Associates

The ATSB has no investment in associates.

1.15 Jointly Controlled Entities

The ATSB has no interest in jointly controlled entities.

1.16 Financial Liabilities

Financial liabilities are classified as either financial liabilities 'at fair value through profit or loss' or other financial liabilities. Financial liabilities are recognised and derecognised upon 'trade date'.

Financial Liabilities at Fair Value Through Profit or Loss

Financial liabilities at fair value through profit or loss are initially measured at fair value. Subsequent fair value adjustments are recognised in profit or loss. The net gain or loss recognised in profit or loss incorporates any interest paid on the financial liability.

Other Financial Liabilities

Other financial liabilities, including borrowings, are initially measured at fair value, net of transaction costs. These liabilities are subsequently measured at amortised cost using the effective interest method, with interest expense recognised on an effective yield basis.

The effective interest method is a method of calculating the amortised cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments through the expected life of the financial liability, or, where appropriate, a shorter period.

Supplier and other payables are recognised at amortised cost. Liabilities are recognised to the extent that the goods or services have been received (and irrespective of having been invoiced).

1.17 Contingent Liabilities and Contingent Assets

Contingent liabilities and contingent assets are not recognised in the statement of financial position but are reported in the notes. They may arise from uncertainty as to the existence of a liability or asset or represent an asset or liability in respect of which the amount cannot be reliably measured. Contingent assets are disclosed when settlement is probable but not virtually certain and contingent liabilities are disclosed when the likelihood of settlement is greater than remote.

In 2014-15 a dispute arose with a transport operator as to the production of certain evidential material for the purposes of an ATSB investigation. Proceedings were commenced in the Federal Court of Australia during September 2015 to compel the production of the material. At this stage the litigation is not sufficiently advanced to determine the likely outcome. The ATSB has been advised by its external legal service provider that it has reasonable prospects of success.

The ATSB does not have any other quantifiable, unquantifiable or remote contingent assets or liabilities.

1.18 Financial Guarantee Contracts

The ATSB has no financial guarantee contracts.

1.19 Acquisition of Assets

Assets are recorded at cost on acquisition except as stated below. The cost of acquisition includes the fair value of assets transferred in exchange and liabilities undertaken. Financial assets are initially measured at their fair value plus transaction costs where appropriate.

Assets acquired at no cost, or for nominal consideration, are initially recognised as assets and income at their fair value at the date of acquisition, unless acquired as a consequence of restructuring of administrative arrangements. In the latter case, assets are initially recognised as contributions by owners at the amounts at which they were recognised in the transferor agency's accounts immediately prior to the restructuring.

1.20 Property, Plant and Equipment

Asset Recognition Threshold

Purchases of property, plant and equipment are recognised initially at cost in the statement of financial position, except for purchases costing less than $5,000 excluding GST, which are expensed in the year of acquisition (other than where they form part of a group of similar items which are significant in total).

The initial cost of an asset includes an estimate of the cost of dismantling and removing the item and restoring the site on which it is located. This is particularly relevant to 'make good' provisions in property leases taken up by the Department of Infrastructure and Transport for properties occupied by the ATSB where an obligation exists to restore the property to its original condition. As the property leases are held by the Department of Infrastructure and Transport, these costs are included in the value of the ATSB's Property, Plant and Equipment asset class with a corresponding provision for the 'make good' recognised.

Revaluations

The ATSB only has plant and equipment assets and the fair values for each asset are measured at market selling price, or depreciated replacement cost in isolated instances where no market prices or indicators are available for specialised, diagnostic equipment.

Following initial recognition at cost, property, plant and equipment were carried at fair value. Valuations have been conducted with sufficient frequency to ensure that the carrying amounts of assets did not differ materially from the assets' fair values as at the reporting date. The regularity of independent valuations depended upon the volatility of movements in market values for the relevant assets.

Revaluation adjustments were made on a class basis. Any revaluation increment was credited to equity under the heading of asset revaluation reserve except to the extent that it reversed a previous revaluation decrement of the same asset class that was previously recognised in the surplus/deficit. Revaluation decrements for a class of assets were recognised directly in the surplus/deficit except to the extent that they reversed a previous revaluation increment for that class.

Any accumulated depreciation as at the revaluation date was eliminated against the gross carrying amount of the asset and the asset was restated to the revalued amount.

Depreciation

Depreciable property, plant and equipment assets are written-off to their estimated residual values over their estimated useful lives to the ATSB using, in all cases, the straight-line method of depreciation.

Depreciation rates (useful lives), residual values and methods are reviewed at each reporting date and necessary adjustments are recognised in the current, or current and future reporting periods, as appropriate.

Depreciation rates applying to each class of depreciable asset are based on the following useful lives:

	2015	2014
Plant and Equipment	10 years	10 years
Computer Equipment	4 years	4 years
Office Equipment	10 years	10 years

Impairment

All assets were assessed for impairment at 30 June 2015. Where indications of impairment exist, the asset's recoverable amount is estimated and an impairment adjustment made if the asset's recoverable amount is less than its carrying amount.

The recoverable amount of an asset is the higher of its fair value less costs of disposal and its value in use. Value in use is the present value of the future cash flows expected to be derived from the asset. Where the future economic benefit of an asset is not primarily dependent on the asset's ability to generate future cash flows, and the asset would be replaced if the ATSB were deprived of the asset, its value in use is taken to be its depreciated replacement cost.

Derecognition

An item of property, plant and equipment is derecognised upon disposal or when no further future economic benefits are expected from its use or disposal.

1.21 Intangibles

The ATSB's intangibles comprise of internally developed software for internal use and purchased software. These assets are carried at cost less accumulated amortisation and accumulated impairment losses. Intangibles are amortised on a straight line basis over their anticipated useful life and the default useful life is five years.

All intangibles were assessed for indications of impairment as at 30 June 2015.

1.22 Inventories

The ATSB has no inventories.

1.23 Taxation / Competitive Neutrality

The ATSB is exempt from all forms of taxation except Fringe Benefits Tax (FBT) and the Goods and Services Tax (GST).

Revenues, expenses and assets are recognised net of GST except:

a) where the amount of GST incurred is not recoverable from the Australian Taxation Office; and
b) for receivables and payables.

Note 2: Events After the Reporting Period

There were no events subsequent to 30 June 2015 that had the potential to significantly effect the ongoing structure and financial activities of the Australian Transport Safety Bureau.

Note 3: Net Cash Appropriation Arrangements

	2015	2014
	$'000	$'000
Total comprehensive income less depreciation/amortisation expenses previously funded through revenue appropriations[1]	**14,865**	7,311
Plus: depreciation/amortisation expenses previously funded through revenue appropriation	**(864)**	(1,529)
Total comprehensive income - as per the Statement of Comprehensive Income	**14,001**	5,782

1. From 2010-11, the Government introduced net cash appropriation arrangements, where revenue appropriations for depreciation/amortisation expenses ceased. Entities now receive a separate capital budget provided through equity appropriations. Capital budgets are to be appropriated in the period when cash payment for capital expenditure is required.

Note 4: Expenses

	2015 $'000	2014 $'000
Note 4A: Employee Benefits		
Wages and salaries	**(11,820)**	(12,100)
Superannuation		
Defined contribution plans	**(879)**	(792)
Defined benefit plans	**(1,288)**	(1,547)
Leave and other entitlements	**(1,326)**	(1,359)
Separation and redundancies	**(150)**	(1,041)
Other employee expenses	**(100)**	(86)
Total employee benefits	**(15,563)**	(16,925)
Note 4B: Suppliers		
Goods and services supplied or rendered		
Investigation services[1]	**(95,986)**	(3,988)
Office rent	**(1,749)**	(2,072)
Information technology	**(1,139)**	(689)
Travel	**(1,008)**	(901)
Contractors	**(441)**	(552)
Contract Staff	**(427)**	(290)
Services from the Department of Infrastructure and Regional Development	**(414)**	(538)
Training and conferences	**(284)**	(213)
Communications	**(186)**	(427)
Legal	**(173)**	(81)
Publications and printing	**(122)**	(177)
Consultants	**(83)**	(96)
Audit fees	**(48)**	(48)
Other	**(404)**	(364)
Total goods and services supplied or rendered	**(102,464)**	(10,436)
Goods supplied in connection with		
Related parties	**-**	-
External parties	**(194)**	(75)
Total goods supplied	**(194)**	(75)
Services rendered in connection with		
Related parties	**(16,592)**	(3,444)
External parties	**(85,678)**	(6,917)
Total services rendered	**(102,270)**	(10,361)
Total goods and services supplied or rendered	**(102,464)**	(10,436)

[1.] Expenses within Investigation services significantly increased during 2014-15, as a direct result of funds received by the ATSB from international counterparts, as a contribution to the ATSB's involvement in the expanded search for missing Malaysia Airlines Flight 370.

Other suppliers		
Workers compensation expenses	**(198)**	(147)
Total other suppliers	**(198)**	(147)
Total suppliers	**(102,662)**	(10,583)

Note 4: Expenses continued

	2015 $'000	2014 $'000
Note 4C: Depreciation and Amortisation		
Depreciation		
Property, plant and equipment	**(547)**	(444)
Finance Leases	**(24)**	(31)
Total depreciation	**(571)**	(475)
Amortisation		
Intangibles	**(293)**	(1,054)
Total amortisation	**(293)**	(1,054)
Total depreciation and amortisation	**(864)**	(1,529)
Note 4D: Finance Costs		
Finance leases	**(5)**	(7)
Unwinding of discount	**(2)**	(2)
Total finance costs	**(7)**	(9)
Note 4E: Write-Down and Impairment of Assets		
Impairment on financial instruments	**(4)**	-
Impairment of property, plant and equipment	**(14)**	-
Total write-down and impairment of assets	**(18)**	-
Note 4F: Losses from Asset Sales		
Property, plant and equipment		
Proceeds from sale	**-**	1
Carrying value of assets sold	**-**	(16)
Total losses from asset sales	**-**	(15)

Note 5: Own-Source Income

Own-Source Revenue	2015 $'000	2014 $'000
Note 5A: Sale of Goods and Rendering of Services		
Rendering of services in connection with		
Related parties	**1,219**	1,101
External parties	**14,669**	274
Total sale of goods and rendering of services	**15,888**	1,375
Note 5B: Other Revenue		
Resources received free of charge		
Remuneration of auditors	**48**	48
Other[1]	**18,719**	1,934
Total other revenue	**18,767**	1,982

[1] The substantial increase to Other Revenue is due to Resources Received Free of Charge in relation to the ongoing search for Missing Malaysia Airlines Flight 370, and the services recived during 2014-15 from other involved parties.

Gains		
Note 5C: Other Gains		
Other	**1**	1
Total other gains	**1**	1
Note 5D: Revenue from Government		
Appropriations		
Departmental appropriations	**98,459**	31,292
Total revenue from Government	**98,459**	31,292

Note 6: Fair Value Measurements

The following tables provide an analysis of assets and liabilities that are measured at fair value.
The different levels of the fair value hierarchy are defined below.

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at measurement date.
Level 2: Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly or indirectly.
Level 3: Unobservable inputs for the asset or liability.

Note 6A: Fair Value Measurements, Valuation Techniques and Inputs Used

	Fair value measurements at the end of the reporting period			For Levels 2 and 3 fair value measurements	
	2015 $'000	2014 $'000	**Category (Level 1, 2 or 3)**	**Valuation technique(s)[1]**	**Inputs used**
Non-financial assets					
Other property, plant and equipment	**1,501**	1,597	Level 3	Depreciated replacement cost	Unobservable, not frequently traded in the marketplace. Data provided by valuers
Total non-financial assets	**1,501**	1,597			
Total fair value measurements of assets in the statement of financial position	**1,501**	1,597			

1. No change in valuation technique occurred during the period.

The highest and best use of all non-financial assets are the same as their current use.

Recurring and non-recurring Level 3 fair value measurements - valuation processes

The ATSB procured valuation services and relied on valuation models provided by the valuer. The ATSB currently engages an independent valuer on a 3 yearly basis. The valuers provided written assurance that the model developed is in compliance with AASB13. There was not a revaluation undertaken during 2014-15.

Note 6B: Reconciliation for Recurring Level 3 Fair Value Measurements

Recurring Level 3 fair value measurements - reconciliation for assets

	Non-financial assets			
	Other property, plant and equipment		Total	
	2015 $'000	2014 $'000	**2015 $'000**	2014 $'000
As at 1 July	**1,597**	1,795	**1,597**	1,795
Purchases	**480**	98	**480**	98
Revaluations recognised in the revaluation reserve	**-**	193	**-**	193
Assets held for sale or in a group held for sale	-	(16)	-	(16)
Impairments recognised in net cost of services	**(14)**	-	**(14)**	-
Depreciation/amortisation expense	**(571)**	(475)	**(571)**	(475)
Other movements	**9**	2	**9**	2
Total as at 30 June	**1,501**	1,597	**1,501**	1,597
Changes in unrealised gains/(losses) recognised in net cost of services for assets held at the end of the reporting period[5]	**-**	-	**-**	-

The entity's policy for determining when transfers between levels are deemed to have occurred can be found in Note 1.

Note 7: Financial Assets

	2015 $'000	2014 $'000
Note 7A: Cash and Cash Equivalents		
Cash on hand or on deposit	**821**	562
Total cash and cash equivalents	**821**	562
Note 7B: Trade and Other Receivables		
Goods and services receivables in connection with		
Related parties	**1,024**	89
External parties	**9,292**	36
Total goods and services receivables	**10,316**	125
Appropriations receivables		
Existing programs	**40,289**	15,925
Total appropriations receivables	**40,289**	15,925
Other receivables		
Statutory receivables	**-**	97
Total other receivables	**-**	97
Total trade and other receivables (gross)	**50,605**	16,147
Total trade and other receivables (net)	**50,605**	16,147
Trade and other receivables (net) expected to be recovered		
No more than 12 months	**50,605**	16,147
More than 12 months	**-**	-
Total trade and other receivables (net)	**50,605**	16,147
Trade and other receivables (gross) aged as follows		
Not overdue	**41,312**	16,140
Overdue by		
0 to 30 days	**9,293**	-
31 to 60 days	-	-
61 to 90 days	-	7
More than 90 days	-	-
Total trade and other receivables (gross)	**50,605**	16,147
Note 7C: Other Financial Assets		
Accrued Revenue	**76**	3
Total other financial assets	**76**	3
Other financial assets expected to be recovered		
No more than 12 months	**76**	3
More than 12 months	**-**	-
Total other financial assets	**76**	3

Note 8: Non-Financial Assets

	2015 $'000	2014 $'000
Note 8A: Property, Plant and Equipment		
Other property, plant and equipment		
Fair value	**2,120**	1,664
Accumulated depreciation	**(619)**	(67)
Total other property, plant and equipment	**1,501**	1,597
Total property, plant and equipment	**1,501**	1,597

No property, plant or equipment is expected to be sold or disposed of within the next 12 months.

Revaluations of non-financial assets

All revaluations were conducted in accordance with the revaluation policy stated at Note 1. On 30 June 2014, an independent valuer conducted the revaluations.

A revaluation increment of $193,282 for property, plant and equipment was credited to the asset revaluation reserve and included in the equity section of the statement of financial position; no decrements were recognised in 2014.

Note 8B: Reconciliation of the Opening and Closing Balances of Property, Plant and Equipment

Reconciliation of the opening and closing balances of property, plant and equipment for 2015

	Other property, plant & equipment $'000	Total $'000
As at 1 July 2014		
Gross book value	**1,664**	**1,664**
Accumulated depreciation and impairment	**(67)**	**(67)**
Total as at 1 July 2014	**1,597**	**1,597**
Additions		
Purchase or internally developed	**480**	**480**
Impairments recognised in net cost of services	**(14)**	**(14)**
Depreciation	**(571)**	**(571)**
Other movements	**9**	**9**
Total as at 30 June 2015	**1,501**	**1,501**
Total as at 30 June 2015 represented by		
Gross book value	**2,144**	**2,144**
Accumulated depreciation and impairment	**(643)**	**(643)**
Total as at 30 June 2015	**1,501**	**1,501**

Reconciliation of the opening and closing balances of property, plant and equipment for 2014

	Other property, plant & equipment $'000	Total $'000
As at 1 July 2013		
Gross book value	2,758	2,758
Accumulated depreciation and impairment	(963)	(963)
Total as at 1 July 2013	1,795	1,795
Additions		
Purchase or internally developed	98	98
Revaluations and impairments recognised in other comprehensive income	193	193
Assets held for sale or in a disposal group held for sale	(16)	(16)
Depreciation	(475)	(475)
Other movements	2	2
Total as at 30 June 2014	1,597	1,597
Total as at 30 June 2014 represented by		
Gross book value	1,664	1,664
Accumulated depreciation and impairment	(67)	(67)
Total as at 30 June 2014	1,597	1,597

Note 8: Non-Financial Assets continued

	2015 $'000	2014 $'000
Note 8C: Intangibles		
Computer software		
Internally developed – in progress	**16**	11
Internally developed – in use	**4,893**	4,893
Purchased	**1,145**	725
Accumulated amortisation	**(5,063)**	(4,770)
Total computer software	**991**	859
Total intangibles	**991**	859

No indicators of impairment were found for intangible assets.

No intangibles are expected to be sold or disposed of within the next 12 months.

Note 8D: Reconciliation of the Opening and Closing Balances of Intangibles

Reconciliation of the opening and closing balances of intangibles for 2015

	Computer software internally developed $'000	Computer software purchased $'000	Total $'000
As at 1 July 2014			
Gross book value	**4,903**	**725**	**5,628**
Accumulated amortisation and impairment	**(4,235)**	**(534)**	**(4,769)**
Total as at 1 July 2014	**668**	**191**	**859**
Additions			
Purchase or internally developed	**15**	**420**	**435**
Revaluations and impairments recognised in other comprehensive income	**-**	**-**	**-**
Amortisation	**(182)**	**(111)**	**(293)**
Other movements	**(10)**	**-**	**(10)**
Total as at 30 June 2015	**491**	**500**	**991**
Total as at 30 June 2015 represented by			
Gross book value	**4,918**	**1,145**	**6,063**
Accumulated amortisation and impairment	**(4,427)**	**(645)**	**(5,072)**
Total as at 30 June 2015	**491**	**500**	**991**

Reconciliation of the opening and closing balances of intangibles for 2014

	Computer software internally developed $'000	Computer software purchased $'000	Total $'000
As at 1 July 2013			
Gross book value	4,912	718	5,630
Accumulated amortisation and impairment	(3,423)	(292)	(3,715)
Total as at 1 July 2013	1,489	426	1,915
Additions			
Purchase or internally developed	11	7	18
Amortisation	(812)	(242)	(1,054)
Other movements	(20)	-	(20)
Total as at 30 June 2014	668	191	859
Total as at 30 June 2014 represented by			
Gross book value	4,903	725	5,628
Accumulated amortisation and impairment	(4,235)	(534)	(4,769)
Total as at 30 June 2014	668	191	859

Note 8E: Other Non-Financial Assets		
Prepayments	**137**	152
Total other non-financial assets	**137**	152
Other non-financial assets expected to be recovered		
No more than 12 months	**117**	129
More than 12 months	**20**	23
Total other non-financial assets	**137**	152

Note 9: Payables

	2015 $'000	2014 $'000
Note 9A: Suppliers		
Accrued expenses	**(10,662)**	(761)
Trade creditors	**(9,593)**	(223)
Total suppliers	**(20,255)**	(984)
Suppliers expected to be settled		
No more than 12 months	**(20,255)**	(984)
More than 12 months	**-**	-
Total suppliers	**(20,255)**	(984)
Suppliers in connection with		
Related parties	**(9,272)**	(406)
External parties	**(10,983)**	(578)
Total suppliers	**(20,255)**	(984)

Settlement was usually made within 30 days

Note 9B: Other Payables		
Wages and salaries	**(513)**	(451)
Superannuation	**(76)**	(64)
Uunearned income	**-**	(49)
Statutory payables	**(325)**	-
Total other payables	**(914)**	(564)
Other payables expected to be settled		
No more than 12 months	**(914)**	(564)
More than 12 months	**-**	-
Total other payables	**(914)**	(564)

Note 10: Interest Bearing Liabilities

	2015	2014
	$'000	$'000
Note 10A: Leases		
Finance Leases	**(91)**	(119)
Total leases	**(91)**	(119)
Leases expected to be settled		
Within 1 year		
Minimum lease payments	**(92)**	(33)
Future finance charges	**1**	5
Between 1 to 5 years		
Minimum lease payments	**-**	(92)
Future finance charges	**-**	1
Total leases	**(91)**	(119)

Finance leases for office pool vehicles commenced during 2012-2013. The leases were non-cancellable and for fixed terms of 3 years. The interest rate implicit in the vehicle leases averaged 4.94%. The lease assets secured the lease liabilities. The ATSB guaranteed the residual values of all assets leased. There were no contingent rentals.

Note 11: Provisions

	2015 $'000	2014 $'000
Note 11A: Employee Provisions		
Leave	**(4,548)**	(4,082)
Total employee provisions	**(4,548)**	(4,082)
Employee provisions expected to be settled		
No more than 12 months	**(1,799)**	(1,687)
More than 12 months	**(2,749)**	(2,395)
Total employee provisions	**(4,548)**	(4,082)
Note 11B: Other Provisions		
Provision for restoration obligations	**(72)**	(70)
Total other provisions	**(72)**	(70)
Other provisions expected to be settled		
No more than 12 months	**-**	-
More than 12 months	**(72)**	(70)
Total other provisions	**(72)**	(70)

	Provision for restoration $'000	Total $'000
As at 1 July 2014	**(70)**	**(70)**
Unwinding of discount or change in discount rate	**(2)**	**(2)**
Total as at 30 June 2015	**(72)**	**(72)**

The Department of Infrastructure and Regional Development (DOIRD) leases all premisies that the ATSB occupies. The ATSB reimburses DOIRD for its portion of lease costs. There is currently 1 agreement (2014: 1 agreement) for the leasing of premises which have provisions requiring the ATSB (through DOIRD) to restore the premises to their original condition at the conclusion of the lease. The ATSB has made a provision to reflect the present value of this obligation.

Note 12: Cash Flow Reconciliation

	2015	2014
	$'000	$'000
Reconciliation of cash and cash equivalents as per statement of financial position to cash flow statement		
Cash and cash equivalents as per		
Cash flow statement	**821**	562
Statement of financial position	**821**	562
Discrepancy	**-**	-
Reconciliation of net cost of services to net cash from/(used by) operating activities		
Net cost of services	**(84,458)**	(25,703)
Revenue from Government	**98,459**	31,292
Adjustments for non-cash items		
Depreciation/amortisation	**864**	1,529
Net write down of non-financial assets	**14**	-
Losses from Asset Sales	**-**	15
Unwinding of discount	**2**	2
Other non-cash items	**(166)**	-
Movements in assets and liabilities		
Assets		
Increase in net receivables	**(34,458)**	(7,550)
(Increase)/Decrease in accrued revenue	**(73)**	17
Decrease in prepayments	**15**	15
Liabilities		
Increase/(Decrease) in employee provisions	**466**	(539)
Increase in suppliers payables	**19,595**	594
Increase in other payables	**25**	28
Net cash from/(used by) operating activities	**285**	(300)

Note 13: Senior Management Personnel Remuneration

	2015 $	2014 $
Short-term employee benefits		
Salary	**(1,258,085)**	(1,068,558)
Allowances	**(4,604)**	(4,604)
Total short-term employee benefits	**(1,262,689)**	(1,073,162)
Post-employment benefits		
Superannuation	**(214,475)**	(180,830)
Total post-employment benefits	**(214,475)**	(180,830)
Other long-term employee benefits		
Annual leave	**(81,601)**	(68,274)
Long-service leave	**(26,241)**	(21,955)
Total other long-term employee benefits	**(107,842)**	(90,229)
Total senior executive remuneration expenses	**(1,585,006)**	(1,344,221)

The total number of senior management personnel that are included in the above table are 8 individuals (2014: 6 individuals).

Note 14: Financial Instruments

	2015 $'000	2014 $'000
Note 14A: Categories of Financial Instruments		
Financial Assets		
Loans and receivables		
Cash and cash equivalents	**821**	562
Trade and other receivables	**10,316**	125
Total loans and receivables	**11,137**	687
Total financial assets	**11,137**	687
Financial Liabilities		
Financial liabilities measured at amortised cost		
Trade creditors	**(9,593)**	(223)
Finance leases	**(91)**	(119)
Total financial liabilities measured at amortised cost	**(9,684)**	(342)
Total financial liabilities	**(9,684)**	(342)
Note 14B: Net Losses on Financial Assets		
Receivables		
Impairment	**(4)**	-
Net losses on receivables	**(4)**	-
Net Loss on financial assets	**(4)**	-
Note 14C: Net Loss on Financial Liabilities		
Financial liabilities measured at amortised cost		
Interest expense	**(5)**	(7)
Net loss on financial liabilities measured at amortised cost	**(5)**	(7)
Net loss on financial liabilities	**(5)**	(7)

Note 14D: Fair Value of Financial Instruments

	Carrying amount 2015 $'000	Fair value 2015 $'000	Carrying amount 2014 $'000	Fair value 2014 $'000
Financial Assets				
Cash and cash equivalents	**821**	**821**	562	562
Trade and other receivables	**10,316**	**10,316**	125	125
Total financial assets	**11,137**	**11,137**	687	687
Financial Liabilities				
Trade Creditors	**(9,593)**	**(9,593)**	(223)	(223)
Finance Leases	**(91)**	**(91)**	(119)	(119)
Total financial liabilities	**(9,684)**	**(9,684)**	(342)	(342)

Note 14: Financial Instruments continued

Note 14E: Credit Risk

The ATSB was exposed to minimal credit risk as loans and receivables were cash and trade receivables. The maximum exposure to credit risk was the risk that arises from potential default of a debtor. This amount was equal to the total amount of trade receivables (2015: $10,316,000 and 2014: $125,000).

The ATSB had assessed the risk of the default on payment and had allocated Nil in 2015 (2014: Nil) to an impairment allowance account.

The ATSB held no collateral to mitigate against credit risk.

Credit quality of financial assets not past due or individually determined as impaired

	Not past due nor impaired	Not past due nor impaired	**Past due or impaired**	Past due or impaired
	2015	2014	**2015**	2014
	$'000	$'000	**$'000**	$'000
Cash and cash equivalents	**821**	562	**-**	-
Trade receivables	**1,023**	118	**9,293**	7
Total	**1,844**	680	**9,293**	7

Ageing of financial assets that were past due but not impaired in 2015

	0 to 30 days	**31 to 60 days**	**61 to 90 days**	**90+ days**	**Total**
	$'000	**$'000**	**$'000**	**$'000**	**$'000**
Trade receivables	**9,293**	**-**	**-**	**-**	**9,293**
Total	**9,293**	**-**	**-**	**-**	**9,293**

Ageing of financial assets that were past due but not impaired in 2014

	0 to 30 days	31 to 60 days	61 to 90 days	90+ days	Total
	$'000	$'000	$'000	$'000	$'000
Trade receivables	-	7	-	-	7
Receivables for goods and services	-	7	-	-	7
Total	-	7	-	-	7

Note 14F: Liquidity Risk

The ATSB's financial liabilities are trade payables and finance leases on office pool vehicles. Given the financial position of the ATSB and the source and nature of its future funding from the Government, the risk that the ATSB would be unable to meet its financial obligations to its creditors is significantly low.

Maturities for non-derivative financial liabilities in 2015

	On demand	**within 1 year**	**between 1 to 2 years**	**between 2 to 5 years**	**more than 5 years**	**Total**
	$'000	**$'000**	**$'000**	**$'000**	**$'000**	**$'000**
Trade creditors	**-**	**(9,593)**	**-**	**-**	**-**	**(9,593)**
Finance Leases	**-**	**(91)**	**-**	**-**	**-**	**(91)**
Total	**-**	**(9,684)**	**-**	**-**	**-**	**(9,684)**

Maturities for non-derivative financial liabilities in 2014

	On demand	within 1 year	between 1 to 2 years	between 2 to 5 years	more than 5 years	Total
	$'000	$'000	$'000	$'000	$'000	$'000
Trade creditors	-	(223)	-	-	-	(223)
Finance Leases	-	(28)	(91)	-	-	(119)
Total	-	(251)	(91)	-	-	(342)

The entity had no derivative financial liabilities in either 2015 or 2014.

Note 14G: Market Risk

The ATSB holds basic financial instruments which do not expose the entity to market risks, such as 'Currency risk' and 'Other price risk'.

Interest rate risk

The only interest bearing item on the statement of financial position were the finance leases on office pool vehicles. The leases were established at a fixed rate of interest and repayments do not fluctuate with movements in the market interest rates.

Note 15: Financial Assets Reconciliation

	Notes	2015 $'000	2014 $'000
Total financial assets as per statement of financial position		**51,502**	16,712
Less: Non-financial instrument components			
Appropriations receivable	7B	**40,289**	15,925
Statutory receivables	7B	**-**	97
Other financial assets	7C	**76**	3
Total non-financial instrument components		**40,365**	16,025
Total financial assets as per financial instruments note		**11,137**	687

Note 16: Appropriations

Note 16A: Annual Appropriations ('Recoverable GST exclusive')

Annual Appropriations for 2015

	Appropriation Act		*PGPA Act*					
	Annual Appropriation[1] $'000	**AFM $'000**	**Section 74 $'000**	**Section 75 $'000**	**Total appropriation $'000**	**Appropriation applied in 2015 (current and prior years) $'000**	**Variance[3] $'000**	**Section 51 determinations $'000**
Departmental								
Ordinary annual services	**98,841**	**-**	**5,667**	**-**	**104,508**	**(80,027)**	**24,481**	**(22)**
Other services								
Equity	**555**	**-**	**-**	**-**	**555**	**(514)**	**41**	**-**
Total departmental	**99,396**	**-**	**5,667**	**-**	**105,063**	**(80,541)**	**24,522**	**(22)**

1. In 2014-15, an amount of $22,000 was quarantined as a result of a communications functions savings measure.
2. In 2014-15, there was no adjustment that met the recognition criteria of a formal addition or reduction in revenue (in accordance with FRR Part 6 Div 3) but at law the appropriations had not been amended before the end of the reporting period.
3. As part of the 2014-2015 Portfolio Supplementary Additional Estimates budget process, the ATSB received an additional $29.577 million through Appropriation Bill 5. A large portion of the $24.4 million variance is directly related to the search for missing Malaysia Airlines Flight 370 and uncontrollable variables, such as weather. Other expenses in relation to the search for the missing aircraft have been slightly delayed, however the funds will be fully utilised in 2015-16.

Annual Appropriations for 2014

	Appropriation Act			*FMA Act*					
	Annual Appropriation	Appropriations reduced[1]	AFM	Section 30	Section 31	Section 32	Total appropriation	Appropriation applied in 2015 (current and prior years)	Variance
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Departmental									
Ordinary annual services	31,717	-	-	-	1,338	-	33,055	(25,595)	7,460
Other services									
Equity	973	-	-	-	-	-	973	-	973
Total departmental	32,690	-	-	-	1,338	-	34,028	(25,595)	8,433

1. Appropriations reduced under Appropriation Acts (Nos. 1,3&5) 2013-14: sections 10, 11, and 12 and under Appropriation Acts (Nos. 2,4&6) 2013-14: sections 12, 13, and 14. Departmental appropriations do not lapse at financial year-end. However, the responsible Minister may decide that part or all of a departmental appropriation is not required and request the Finance Minister to reduce that appropriation. The reduction in the appropriation is effected by the Finance Minister's determination and is disallowable by Parliament.

Note 16: Appropriations continued

Note 16B: Departmental and Administered Capital Budgets ('Recoverable GST exclusive')

	2015 Capital Budget Appropriations			Capital Budget Appropriations applied in 2015 (current and prior years)			
	Appropriation Act	*PGPA Act*					
	Annual Capital Budget $'000	Section 75 $'000	Total Capital Budget Appropriations $'000	Payments for non-financial assets[2] $'000	Payments for other purposes $'000	Total payments $'000	Variance $'000
Departmental							
Ordinary annual services - Departmental Capital Budget[1]	**360**	**-**	**360**	**401**	**-**	**401**	**(41)**

1. Departmental and Administered Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts. For more information on ordinary annual services appropriations, please see Note 36A: Annual Appropriations.
2. Payments made on non-financial assets include purchases of assets, expenditure on assets which has been capitalised, costs incurred to make good an asset to its original condition, and the capital repayment component of finance leases.

	2014 Capital Budget Appropriations				Capital Budget Appropriations applied in 2014 (current and prior years)			
	Appropriation Act		*FMA Act*					
	Annual Capital Budget $'000	Appropriations reduced[2] $'000	Section 32 $'000	Total Capital Budget Appropriations $'000	Payments for non-financial assets[3] $'000	Payments for other purposes $'000	Total payments $'000	Variance $'000
Departmental								
Ordinary annual services - Departmental Capital Budget[1]	425	-	-	425	(122)	-	(122)	303

1. Departmental and Administered Capital Budgets are appropriated through Appropriation Acts (No.1,3,5). They form part of ordinary annual services, and are not separately identified in the Appropriation Acts. For more information on ordinary annual services appropriations, please see Table A: Annual appropriations.
2. Appropriations reduced under Appropriation Acts (No.1,3,5) 2013-14: sections 10, 11, 12 and 15 or via a determination by the Finance Minister.
3. Payments made on non-financial assets include purchases of assets, expenditure on assets which has been capitalised, costs incurred to make good an asset to its original condition, and the capital repayment component of finance leases.

Note 16: Appropriations continued

Note 16C: Unspent Annual Appropriations ('Recoverable GST exclusive')

	2015	2014
	$'000	$'000
Departmental		
Appropriation Act (No. 1) 2013-14	**-**	5,399
Appropriation Act (No. 2) 2013-14	**459**	973
Appropriation Act (No. 5) 2013-14	**-**	9,553
Appropriation Act (No. 1) 2014-15	**9,698**	-
Appropriation Act (No. 2) 2014-15	**555**	-
Appropriation Act (No. 5) 2014-15	**29,577**	-
Cash	**821**	562
Total departmental	**41,110**	16,487

Note 17: Reporting of Outcomes

Note 17A: Net Cost of Outcome Delivery

	Outcome 1		Total	
	2015	2014	**2015**	2014
	$'000	$'000	**$'000**	$'000
Departmental				
Expenses	**(119,114)**	(29,061)	**(119,114)**	(29,061)
Own-source income	**34,656**	3,358	**34,656**	3,358
Net cost of outcome delivery	**(84,458)**	(25,703)	**(84,458)**	(25,703)

Note 18: Budgetary Reports and Explanations of Major Variances

The following tables provide a comparison of the original budget as presented in the 2014-15 Portfolio Budget Statements (PBS) to the 2014-15 final outcome as presented in accordance with Australian Accounting Standards for the Australian Transport Safety Bureau. The Budget is not audited.
Variances are considered to be 'major' based on the following criteria:
- the variance between budget and actual is greater than 10%: and
- the variance between budget and actual is greater than 2% of total expenses or total own source revenues: or
- the variance between budget and actual is below this threshold but is considered important for the reader's understanding or is relevant to an assessment of the discharge of accountability and to an analysis of performance of the agency.

In some instances, a budget has not been provided for in the PBS, for example non-cash items such as asset revaluations and sale of assets adjustments. Unless the variance is considered to be 'major' no explanation has been provided.

Note 18A: Departmental Budgetary Reports

Australian Transport Safety Bureau
Statement of Comprehensive Income
for the period ended 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	**2015**	2015
	$'000	**$'000**	$'000
NET COST OF SERVICES			
Expenses			
Employee benefits	**(15,563)**	**(16,305)**	742
Suppliers	**(102,662)**	**(55,916)**	(46,746)
Depreciation and amortisation	**(864)**	**(1,155)**	291
Finance costs	**(7)**	**-**	(7)
Write-down and impairment of assets	**(18)**	**-**	(18)
Total expenses	**(119,114)**	**(73,376)**	(45,738)
Own-Source Income			
Own-source revenue			
Sale of goods and rendering of services	**15,888**	**1,201**	14,687
Other revenue	**18,767**	**-**	18,767
Total own-source revenue	**34,655**	**1,201**	33,454
Gains			
Other gains	**1**	**2,116**	(2,115)
Total gains	**1**	**2,116**	(2,115)
Total own-source income	**34,656**	**3,317**	31,339
Net (cost of)/contribution by services	**(84,458)**	**(70,059)**	(14,399)
Revenue from Government	**98,459**	**68,904**	29,555
Surplus/(Deficit) attributable to the Australian Government	**14,001**	**(1,155)**	15,156
Total comprehensive income/(loss) attributable to the Australian Government	**14,001**	**(1,155)**	15,156

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period (i.e. from the entity's 2014-15 Portfolio Budget Statements (PBS)).
2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 18: Budgetary Reports and Explanations of Major Variances continued

Australian Transport Safety Bureau
Statement of Financial Position
as at 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	**2015**	2015
	$'000	**$'000**	$'000
ASSETS			
Financial assets			
Cash and cash equivalents	**821**	**887**	(66)
Trade and other receivables	**50,605**	**6,319**	44,286
Other financial assets	**76**	**21**	55
Total financial assets	**51,502**	**7,227**	44,275
Non-financial assets			
Property, plant and equipment	**1,501**	**1,703**	(202)
Intangibles	**991**	**1,645**	(654)
Other non-financial assets	**137**	**167**	(30)
Total non-financial assets	**2,629**	**3,515**	(886)
Total assets	**54,131**	**10,742**	43,389
LIABILITIES			
Payables			
Suppliers	**(20,255)**	**(178)**	(20,077)
Other payables	**(914)**	**(216)**	(698)
Total payables	**(21,169)**	**(394)**	(20,775)
Interest bearing liabilities			
Leases	**(91)**	**(169)**	78
Total interest bearing liabilities	**(91)**	**(169)**	78
Provisions			
Employee provisions	**(4,548)**	**(4,898)**	350
Other provisions	**(72)**	**(72)**	-
Total provisions	**(4,620)**	**(4,970)**	350
Total liabilities	**(25,880)**	**(5,533)**	(20,347)
Net assets	**28,251**	**5,209**	23,042
EQUITY			
Parent entity interest			
Contributed equity	**12,031**	**12,197**	(166)
Reserves	**278**	**85**	193
Retained surplus/(Accumulated deficit)	**15,942**	**(7,073)**	23,015
Total equity	**28,251**	**5,209**	23,042

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period (i.e. from the entity's 2014-15 Portfolio Budget Statements (PBS)).

2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 18: Budgetary Reports and Explanations of Major Variances continued

Australian Transport Safety Bureau
Statement of Changes in Equity
for the period ended 30 June 2015

	Retained earnings			Asset revaluation surplus			Contributed equity/capital			Total equity		
	Actual	Budget estimate		Actual	Budget estimate		Actual	Budget estimate		Actual	Budget estimate	
		Original[1]	Variance[2]		Original[1]	Variance[2]		Original[1]	Variance[2]		Original[1]	Variance[2]
	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015	2015
	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000	$'000
Opening balance												
Balance carried forward from previous period	**1,941**	**(5,918)**	7,859	**278**	**85**	193	**11,282**	**11,282**	-	**13,501**	**5,449**	8,052
Adjusted opening balance	**1,941**	**(5,918)**	7,859	**278**	**85**	193	**11,282**	**11,282**	-	**13,501**	**5,449**	8,052
Comprehensive income												
Surplus/(Deficit) for the period	**14,001**	**(1,155)**	15,156							**14,001**	**(1,155)**	15,156
Other comprehensive income	-	-	-	-	-	-	-	-	-	-	-	-
Total comprehensive income/ (loss)	**14,001**	**(1,155)**	15,156	-	-	-	-	-	-	**14,001**	**(1,155)**	15,156
Transactions with owners												
Contributions by owners												
Equity injection - Appropriations	-	-	-	-	-	-	**555**	**555**	-	**555**	**555**	-
Departmental capital budget	-	-	-	-	-	-	**360**	**360**	-	**360**	**360**	-
Other	-	-	-	-	-	-	**(166)**	-	(166)	**(166)**	-	(166)
Total transactions with owners	-	-	-	-	-	-	**749**	**915**	(166)	**749**	**915**	(166)
Transfers between equity components	-	-	-	-	-	-			-			-
Closing balance as at 30 June	**15,942**	**(7,073)**	23,015	**278**	**85**	193	**12,031**	**12,197**	(166)	**28,251**	**5,209**	23,042
Closing balance attributable to Australian Government	**15,942**	**(7,073)**	23,015	**278**	**85**	193	**12,031**	**12,197**	(166)	**28,251**	**5,209**	23,042

1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period (i.e. from the entity's 2014-15 Portfolio Budget Statements (PBS)).
2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 18: Budgetary Reports and Explanations of Major Variances continued

Australian Transport Safety Bureau
Cash Flow Statement
for the period ended 30 June 2015

	Actual	Budget estimate	
		Original[1]	Variance[2]
	2015	**2015**	2015
	$'000	**$'000**	$'000
OPERATING ACTIVITIES			
Cash received			
Appropriations	**73,929**	**68,750**	5,179
Sale of goods and rendering of services	**5,601**	**1,201**	4,400
GST	**1,010**	**3,085**	(2,075)
Other	**177**	**-**	177
Total cash received	**80,717**	**73,036**	7,681
Cash used			
Employees	**(14,981)**	**(16,356)**	1,375
Suppliers	**(65,277)**	**(56,680)**	(8,597)
Borrowing costs	**(5)**	**-**	(5)
Other	**(169)**	**-**	(169)
Total cash used	**(80,432)**	**(73,036)**	(7,396)
Net cash from/(used by) operating activities	**285**	**-**	285
INVESTING ACTIVITIES			
Cash used			
Purchase of property, plant and equipment and intangibles	**(915)**	**(915)**	-
Total cash used	**(915)**	**(915)**	-
Net cash from/(used by) investing activities	**(915)**	**(915)**	-
FINANCING ACTIVITIES			
Cash received			
Contributed equity	**915**	**915**	-
Total cash received	**915**	**915**	-
Cash used			
Repayment of borrowings	**(26)**	**-**	(26)
Total cash used	**(26)**	**-**	(26)
Net cash from/(used by) financing activities	**889**	**915**	(26)
Net increase/(decrease) in cash held	**259**	**-**	259
Cash and cash equivalents at the beginning of the reporting period	**562**	**887**	(325)
Cash and cash equivalents at the end of the reporting period	**821**	**887**	(66)

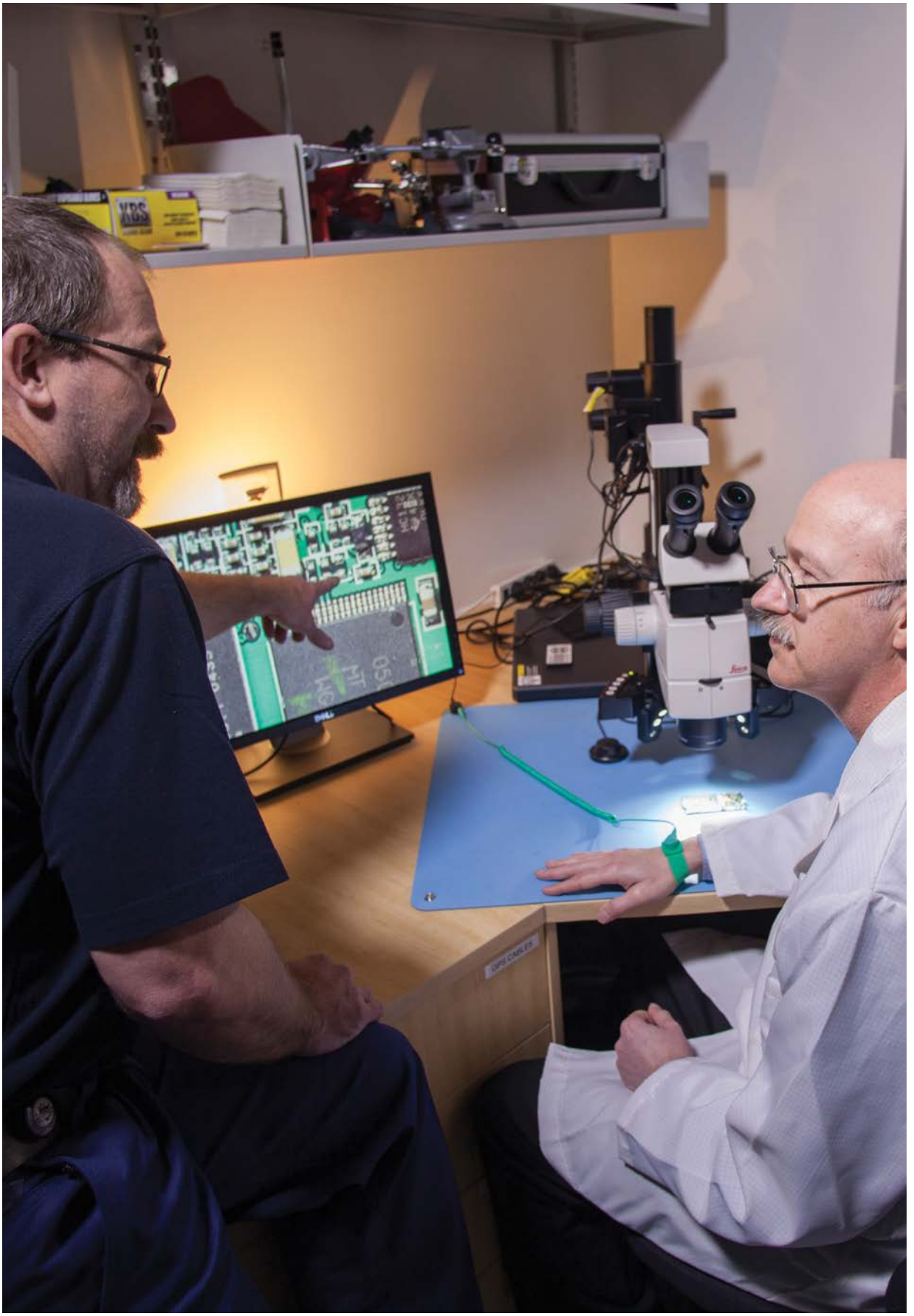
1. The entity's original budgeted financial statement that was first presented to parliament in respect of the reporting period (i.e. from the entity's 2014-15 Portfolio Budget Statements (PBS)).

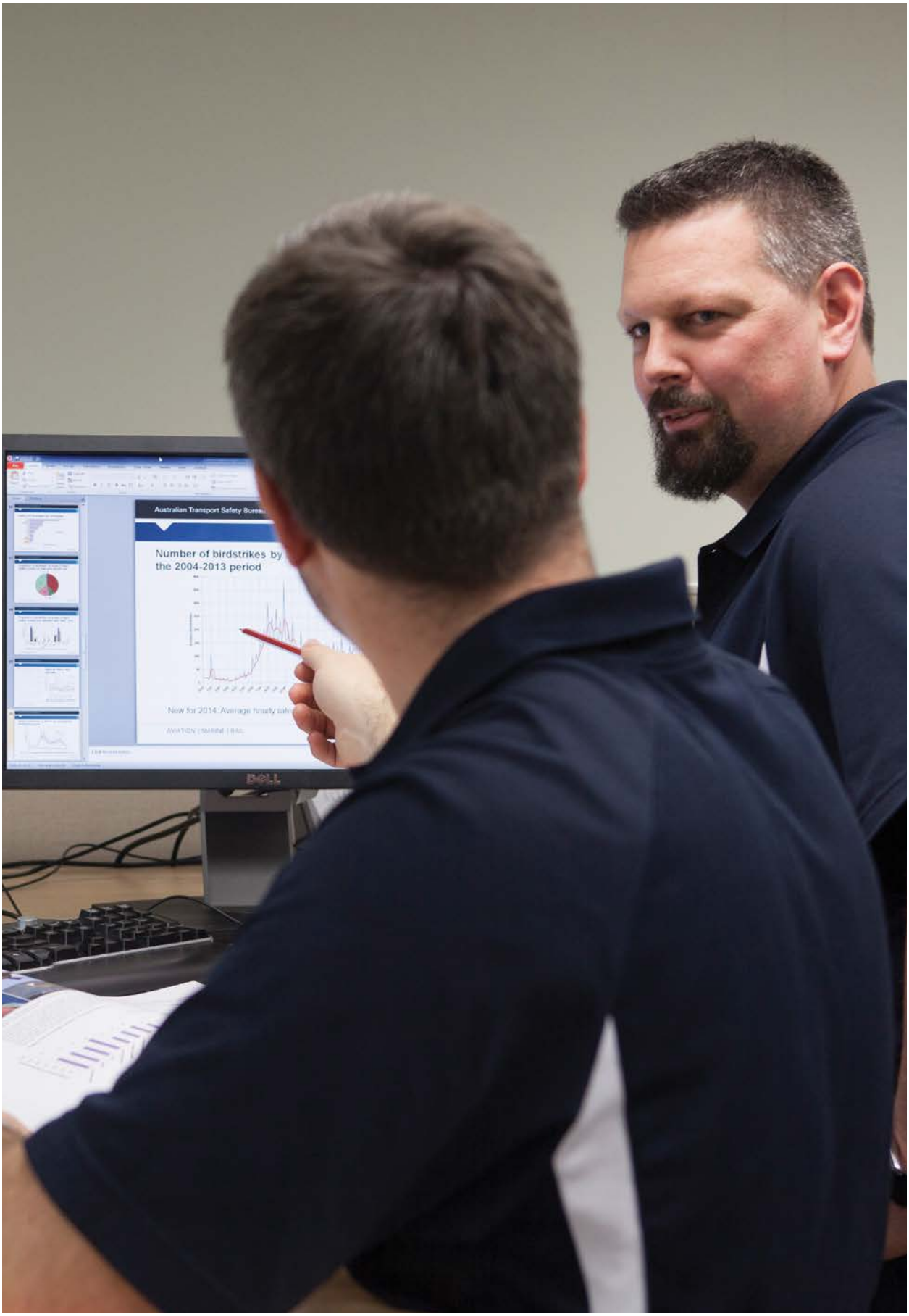
2. Between the actual and original budgeted amounts for 2015. Explanations of major variances are provided further below.

Note 18: Budgetary Reports and Explanations of Major Variances continued

Note 18B: Departmental Major Budget Variances for 2015

Explanations of major variances	Affected line items (and statement)
Search for Missing Malaysia Airlines Flight 370 (MH370)	
As part of the 2014-2015 Portfolio Supplementary Additional Estimates budget process, the ATSB received an additional $29.577 million through Appropriation Bill 5 which was not included in the original Budget Estimate. The additional appropriation is government assistance in relation to the search for Malaysia Airlines Flight 370. This amount will be fully offset by financial contributions from other countries. As a result of this Budget Measure, many lines items, as listed have been dramatically increased leading to large variances between Actual and Original Budget. Including an increase to the Suppliers expense and other revenue, for an amount of $16.8 million which represents resources received free of charge in relation to the search.	*Suppliers expense (Statement of Comprehensive Income), Sale of Goods and rendering of services revenue (Statement of Comprehensive Income), Other Revenue (Statement of Comprehensive Income), Trade and other receivables (Statement of Financial Position), Suppliers payable (Statement of Financial Position), Other payables (Statement of Financial Position), Retained surplus (Statement of Financial Position), Operating cash received - appropriations (Cash Flow Statement), Operating cash received - sale of goods and rendering of services (Cash Flow Statement) and Operating cash used - suppliers (Cash Flow Statement).*
Incorrect Projection of Asset Values During Original Budget Process	
During the original budget process the projected depreciation expense was based on an ICT refresh occurring early within the financial year. Due to delays the refresh didn't occur until the last quarter of the financial year, thus resulting in reduced a reduced depreciation expense.	*Depreciation and amortisation expense (Statement of Comprehensive Income).*
Reclassification of Income	
A variance of $2 million within Other Revenue and Other Gains occurred due to a reclassification of Resources Received Free of Charge income, after the original budget process. The variance within each category fully offset each other.	*Other revenue (Statement of Comprehensive Income) and Other gains (Statement of Comprehensive Income).*




Australian Transport Safety Bureau
Number of birdstrikes by
the 2004-2013 period

SECTION 8

Management and accountability

The Commission

The ATSB is governed by a Commission, comprising a Chief Commissioner and three part-time Commissioners. Previously, the ATSB had two part-time Commissioners, but a third part-time Commissioner was appointed by the Minister on 9 March 2015—following a recommendation of the Aviation Safety Regulation Review Report.

The Commission provides guidance on the selection of accidents and other safety incidents to be investigated. It also supports the ATSB in encouraging safety action ahead of final reports, thus reducing the need to issue safety recommendations.

The Commission operates within the corporate governance framework of the ATSB Commission Governance Manual, which is updated at Commission meetings regularly when required. The manual sets out the legislative requirements, parliamentary and ministerial accountability, membership and functions, administrative policies and procedures and reporting obligations for the Commission. The Commission meets at least quarterly, and regularly deals with business electronically in accordance with its obligations under the TSI Act and its agreed policies.

All Commissioners participated in four meetings during 2014–15. The Commissioners also attended an annual planning session with the ATSB's Executive Management Team in March 2015.

Executive management

The ATSB Executive meets weekly to discuss the organisation's strategic management issues and priorities. The ATSB Executive consists of the Chief Commissioner, the General Managers of Aviation Safety Investigations, Surface Safety Investigations and Strategic Capability, and the Program Director, Operational Search for MH370.

Audit Committee

The Audit Committee provides independent assurance and advice to the Chief Commissioner on the ATSB's risk management, internal controls, financial statements and legislative compliance. The Audit Committee is made up of an independent chair, an independent member and an ATSB management nominee. The Committee's quarterly meetings were held in September 2014, December 2014, March 2015 and June 2015.

The core work of the Committee during the year was to oversee and advise on:

- the Strategic Internal Audit Plan for 2014–17
- the annual Internal Audit Program for 2014–15
- ATSB's Risk Management, Fraud Control and Business Continuity Plans
- ATSB's Financial Statement preparations and audit report
- implementation of the *Public Governance, Performance and Accountability Act 2013* (PGPA Act) and the associated Rule
- the internal audit governance framework—including Audit Committee Charter, Internal Audit Charter and Internal Audit Strategic Plan 2014–17.

The Committee is also taking a key role in advising on the governance and financial management of the search for MH370.

The audit program for 2014–15 focused on the ATSB's risk management program and process. The program included the following internal audits:

- review of ICT Transition Arrangements
- review of key processes/impact of staff reduction and backfilling in relation to the MH370 project
- ICT Arrangements, Procurement and Contract Management review
- Protective Security Policy Framework Review
- Public Interest Disclosure review.

The program also included the following audits for the MH370 Project:

- MH370 Search Procurement Review
- MH370 Project Governance Review
- MH 370 Program Health Check
- MH370 Recovery Procurement Review.

Professional Committee

The Professional Committee provides for open communication on matters that affect the professional interests of ATSB staff in the workplace. The role of the Professional Committee is to:

- provide a forum for professional development, business improvement and related issues to be raised and discussed
- consider and develop recommendations to the Executive—including proposals from employees for improving the ATSB workplace
- explore opportunities for continuous improvement of our business processes, policies and procedures
- foster innovation and consistency in how the ATSB carries out its business.

The Professional Committee comprises 13 elected staff members, who met on three occasions during 2014–15.

Business planning and reporting

Each year, the ATSB develops an Annual Plan—consistent with the strategic direction provided by the Deputy Prime Minister's Statement of Expectations and the ATSB's Response, which are published on the ATSB website. The Annual Plan incorporates the outcomes, deliverables and key performance indicators for the ATSB, which are set out in the Portfolio Budget Statements.

The ATSB Annual Plan 2014–15 gave priority to:

- building capability and effectiveness—including the timeliness, and quality, of investigations and reports
- strengthening stakeholder relationships—including with other safety agencies
- commitment to safety research communication and education and promoting attention to risk areas identified through the *SafetyWatch* initiative
- regional and international engagement
- ongoing participation in the transport reform agenda
- sharing safety information
- focused safety research and data analysis
- maintaining preparedness for a major accident.

Performance reporting for the Annual Plan is contained in Section 3 of this annual report.

Risk management

Consistent with the PGPA Act, the ATSB's Risk Management Framework is an integral element of its governance, planning and management framework. Risk assessment and mitigation have been integrated into ATSB business practices, planning and performance reporting—at both corporate and business unit levels.

The ATSB is committed to a comprehensive, coordinated and systematic approach to the management of risk—directed towards supporting managers at all levels to anticipate and plan for risk, and to respond appropriately. For 2014–15 the ATSB concentrated its risk focus on the areas of growth, change, reputation, resourcing and capability.

The ATSB Enterprise Risk Register and Management Plan, and Risk Policy are reviewed regularly by the Commission, the Executive and the Audit Committee. Ongoing review of risk management planning ensures the ATSB is well-placed to achieve the objectives of its risk management policy and that risk management is consistently practised across the agency.

Business Continuity Plan

During 2014–15, the ATSB has continued to monitor and review its Business Continuity Plan. The plan provides a framework to ensure the ATSB is well-placed to manage a business disruption, implement recovery processes and build business resilience.

Following the recent ICT changes, a desk top exercise was held on 25 June 2014. This was to test the IT Managed Services Contractor's capability, and to validate the recovery and contingency policy. The scenario used for the test was based around a catastrophic communications failure at the Primary Data Centre. The exercise identified that the current disaster recovery configuration, as tested, is an interim solution which requires updating. This updating is currently being undertaken.

The ATSB is in the process of conducting a comprehensive review of its Business Continuity Plan to effectively maintain and test its operational risk management processes, and responses, which mitigate the impact of non-routine business disruptions.

Fraud control

Following the introduction of the PGPA Act, along with the associated Fraud Rule, Fraud Policy and Resource Management Guide, the ATSB Fraud Control Plan 2014–15 was reviewed. This resulted in the development of the ATSB Fraud Control Plan 2014–16.

The ATSB's fraud risk register is reviewed on a quarterly basis and continually monitored to minimise the incidence of fraud. This process is assisted through the development, implementation and regular assessment of its fraud prevention, detection, and response strategies.

The introduction of the *Public Interest Disclosure Act 2013* in January 2014, and the development of the ATSB policy and procedure for making a disclosure under the scheme, has complemented the ATSB's fraud management strategies. The ATSB's staff awareness program incorporates activities for existing and new staff. Fraud control is a key topic for the ATSB's induction program.

During the reporting period, the ATSB undertook a review of its fraud control framework. Initiatives emerging from this review will be implemented throughout 2015–16.

The Audit Committee and Commission receive regular reports on fraud risks and the implementation of controls and treatments. The Committee, and the Commission, review the Fraud Control Plan to ensure the ATSB has appropriate processes and systems in place to capture, and effectively investigate, fraud-related information.

There were no allegations, or instances, of fraud reported within the ATSB during 2014–15.

Ethical standards

During the reporting period, the ATSB continued to demonstrate its commitment to the APS Values, Employment Principles and Code of Conduct by:

- highlighting the APS Values, Employment Principles and Code of Conduct in all selection criteria and recruitment processes, for all ATSB positions
- including briefing information on the APS Values, Employment Principles and Code of Conduct in induction packages and training sessions
- promoting the APS Values, Employment Principles and Code of Conduct through individual performance management plans
- allowing employees to access information on ethical standards via the ATSB's intranet and the APSC's website
- developing Public Interest Disclosure policy and procedures
- ensuring that the ATSB's fraud control policy, allegations and investigations are dealt with in accordance with the Values and Code of Conduct, and ensure procedural fairness and natural justice.

Management of human resources

Over the past year, the ATSB's Organisational Development team has continued to focus on a range of workforce planning activities designed to position the agency to operate within a resource-constrained environment.

These activities included:

- finalising the strategic workforce plan, which outlines the ATSB's approach to meeting and maintaining its future workforce needs over the next four years to ensure it has access to the skills and competencies necessary to function as a modern transport safety agency
- implementing an entry level (graduate) program designed to build capability for the future
- concluding the good faith bargaining negotiations, which have resulted in a new enterprise agreement, with effect from 3 August 2015
- preparing the new Corporate Plan with effect from 31 August 2015.

Given the finite nature of ATSB human resources, representing an associated employee cost of approximately 65 per cent of the agency's current and projected budgets, it is imperative that strategies are developed and implemented to maximise the utilisation of these resources. Accordingly, the revised strategic workforce plan has been designed to cover a broad range of strategies including:

- reshaping the workforce
- developing a pool of capable staff
- attracting and retaining high quality staff
- building management and leadership capability
- fostering our culture and key principles
- addressing workforce risks
- increasing our core appropriations (out-years)
- creating tools to support a more systemic and rigorous workforce planning process.

Each of these strategies has been underpinned by a number of key activities that will be routinely reviewed through the Executive and Commission, and quality assured through the Audit Committee.

While we were able to establish a new enterprise agreement, it was a marginal result, with 55 per cent of staff voting in favour. This was below our previous result of 78 per cent in favour—which was to be expected, when taking into account the relatively low pay offer and the reduction of seven days Personal Circumstances Leave. This result will continue to see the ATSB's base salaries remain below the APS median and less competitive in comparison with other portfolio agencies. The Organisational Development team will, therefore, carefully monitor the agency's health and wellbeing indicators over the coming period—including those established (benchmarked) through the APS Census, such as unscheduled leave utilisation rates of access to the employee assistance program, etc.

Staffing profile

In accordance with our workforce planning projections, the ATSB's staffing profile has remained stable, with a slight increase, from 104 at the start of July 2014 to 106 by the end of June 2015. The associated staff turnover rate was approximately six per cent. Table 18 displays the ATSB staff numbers, by classification, as of 30 June 2015.

Table 18: ATSB staffing profile at 30 June 2015

SUBSTANTIVE CLASSIFICATION	FEMALE (FULL TIME)	FEMALE (PART TIME)	MALE (FULL TIME)	MALE (PART TIME)	NON-ONGOING	TOTAL
Statutory Office Holders		1	1	2		4
Senior Executive Service Band 1			2			2
EL 2	5	2	47		3	57
EL 1	4		7		2	13
APS 6	5	1	6		2	14
APS 5	6	1	4		2	13
APS 4	1		1		1	3
Total	**21**	**5**	**68**	**2**	**10**	**106**

This total is comprised of the following employment arrangements:

- 100 staff (representing all non-SES employees) covered by the Enterprise Agreement
- two SES employees covered by section 24(1) determinations, established in accordance with the ATSB's SES remuneration policy
- four Statutory Office Holders (representing the Commissioners) determined by the Remuneration Tribunal.

There are no other employment arrangements in place and there is no provision for performance pay.

This total comprises 83 staff based in Canberra, 12 based in Brisbane, five based in Adelaide, five based in Perth and one in Sydney.

Indigenous employees

On 30 June 2014 and 30 June 2015, the ATSB had no ongoing or non-ongoing employees who identify as Indigenous.

Salary rates

Table 19 displays the salary rates supporting the above employment arrangements, at 30 June 2015 (Note: these rates have not changed from the previous year, as a new enterprise agreement had not been finalised over this reporting period).

Table 19: ATSB salary rates at 30 June 2015

SUBSTANTIVE CLASSIFICATION	LOWER ($)	UPPER ($)
Statutory Office Holders	**As determined by the Remuneration Tribunal**	
SES1	167,762	199,861
EL 2	111,677	137,257*
EL 1	93,975	108,402*
APS 6	74,753	87,232*
APS 5	66,634	73,028

*Maximums include Transport Safety Investigator and respective supervisor's salaries, representing a $1,606–$9,793 increase on standard APS6–EL2 rates.

Organisational culture

This has been an unsettling year for our employees—taking into account our reduced workforce (12 per cent fewer staff than the previous year), a number of workforce restructures and a protracted bargaining process. Fortunately, though, it appears our organisational culture, and underlying morale, have been able to weather this difficult period. As demonstrated by our organisational wellbeing indicators, derived from the 2015 staff census results, it is pleasing to see that our staff remain positive in terms of job roles, attachment to the agency, feelings of personal accomplishment, attitude towards managers, workplace safety and work-life balance, etc—as evidenced by these census results:

- *I enjoy the work in my current job*—81 per cent positive
- *I feel a strong personal attachment to my agency*—84 per cent positive
- *My job gives me a feeling of personal accomplishment*—71 per cent positive
- *I have a good immediate supervisor*—84 per cent positive
- *My supervisor treats people with respect*—87 per cent positive
- *My supervisor is committed to workplace safety*—93 per cent positive
- *My workplace culture supports people to achieve good work-life balance*—75 per cent positive
- *I am proud to work in my agency*—86 per cent positive.

Conversely there are a number of results (trends) that continue to present ongoing challenges, which have been captured within the strategic workforce plan and supporting implementation plan:

- *I am fairly remunerated for the work that I do*—stable at 53 per cent
- *I am satisfied with the stability and security of my current job*— down to 59 per cent
- *I am satisfied with the opportunities for career progression in my agency*—down to 32 per cent
- *Change is managed well in my agency*—stable at 45 per cent
- *My manager appears to manage underperformance well*—stable at 54 per cent.

Training and development

The ATSB, as a Registered Training Organisation, awarded three Transport Safety Investigation Diplomas in 2014–15. At the same time the ATSB has continued to provide training opportunities for a broad range of industry-based personnel, through its highly regarded Human Factors, On-site safety and Aircraft Accident Investigation Fundamentals courses.

In terms of other professional development and industry awareness-type programs, the ATSB, in accordance with individual staff development plans, facilitated many productive and worthwhile opportunities over this financial year including:

- continued engagement with overseas counterparts and attendance at international investigator and transport safety forums
- attending the Rolls Royce Presentation on Indianapolis operations, overview of current technology and future directions for RR Engines
- attending the Fatigue Modelling Course for Human Factors specialists
- attending several Helicopter Winching courses, in both Lismore NSW and Symonston ACT
- attending the CASA Safety Management System training course
- various aircraft endorsements and revalidations of marine certificates of competency.

In addition to these technical pursuits, approximately 10 per cent of staff were engaged in a range of tertiary studies, including:

- Certificate IV in Training and Assessment
- Diploma of Counselling
- Bachelor of Aviation Management
- Master of Business Administration
- Master of Arts (Investigation Management)
- Masters of Systems Engineering
- Master of Information System Security
- Masters of Project Management
- Post graduate research studies.

This year, the ATSB has also developed a new Advanced Report Writing course which captured approximately 75 per cent of the targeted group of learners. The course is two days in duration and employs a blend of instructor led learning, group discussions and a series of practical activities to highlight and reinforce the course objectives and learning outcomes.

Purchasing

The ATSB purchases goods and services in accordance with the Commonwealth Procurement Rules. These rules are applied through the Accountable Authority Instructions. The ATSB's procurement policies and processes have been developed to ensure that:

- it undertakes competitive, non-discriminatory procurements
- it uses resources efficiently, effectively, economically and ethically
- it makes all procurement decisions in an accountable and transparent manner.

Consultants

The ATSB engages consultants when it lacks specialist expertise, or when independent research, review or assessment is required. Consultants are typically engaged to:

- investigate or diagnose a defined issue or problem
- carry out defined reviews or evaluations
- provide independent advice, information or creative solutions to assist in the ATSB's decision making.

Before engaging consultants, the ATSB takes into account the skills and resources required for the task, the skills available internally and the cost effectiveness of engaging an external contractor. The decision to engage external contractors is made in accordance with the Commonwealth Procurement Rules (CPRs) and relevant internal policies.

During 2014–15 seven new consultancy contracts were entered into involving total actual expenditure of $0.83 million. There were no ongoing consultancies contracts carried over from the 2013–14 year.

Annual reports contain information about actual expenditure on contracts for consultancies. Information on the value of contracts and consultancies is available from the AusTender website: www.tenders.gov.au

Exempt contracts

No contracts were exempted, on public interest grounds, from publication with AusTender during 2014–15.

Australian National Audit Office access clauses

There were no contracts that did not provide for the Auditor-General to have access to the contractors' premises during 2014–15.

Procurement initiatives to support small business

The ATSB supports small business participation in the Commonwealth Government procurement market. Small and Medium Enterprises (SME) and Small Enterprise participation statistics are available on the Department of Finance's website at www.finance.gov.au

The ATSB seeks to support SMEs, consistent with paragraph 5.4 of the Commonwealth Procurement Rules. It ensures that its communications are expressed in clear and simple language. Its finance system is set up to ensure prompt payments to all contractors and suppliers and it makes use of credit cards.

Legal services and expenditure

Paragraph 11.1(a) of the Legal Services Directions 2005, issued by the Attorney General under the *Judiciary Act 1903*, requires chief executives of departments and agencies to ensure that legal services expenditure is appropriately recorded and monitored. Chief executives must also ensure that their agencies make records of their legal services expenditure for the previous financial year available by 30 October in the following financial year. The following amounts are exclusive of GST.

The expenditure on legal services for 2014–15 was $326,627.10. This comprised:

- $136,079.10 on external legal services
- $190,548.00 on internal legal services.

External scrutiny and participation

Coronial inquests

In 2014–15, three coronial inquests involved matters that related to ATSB investigations. Where the ATSB provided evidence it was given in a manner consistent with the ATSB's independent status and functions, to avoid apportioning blame or providing the means to determine liability.

Wilson (ATSB investigation AO-2011-166)

On 16 September 2014, NSW Deputy State Coroner Forbes released the findings of her inquiry into a helicopter winching accident involving an Agusta Westland AW139 helicopter 16 km WSW of Wollongong Airport, NSW on 24 December 2011. A paramedic involved in the winching accident was fatally injured.

The ATSB released its findings on 16 May 2013. The ATSB website has been updated to make note of the inquest findings and relevant safety issues.

Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation safety investigations and reports. Search investigation number AO-2011-166.

Leopoldo (ATSB investigation 290-MO-2011-010)

On 26 May 2015, Coroner Linton of WA released the findings of her inquiry into a man overboard fatality from the container ship *MSC Siena*, off Fremantle, WA on 17 November 2011. A crew member of the *MSC Siena* was knocked off an accommodation ladder while rigging a combination pilot ladder, in preparation to embark a harbour pilot. The search for the crew member was not successful.

The ATSB released its findings on 5 February 2013. The ATSB website has been updated to make note of the inquest findings and relevant safety issues.

Visit www.atsb.gov.au and follow the link on the Marine tab to Marine safety investigations and reports. Search investigation number 290-MO-2011-010.

Greene (ATSB investigation AO-2008-083)

On 30 April 2015, NSW Deputy State Coroner Freund released the findings of her inquiry into a collision with terrain involving a Cessna 172L aircraft 67 km WNW of Scone Aerodrome, NSW on 24 December 2008. A pilot and passenger were on board the aircraft. The passenger was fatally injured.

The ATSB released its findings on 14 July 2010. The ATSB website has been updated to make note of the inquest findings and relevant safety issues.

Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation safety investigations and reports. Search investigation number AO-2008-083.

Other assistance to coroners

Robinson (ATSB investigation AE-2013-109)

In July 2013, the ATSB was asked for assistance by Coroner Lock of Queensland to review the Queensland Police Service (QPS) investigation of the circumstances of the 30 March 2012 accident, involving a Europa XS amateur-built aircraft that collided with terrain shortly after take-off from Caboolture Airfield. The pilot of the aircraft was fatally injured.

The ATSB initiated an external investigation to review the QPS investigation. The ATSB review was provided to Coroner Lock on 6 September 2013.

Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation safety investigations and reports. Search investigation number AE-2013-109.

On 15 September 2014, the Coroner advised the ATSB that, as a result of the assistance provided, the Coroner was able to resolve previously undetermined issues, and the Coroner proceeded to make findings without proceeding to an inquest.

Civil proceedings

On 19 December 2014, the Queensland Court of Appeal delivered its verdict in the matter of McDermott and McDermott v Robinson Helicopter Company. The proceedings arose out of a collision with terrain involving a Robinson R22 helicopter on 30 May 2004. The helicopter had two occupants on board and the pilot suffered fatal injuries. The Plaintiff was initially unsuccessful in the Queensland Supreme Court, however, the Court of Appeal reversed that verdict.

The ATSB investigated the occurrence and its report, which was released on 24 August 2006, may be found on the website. Visit www.atsb.gov.au and follow the link on the Aviation tab to Aviation safety investigations and reports.Search investigation number 200401917.

In the course of the civil proceedings, the ATSB was asked for assistance with items of evidential material. Consistent with its no-blame investigation function, the ATSB did not provide assistance with any opinions, analysis or evidential material obtained from witnesses. However, the ATSB did provide a limited series of photographs of a component of the helicopter, in situ in the helicopter wreckage. The photographs were provided as they went to issues of chain of evidence and were otherwise unavailable to the parties to the litigation.

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APPENDICES

Appendix A: Other mandatory information

Work health and safety

The ATSB's Work Health and Safety Committee was established consistent with the obligations under the *Work Health and Safety Act 2011* (WHS Act). The Committee has 12 elected Health and Safety Representatives and met on four occasions during 2014–15. The Committee continues to report to the ATSB Commission and Executive on a quarterly basis.

The Committee consists of Health and Safety Representatives (HSRs) from each of the ATSB's work areas and also includes management representatives.

The main activities undertaken this year by the Work Health and Safety Committee include:

- the facilitation of helicopter winch training
- research into hazards relating to glass fibres in aircraft
- research and development of guidelines for the use of all respirators and personal protective equipment
- trial of the benefits of full height work stations.

ATSB staff members continue to express confidence in the agency's ongoing commitment to provide a safe workplace, as demonstrated by the following staff census results:

- *The people in my work group are committed to workplace safety*—93 per cent positive
- *My supervisor is committed to workplace safety*—93 per cent positive
- *My agency genuinely cares about employees being healthy and safe at work* —85 per cent positive
- *My agency supports employees who are injured or become ill due to work* — 82 per cent positive.

During 2014–15, one compensation claim was submitted and accepted by Comcare, and there were no reportable incidents under the WHS Act.

In terms of other wellbeing indicators, approximately 14 per cent of staff accessed the employee assistance program (EAP), and the unscheduled absence rate per full time employee has risen from 9.9 days to 12.9 days. While the overall rise in unscheduled absence can be explained (offset) by a number of known longer term return to work programs, the significant rise in accessing the EAP (up from 3.5 per cent in 2013-14) will require further analysis.

Advertising and market research

The ATSB did not conduct any advertising campaigns during 2014–15 and did not incur any expenses with advertising, market research, polling, direct mail or media advertising agencies.

Ecologically sustainable development and environmental performance reporting

(section 516A of the Environment Protection and Biodiversity Conversation Act 1999)

The ATSB is fully committed to the principles of Ecologically Sustainable Development. The nature of its work as Australia's national transport safety investigator—with a focus on the investigation of transport accidents, research into transport safety and dissemination of safety information—means that the ATSB's commitment is expressed through its day to day activities within its offices.

The ATSB operates under the Energy Efficiency in Government Operations (EEGO) policy and reports annual levels of energy use, through the Department of Infrastructure and Regional Development, to the Minister.

The ATSB has contracted out its data centres to private providers, with the result that servers and ICT infrastructure are now located outside ATSB premises. This produced a significant saving in energy use. The ATSB has limited its energy use through various initiatives that focus on improving the energy efficiency of the property portfolio, for example:

- operating a virtualised IT server environment
- ensuring that desktop IT equipment uses energy saving policies—such as automatic turn-off for monitors, and hard drives, after periods of inactivity
- reducing the number of printers in the network
- setting each printer default to (mono) black and double-sided printing
- using photocopy paper containing 60 per cent recycled paper for internal use
- active recycling of paper waste
- promotion of the separation of general waste, into recyclable and non-recyclable items, before disposal
- promotion of video conferencing as an alternative to travel, where practicable
- use of motion-sensor lighting in offices
- reducing the effect of direct sunlight on air-conditioning systems by installing blinds or tinting where appropriate.

Grant programs

The ATSB did not administer any grant programs during 2014–15.

Changes to disability reporting in annual reports

Since 1994, Commonwealth departments and agencies have reported on their performance as policy adviser, purchaser, employer, regulator and provider under the Commonwealth Disability Strategy. In 2007-08, reporting on the employer role was transferred to the Australian Public Service Commission's *State of the Service Report* and the *APS Statistical Bulletin*. These reports are available on ASPC's website at www.apsc.gov.au. From 2010–11, departments and agencies have no longer been required to report on these functions.

The Commonwealth Disability Strategy has been overtaken by the National Disability Strategy 2010-2020, which sets out a ten year national policy framework to improve the lives of people with disability, promote participation and create a more inclusive society. A high level two-yearly report will track progress against each of the six outcome areas of the Strategy and present a picture of how people with disability are faring. The first of these reports was made available in late 2014, and can be found at www.dss.gov.au

Freedom of Information

The following information explains how to request access to documents held by the ATSB under the *Freedom of Information Act 1982* (FOI Act). It also explains what records the ATSB holds, and what arrangements the ATSB has in place for outside participation.

Agencies subject to the FOI Act are required to publish information to the public as part of the Information Publication Scheme (IPS). This requirement is in Part II of the FOI Act and has replaced the former requirement to publish a section 8 statement in an annual report. Each agency must display, on its website, a plan showing what information it publishes in accordance with the IPS requirements.

Detailed information about the FOI Act is available via the Office of the Australian Information Commissioner website www.oaic.gov.au and the ComLaw website www.comlaw.gov.au

How to lodge a request for information

Information about how to make an application under the FOI Act can be found on the ATSB's website.

A request for access to documents made under the FOI Act must:

- be in writing
- state that the request is an application for the purposes of the FOI Act
- provide enough information to enable the document(s) sought to be identified
- give details of how notices under the FOI Act may be sent (for example, by providing an electronic address).

Submission of FOI requests, or enquiries about access, should be directed to:

Freedom of Information Coordinator
Australian Transport Safety Bureau
PO Box 967
CIVIC SQUARE ACT 2608

Phone: 02 6274 6488
Fax: 02 6247 3117
Email: FOI-ATSB@atsb.gov.au

Charges

There are no application fees payable to lodge an FOI request. The ATSB may impose a charge for the work involved in providing access to document(s) required through a request under the FOI Act. These charges are imposed in accordance with the FOI Act and the *Freedom of Information (Charges) Regulations*. These charges may relate to the time spent searching for and retrieving relevant document(s), decision-making time, photocopying and other costs. The FOI Act also provides that the first 5 hours of decision-making time is waived. The applicant will be notified as soon as possible of an estimate of the charges associated with processing of the request. The request will not be processed until the applicant responds to such notification.

In some circumstances, charges associated with the processing of the request may be remitted. Should the applicant wish to seek remission of the charges, the criteria considered by the ATSB include whether:

- payment of the charges, or part of the charges, would cause financial hardship to the applicant or a person on whose behalf the application was made
- giving access to document(s) is in the general public interest, or in the interest of a substantial section of the public.

The applicant would need to contact the ATSB in writing, or by email, to explain why he/she meets the criteria, or to inform the agency of overall circumstances which justify non-payment of charges. Requests for the remission of the charges should be forwarded to the Freedom of Information Coordinator.

It may not be possible to obtain access to all the documents sought in an FOI request. Access is limited by exemptions, such as Section 38—secrecy provisions of the FOI Act.

It is important to note that the ATSB is required to perform its functions under Section 12AA of the TSI Act. A significant amount of information gathered by the ATSB during the course of its investigations is defined as restricted information under Section 3 of the TSI Act, and access to such information is exempt from release under subparagraph 38(1)(b)(i) of the FOI Act.

Freedom of Information activity in 2014–15

The ATSB received 18 new requests for access to documents under the FOI Act in 2014–15.

Table 20 provides details of ATSB Freedom of Information activity for 2014–15.

Table 20: Freedom of Information activity

ACTIVITY IN 2014–2015	NUMBERS
Requests	
On hand at 1 July 2014 (A)	6
New requests received (B)	18
Requests withdrawn (C)	17
Requests transferred in full to another agency (D)	0
Requests on hand at 30 June 2015 (E)	1
Total requests completed at 30 June 2015 (A+B-C-D-E)	6
Action on requests	
Access in full	0
Access in part	5
Access refused	1
Access transferred in full	0
Request withdrawn	17
Response times (excluding withdrawn)[4]	
0–30 days	2
31–60 days	3
61–90 days	1
90+ days	0
Internal review	
Requests received	0
Decision affirmed	0
Decision amended	0
Request withdrawn	0
Review by Office of the Australian Information Commissioner	
Applications received	0
Administrative Appeal Tribunal (AAT) review of FOI decisions	
Applications received	0

4 These statistics cannot be compared directly with the deadlines set in the *Freedom of Information Act 1982*, as the ACT provides for extensions of time to allow for consultation with third parties, negotiation of charges and other issues.

Records the ATSB holds

The ATSB holds records such as:

- human and financial resource management records
- briefing papers and submissions prepared for ministers, parliamentary secretaries, parliamentary committees, the Cabinet and the Executive Council (most of these are classified documents)
- business papers, briefing notes and meeting records for committees, and conferences, in which the ATSB services or participates
- documents prepared by international agencies
- documents relating to the development of legislation
- internal administration documents
- internal treaties, memoranda of understanding and international conventions
- legal documents, including legislation, contracts, leases and court documents
- maps and other geographical information
- ministerial responses to parliamentary questions, interdepartmental and general correspondence and papers
- policy documents, recommendations and decisions
- registers of documents, agreements and approvals
- statistics and databases
- technical standards, guidelines, specifications, charts, photographs, drawings and manuals
- accident and incident investigation and notification records.

To view a list of manuals, and other documents the ATSB uses when making decisions or recommendations that affect the public, visit the ATSB website www.atsb.gov.au

Under 8C of the FOI Act, exempt matter is not required to be published. The ATSB reserves the right to delete exempt matter from its information prior to providing access.

To find out more about the types of personal information the ATSB holds, please refer to the ATSB Privacy Policy on the ATSB website www.atsb.gov.au

For further information, please contact ATSB enquiries either by telephone on 1800 020 616, or by email, atsbinfo@atsb.gov.au

Functions and decision-making powers

The ATSB's functions are detailed in Section 12AA of the TSI Act and are further described throughout this report.

Certain officers exercise decision-making powers under portfolio legislation and other matters. These responsibilities are set out in the Administrative Arrangements Order (AAO) for the Commonwealth of Australia and relate to transport safety, including investigations.

For a complete and up-to-date copy of the AAO, visit www.dpmc.gov.au

To assist ATSB employees in exercising their powers appropriately, and enable access to their decision-making authorities, the ATSB uses an intranet which allows employees to access delegations online. It also allows employees to check information about the powers and authorities assigned under the legislation set out in the AAO, and by laws such as the *Public Governance, Performance and Accountability Act 2013* and *the Public Service Act 1999*. Powers delegated under the TSI Act are recorded on the back of identity cards for all investigators.

Arrangements for outside participation

The ATSB consults widely to gain the views of its stakeholders and clients about future policy directions and program delivery. This includes consulting with other Australian state and territory government departments and agencies, as appropriate, and with foreign governments —particularly in the context of transport safety investigations. For particular policy issues, the ATSB may also contact a very broad range of stakeholders.

Correction

Refer page 39 of the 2013–14 Annual Report. The Statistics Bulletin was issued on 5 November 2014 not September as stated.

Appendix B: Entity Resource Statement 2014–15

		Actual available Appropriation for 2014–15 $'000 (a)	Payments made 2014–15 $'000 (b)	Balance remaining 2014–15 $'000 (a) – (b)
Ordinary Annual Services[1]				
Departmental appropriation[2]		101,569	80,027	21,542
Total		**101,569**	**80,027**	**21,542**
Total ordinary annual services	**A**	**101,569**	**80,027**	
Other services[3]				
Departmental non-operating				
Equity injections		555	514	41
Total		**555**	**514**	
Total other services	**B**	**555**	**514**	
Total net resourcing and payments for the Australian Transport Safety Bureau		**102,124**	**80,541**	

1 Appropriation Act (No.1) 2014-15 and Appropriation Act (No. 5) 2014-15. This includes prior year departmental appropriation and section 74 Retained Revenue Receipts.

2 Includes an amount of $0.360m in 2014-15 for the Departmental Capital Budget. For accounting purposes this amount has been designated as 'contributions by owners'.

3 Appropriation Act (No.2) 2014-15.

Expenses for Outcome 1

Outcome 1: Improved transport safety in Australia including through: independent 'no blame' investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.	**Budget*** 2014–15 $'000 (a)	**Actual Expenses** 2014–15 $'000 (b)	**Variation** 2014–15 $'000 (a) – (b)
Program 1.1: Australian Transport Safety Bureau			
Departmental expenses			
Departmental appropriation [1]	144,043	99,482	14,984
Expenses not requiring appropriation in the Budget year[2]	3,567	19,632	(16,065)
Total for Program 1.1	118,033	119,114	(1,081)
Total expenses for Outcome 1			
	2013–14	2014–15	
Average Staffing Level (number)	104	106	

*Full year budget, including any subsequent adjustment made to the 2014-15 Budget at Additional Estimates.

1 Departmental Appropriation combines Ordinary annual services (Appropriation Act Nos. 1 and 5) and Retained Revenue Receipts under section 74 of the PGPA Act 2013.

Appendix C: Glossary

Accident	An investigable matter involving a transport vehicle where: a) a person dies, or suffers serious injury, as a result of an occurrence associated with the operation of a vehicle b) the vehicle is destroyed, or seriously damaged, as a result of an occurrence associated with the operation of the vehicle c) any property is destroyed, or seriously damaged, as a result of an occurrence associated with the operation of the vehicle.
Accident Investigation Commission (AIC)	The Papua New Guinea Government institution responsible for the investigation of safety deficiencies in aviation transport.
Aerial work	Aircraft operations—including ambulance and emergency medical services, agriculture, mustering, search and rescue, fire control and survey and photography.
Agricultural operations	Operations involving the carriage and/or spreading of chemicals, seed, fertiliser or other substances for agricultural purposes—including the purposes for pest and disease control.
Airworthiness Directive	A notification to owners, and operators, of certified aircraft that a known safety deficiency with a particular model of aircraft, engine, avionics or other system exists and must be corrected. If a certified aircraft has outstanding airworthiness directives that have not been complied with the aircraft is not considered airworthy.
Amateur-built aircraft	Aircraft not built in a factory but for the user's personal use or recreation. May include ultra-light, original design, plans built, kit built or experimental aircraft.
AMSA	Australian Maritime Safety Authority
ATSB safety action	Formal activities conducted by the ATSB to initiate safety action by relevant organisations to address a safety issue. Includes safety recommendations and safety advisory notices.
Australian Accredited Representative	An Australian representative appointed in the case of safety occurrences involving Australian registered aircraft outside Australian territory, normally an ATSB investigator.
Blood-borne pathogen	A blood-borne agent causing disease that can be spread by contamination by blood.
BOS	Breakdown of separation
CASA	Civil Aviation Safety Authority
Catastrophic accident	Sudden disastrous investigable matter involving a transport vehicle.

Charter	Operations that involve the carriage of cargo or passengers but do not involve scheduled flights; the lack of scheduled flights and fixed departure and arrival points distinguishes charter operations from RPT operations.
Collective	The collective pitch control, or collective lever changes the pitch angle of all the main rotor blades collectively (i.e. all at the same time) and independent of their position. Therefore, if a collective input is made, all the blades change equally, and the result is the helicopter increases or decreases its total lift derived from the rotor.
Commercial air transport	Commercial air transport refers to scheduled and non-scheduled commercial operations used for the purposes of transporting passengers and/or cargo for hire or reward. This includes high capacity regular public transport (RPT), low capacity RPT and charter operations.
Complex investigations	Investigations rated at level 1, 2, or 3 in accordance with the ATSB's rating system.
Contributing safety factor	A safety factor that, if it had not occurred or existed at the relevant time, then: • the occurrence would probably not have occurred • adverse consequences associated with the occurrence would probably not have occurred or have been as serious • another contributing safety factor would probably not have occurred or existed.
COAG	Council of Australian Governments
CVR	Cockpit Voice Recorder
Defined Interstate Rail Network (DIRN)	The DIRN comprises over 10,000 route kilometres of standard gauge interstate track, linking the capital cities of mainland Australia.
Directly Involved Party (DIP)	Those individuals or organisations that were directly involved in a transport safety occurrence or may have influenced the circumstances that led to an occurrence. This also includes those whose reputations are likely to be affected following the release of the investigation report.
ETOPS	Extended Twin Operations—Rule that allows twin-engined airliners to fly long-distance routes that were previously off-limits to twin-engined aircraft. There are different levels of ETOPS certification. Each one allows aircraft to fly on routes that are a certain amount of flying time away from the nearest suitable airport.
Fatal accident	A transport accident in which at least one fatality results within 30 days of the accident.
Fatality/Fatal injury	Any injury acquired by a person involved in a transport accident, which results in death within 30 days of the accident.
Flight data recorder (black box)	A recorder placed in an aircraft for the purpose of facilitating the investigation of an aircraft accident or incident.

Flying training	Flying under instruction for the issue or renewal of a licence, rating, aircraft type endorsement or any other type of flying aimed at upgrading an individual's flight qualification—including solo navigation exercises conducted as part of a course of applied flying training, or check and training operations conducted by RPT operators.
General aviation (GA)	All flying activities outside of scheduled (RPT) and non-scheduled (charter) passenger and freight operations—including aerial work, flying training, private/business operations, and sports aviation. General aviation in this report does not include Australian non-VH registered aircraft.
Hours flown	Calculated from the time the wheels start, with the intention of flight, to the time the wheels stop after completion of the flight.
Human factors	Human factors is the multi-disciplinary science that applies knowledge about the capabilities and limitations of human performance to all aspects of the design, operation, and maintenance of products and systems. It considers the effects of physical, psychological and environmental factors on human performance in different task environments—including the role of human operators in complex systems.
ICAO	International Civil Aviation Organization
IMO	International Maritime Organization
Immediately reportable matter	A serious transport safety matters that covers occurrences such as: • accidents involving death • serious injury • destruction or serious damage of vehicles or property • when an accident nearly occurs.
Incident	An occurrence, other than an accident, associated with the operation of a transport vehicle that affects, or could affect, the safety of operation.
ITSAP	The Australian Government's Indonesia Transport Safety Assistance Package
LOSA	Loss of separation assurance
Less complex investigations	Those rated at level 4 or level 5 under the ATSB's rating scheme.
Minor injury	An injury sustained by a person in an accident that was not a fatal or serious injury and does not require hospitalisation.
Multi-modal	Across the three modes of transport covered by ATSB: aviation, marine and rail.
National Transportation Safety Committee (NTSC)	Indonesian Government institution responsible for the investigation of safety deficiencies in aviation, maritime and land transport.

Occurrences—accidents and incidents	Occurrences are reportable matters—either an immediately reportable matter (IRM) or routine reportable matter (RRM). They comprise accidents, serious incidents and incidents.
ONRSR	Office of the National Rail Safety Regulator
Other aerial work	Other aerial work includes: • operations conducted for the purposes of aerial work other than 'flying training' and 'agricultural operations' • operations classified as other aerial work—including aerial surveying and photography, spotting, aerial stock mustering, search and rescue, ambulance, towing (including glider, target and banner towing), advertising, cloud seeding, fire-fighting, parachute dropping, and coastal surveillance.
PIF	Post-impact fire
Pilotage	Use of licensed coastal pilots to guide ships through designated areas.
Portfolio Budget Statements (PBS)	These statements explain the provisions of the Appropriation Bills (Budget Bills), that is, where the appropriate funds are going to be spent.
Private/business	Private flying is conducted for recreational or personal transport. Business flying refers to the use of aircraft as a means of transport to support a business, or profession, without the aircraft generating revenue directly.
REEFVTS	Great Barrier Reef and Torres Strait Vessel Traffic Service. A coastal Vessel Traffic Service which has been put in place by the Australian and Queensland Governments to improve safety and efficiency of vessel traffic as well as protect the environment.
Regular public transport (RPT)	Refers to aircraft that transport passengers, and/or cargo, according to fixed schedules and fixed departure/arrival points, in exchange for monetary reward. These services can be further divided into low and high capacity aircraft: • low capacity RPT—an RPT aircraft that provides a maximum of 38 passenger seats, or a maximum payload no greater than 4,200 kg • high capacity RPT—an RPT aircraft that provides more than 38 passenger seats, or a maximum payload greater than 4,200 kg.
Registered Training Organisation (RTO)	An organisation registered, in accordance with the Australian Quality Training Framework Standards for Registered Training Organisations, to provide specific vocational education, training and/or assessment services.
REPCON	Report Confidential—the aviation confidential reporting scheme
REPCON Marine	Report Confidential—the marine confidential reporting scheme
Reportable safety concern	Any matter that endangers or could endanger a transport vehicle.

Safety action	The things that organisations and individuals do, in response to the identification of safety issues, in order to prevent accidents and incidents. There are two main types: • ATSB safety action • Non-ATSB safety action.
Safety advisory notice	Formal advice by the ATSB to an organisation, or relevant parts of the aviation industry, that it should consider the safety issue and take action where it believes it is appropriate. A safety advisory notice is a 'softer' output to a safety recommendation used for less significant safety issues when the available evidence is more limited or when the target audience is not a specific organisation.
Safety factor	An event or condition that increases safety risk—something that increases the likelihood of an occurrence, and/or the severity of the adverse consequences associated with an occurrence.
Safety issues	A safety factor can reasonably be regarded as having the potential to adversely affect the safety of future operations and: • is a characteristic of an organisation or a system, rather than a characteristic of a specific individual, or • is characteristic of an operational environment at a specific point in time.
Safety recommendation	ATSB safety recommendations are formal recommendations by the ATSB to an organisation for it to address a specific safety issue. They focus on stating the problem (i.e. the description of the safety issue.) They do not identify specific solutions for reducing risk.
SAR	Search and rescue
SATCOM	Satellite communication
Serious incident	An incident involving circumstances indicating an accident nearly occurred.
Serious Injury	An injury which is sustained by a person in an accident and: • requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received • results in a fracture of any bone (except simple fractures of fingers, toes, or nose) • involved lacerations which cause severe haemorrhage, nerve, muscle or tendon damage • involves injury to any internal organ • involves second or third degree burns, or any burns affecting more than five per cent of the body surface • involves verified exposure to infectious substances or injurious radiation.
Short investigation	These are short, factual, office-based investigations, of less complex safety occurrences rated at level 5 under the ATSB's rating scheme.

SIIMS	Safety Investigation Information Management System
SOLAS	Safety of Life at Sea
SPAD	Signal passed at danger
Spectral analysis	Detailed analysis of the pilot's radio transmissions, background engine sounds and warnings.
Sports Aviation	This category includes aircraft excluded from the RPT, GA or military aircraft categories including ultralights, glider, hang gliders, rotorcraft and balloon aviation. Most, if not all, sport aviation craft are registered with various sporting bodies rather than with the Civil Aviation Safety Authority (CASA), although exceptions to this rule occur. Sports aviation also includes parachute operations and acrobatics. Sports aviation in this report does not include Australian non-VH registered aircraft.
STAR	Standard arrival route
Statutory agency	A body, or group of persons, declared by an Act to be a Statutory Agency for the purposes of the *Public Service Act 1999*.
Systemic failure	A breakdown in the system as a whole.
Transport safety matter	As defined by the *Transport Safety Investigation Act 2003*, these matters consist of occurrences in which: • the transport vehicle is destroyed • the transport vehicle is damaged • the transport vehicle is abandoned, disabled, stranded or missing in operation • a person dies as a result of an occurrence associated with the operation of the transport vehicle • a person is injured or incapacitated as a result of an occurrence associated with the operation of the transport vehicle • any property is damaged as a result of an occurrence associated with the operation of the transport vehicle • the transport vehicle is involved in a near accident • the transport vehicle is involved in an occurrence that affected, or could have affected, the safety of the operation of the transport vehicle • something occurred that affected, is affecting, or might affect transport safety.
TSI Act	*Transport Safety Investigation Act 2003*
ULB	Underwater locator beacon

Appendix D: List of requirements

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9	**Review by Secretary**			
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9(2)		Summary of significant issues and developments	Suggested	3–5
9(2)		Overview of department's performance and financial results	Suggested	46–47
9(2)		Outlook for following year	Suggested	5
9(3)		Significant issues and developments —portfolio	Portfolio departments —suggested	N/A
10	**Departmental Overview**			
10(1)		Role and functions	Mandatory	8
10(1)		Organisational structure	Mandatory	13
10(1)		Outcome and programme structure	Mandatory	18
10(2)		Where outcome and programme structures differ from PB Statements/ PAES or other portfolio statements accompanying any other additional appropriation bills (other portfolio statements), details of variation and reasons for change	Mandatory	20
10(3)		Portfolio structure	Portfolio departments —mandatory	N/A
11	**Report on Performance**			
11(1)		Review of performance during the year in relation to programmes and contribution to outcomes	Mandatory	24

REF	PART OF REPORT	DESCRIPTION	REQUIREMENT	PAGE
11(2)		Actual performance in relation to deliverables and KPIs set out in PB Statements/PAES or other portfolio statements	Mandatory	24–26
11(2)		Where performance targets differ from the PBS/PAES, details of both former and new targets, and reasons for the change	Mandatory	N/A
11(2)		Narrative discussion and analysis of performance	Mandatory	27–47
11(2)		Trend information	Mandatory	N/A
11(3)		Significant changes in nature of principal functions/services	Suggested	N/A
11(3)		Performance of purchaser/provider arrangements	If applicable, suggested	N/A
11(3)		Factors, events or trends influencing departmental performance	Suggested	5
11(3)		Contribution of risk management in achieving objectives	Suggested	162
11(4)		Performance against service charter customer service standards, complaints data, and the department's response to complaints	If applicable, mandatory	N/A
11(5)		Discussion and analysis of the department's financial performance	Mandatory	46–47
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12(3)		Senior management committees and their roles	Suggested	160–161
12(3)		Corporate and operational plans and associated performance reporting and review	Suggested	161–162
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12(4)		Reports by the Auditor-General, a Parliamentary Committee. the Commonwealth Ombudsman or an agency capability review	Mandatory	2
	Management of Human Resources			
12(5)		Assessment of effectiveness in managing and developing human resources to achieve departmental objectives	Mandatory	163–164
12(6)		Workforce planning, staff retention and turnover	Suggested	164
12(6)		Impact and features of enterprise or collective agreements, individual flexibility arrangements (IFAs), determinations, common law contracts and Australian Workplace Agreements (AWAs)	Suggested	164

REF	PART OF REPORT	DESCRIPTION	REQUIREMENT	PAGE
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12(6)		Work health and safety performance	Suggested	172
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12(7)		Statistics on staffing	Mandatory	164–165
12(8)		Enterprise or collective agreements, IFAs, determinations, common law contracts and AWAs	Mandatory	165–166
12(9) & B		Performance pay	Mandatory	165
12(10)–(11)	Assets management	Assessment of effectiveness of assets management	If applicable, mandatory	N/A
12(12)	Purchasing	Assessment of purchasing against core policies and principles	Mandatory	167
12(13)–(22)	Consultants	The annual report must include a summary statement detailing the number of new consultancy services contracts let during the year; the total actual expenditure on all new consultancy contracts let during the year (inclusive of GST); the number of ongoing consultancy contracts that were active in the reporting year; and the total actual expenditure in the reporting year on the ongoing consultancy contracts (inclusive of GST). The annual report must include a statement noting that information on contracts and consultancies is available through the AusTender website	Mandatory	168
12(23)	Australian National Audit Office Access Clauses	Absence of provisions in contracts allowing access by the Auditor-General	Mandatory	168
12(24)	Exempt contracts	Contracts exempted from publication in AusTender	Mandatory	168
13	Financial Statements	Financial Statements	Mandatory	112–156
	Other Mandatory Information			
14(1) & C.1		Work health and safety (Schedule 2, Part 4 of the *Work Health and Safety Act 2011)*	Mandatory	172

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Australian Transport Safety Bureau

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