

The Auditor-General
Audit Report No.13 2010-11
Performance Audit

**Implementation and Administration of the Civil
Aviation Safety Authority's Safety Management
System Approach for Aircraft Operators**

Australian National Audit Office

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of Australia 2010

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Canberra ACT
28 October 2010

Dear Mr President
Dear Mr Speaker

The Australian National Audit Office has undertaken an independent performance audit in the Civil Aviation Safety Authority in accordance with the authority contained in the *Auditor-General Act 1997*. I present the report of this audit, and the accompanying brochure, to the Parliament. The report is titled Implementation and Administration of the Civil Aviation Safety Authority's Safety Management System Approach for Aircraft Operators.

Following its tabling in Parliament, the report will be placed on the Australian National Audit Office's Homepage—<http://www.anao.gov.au>.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ian McPhee', is positioned above the printed name and title.

Ian McPhee
Auditor-General

The Honourable the President of the Senate
The Honourable the Speaker of the House of Representatives
Parliament House
Canberra ACT

AUDITING FOR AUSTRALIA

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Abbreviations and Glossary

| | |
|-----------------------|--|
| Air Navigation Act | <i>Air Navigation Act 1920</i> |
| ANAO | Australian National Audit Office |
| AOC | Air Operator's Certificate |
| AOCM | Air Operator Certification Manual |
| ATI | Air Transport Inspector |
| ATSB | Australian Transport Safety Bureau |
| AIG | Aviation Implementation Group |
| Aviation Policy Group | The peak Government aviation advisory group consisting of the heads of DITRDLG, CASA and Airservices Australia and the Chief of the Air Force. |
| CAAP | Civil Aviation Advisory Publication |
| CAO | Civil Aviation Order |
| CAR | <i>Civil Aviation Regulations 1988</i> |
| CASA | Civil Aviation Safety Authority |
| CASR | <i>Civil Aviation Safety Regulations 1998</i> |
| CASR Part 119 | Civil Aviation Safety Regulation Part 119, which is intended to be the long-term vehicle for the mandating of Safety Management System requirements across the Australian aviation industry (including both regular public transport operators and charter operators). |
| Charter operators | Operators who run non-scheduled flight services. |

| | |
|------------------------------|---|
| <i>Chicago Convention</i> | The <i>Convention on International Civil Aviation</i> (commonly known as the <i>Chicago Convention</i>) sets out the agreed principles to maintain a safe and orderly international civil aviation environment. Australia became a signatory to the <i>Chicago Convention</i> on 1 March 1947 and the <i>Convention</i> came into force on 4 April 1947. |
| Civil Aviation Act (the Act) | <i>Civil Aviation Act 1988</i> |
| CROS | CASA Regulatory Oversight System |
| DITRDLG | Department of Infrastructure, Transport, Regional Development and Local Government, now the Department of Infrastructure and Transport. |
| ERP | Emergency Response Plan |
| High capacity operators | Operators using high capacity aircraft, defined as aircraft that are certified as having a maximum seating capacity exceeding 38 seats or a maximum payload exceeding 4200 kg. |
| ICAO | The International Civil Aviation Organisation (ICAO), a specialised organisation of the United Nations, which was created by the <i>Chicago Convention</i> . |
| Instructions, the | <i>Instructions on the use of the Safety Management System Assessment Checklists</i> which formed part of the SMS Assessment Checklist package. |
| Legislative Instruments Act | <i>Legislative Instruments Act 2003</i> |
| Low capacity operators | Operators using aircraft other than high capacity aircraft, being aircraft with a seating capacity of 38 seats or less or a maximum payload of 4200 kg or less. |
| MAAT | Manual Authoring and Assessment Tool |

| | |
|------------------------------------|---|
| OBPR | Office of Best Practice Regulation within the Department of Finance and Deregulation |
| Regular public transport operators | Operators that run regular scheduled flight services. |
| SARPs | The International Standards and Recommended Practices outlined in the annexes to the <i>Chicago Convention</i> . |
| SMI | Senior Management Instruction |
| SMM | ICAO Safety Management Manual |
| SMS | Safety Management System |
| SMS manual | A manual or suite of manuals that set out the details of how an operator's proposed SMS would comply with the legislative requirements. |
| SPM | Surveillance Procedures Manual |
| SSP | State Safety Program |
| TRIM | Electronic document management system utilised by CASA to record SMS assessments and approvals. |

Summary and Recommendations

Summary

Introduction

1. The Civil Aviation Safety Authority (CASA) is responsible for regulating aviation safety in Australia, the safety of Australian aircraft operating overseas as well as for regulating and administering Australia's airspace. In September 2008, the Senate Committee on Rural and Regional Affairs and Transport presented a report on the *Administration of the Civil Aviation Safety Authority and related matters*. That report made three recommendations, one of which requested an Australian National Audit Office (ANAO) audit of CASA's implementation and administration of the regulation of aircraft operators' Safety Management Systems (SMS').¹ ANAO agreed to this request with the objective of the audit being to assess CASA's implementation and administration of an SMS approach to regulating aircraft operators.²

2. An SMS is a systematic approach to managing safety, which encompasses organisational structures, accountabilities, policies and procedures. Amendments to the *Convention on International Civil Aviation* (commonly referred to as the *Chicago Convention*) made in 2006 require that contracting states regulate the SMS' of aircraft operators. As a contracting state to the *Chicago Convention*, Australia is required to mandate that aircraft operators implement an SMS.

Audit conclusions

3. Consistent with Australia's international obligations, CASA is progressing with the regulation of operator Safety Management Systems. Significant work was undertaken to change the relevant regulations so as to

¹ The Senate, Rural and Regional Affairs and Transport Committee, *Administration of the Civil Aviation Safety Authority (CASA) and related matters*, 2008, p. 44.

² The focus of this audit was on regular public transport operators who hold an Air Operator's Certificate (AOC) granted by CASA under section 27 of the *Civil Aviation Act 1988*. In particular, the audit focused on: high capacity operators, being those operators using aircraft certified as having a maximum seating capacity exceeding 38 seats or a maximum payload exceeding 4200 kg for scheduled flight services; and all other operators with scheduled flight services, which are referred to in this report as 'low capacity operators'.

require regular public transport operators to use an SMS that has been approved by CASA. The regulatory changes came into effect in January 2009.

4. However, operators were not required to have an SMS acceptable to CASA in place from January 2009. Rather, to allow each regular public transport operator to plan for and implement an SMS in a timely and effective way and to ease the burden placed on both affected operators and CASA, CASA allowed operators to adopt a phased approach to implementing an SMS. The first phase required operators to implement SMS elements that were relatively easy to set up, including the development of an SMS manual³. The second and third phases related to progressively more complex elements of an SMS.

5. CASA's SMS approval processes have also been phased. To date, work has focused on the first part, termed 'Document Evaluation'. This has involved CASA assessing, through desktop review, whether the SMS manual submitted by an operator contained the required elements, and whether these were suitable for the operator.

First Approval Stage: Document Evaluation

6. The number of regular public transport operators fluctuates. A total of 35 operators submitted an SMS manual to CASA for assessment, comprising 18 high capacity operators and 17 low capacity operators. CASA employed and provided training to system specialists who were responsible for assessing the SMS manuals provided to CASA by operators. In addition, CASA developed a comprehensive checklist to inform the decision as to whether the SMS manual submitted by each operator should be approved. Nevertheless, there were some shortcomings in the documentation assessment process, including instances where there was not a clear and consistent evidentiary trail to support CASA's decision to approve the SMS manual that had been submitted by the operator. Accordingly, ANAO has made one recommendation aimed at enhancing the rigour of CASA's desktop review of an operator's SMS.

7. CASA approved the proposed SMS of each of the 35 operators. However, under the phased approach, full SMS implementation is not

³ The SMS manual may comprise a single manual or suite of manuals that set out the details of how an operator's proposed SMS would comply with the legislative requirements.

scheduled to occur until October/November 2010 for high capacity operators and February 2011 for low capacity operators (see Table S 1).

Table S 1

General specified dates^A for demonstrating safety management capability to CASA in relation to each element of an approved SMS

| Phase | High capacity operators | Low capacity operators |
|---|-------------------------|------------------------|
| Phase 1 elements including: internal aspects of safety policy, objectives and planning; reactive based safety performance monitoring and measurement; an SMS implementation plan; and SMS manual documentation. | 2 November 2009 | 1 February 2010 |
| Phase 2 elements including: proactive and predictive hazard identification, risk assessment and mitigation processes; and coordination of an emergency response plan. | 29 April 2010 | 1 August 2010 |
| Phase 3 elements including: the management of change; and continuous improvement of the SMS. | 29 October 2010 | 1 February 2011 |
| Note A: While these are the Phase dates specified in relation to most operators, CASA has agreed to alternative dates for some operators, based upon the SMS Implementation Plan submitted by the relevant operators. For high capacity operators, the latest specified date for demonstrating capability in relation to Phase 2 elements is 25 May 2010 and 25 November 2010 for Phase 3 elements. | | |

Source: ANAO analysis of CASA data.

Second Approval Stage: Capability Assessment

8. In order to have their SMS approved, operators had to satisfy CASA that their SMS manual documented and suitably described safety systems and processes that were appropriate to the operator, or that any missing/inadequate elements would be addressed in a timeframe that CASA considered acceptable. Accordingly, CASA approval of an operator's SMS was not on the basis that CASA was satisfied that the SMS manual was being used by the operator and that the documented systems and processes effectively managed safety risks. Rather, these aspects were to be addressed in the second stage of CASA's SMS approval process, referred to as 'Capability Assessment'.

9. At the time ANAO audit fieldwork was completed, a Capability Assessment of one operator had been undertaken by CASA as part of its scheduled surveillance activities. Whilst the desktop review of this operator's manual had not identified any shortcomings, CASA's surveillance activities found that important elements of the SMS manual were not being complied

with and that planned development of safety management systems had not occurred.

10. This example highlights the risks involved with granting an approval based solely on a desktop documentation evaluation. In this respect, CASA has informed ANAO that it is continuing its 'normal' oversight and surveillance against the existing regulatory requirements⁴ whilst its oversight processes undergo a managed transition to full safety management system surveillance, combined with functional surveillance, to cover all aspects of each operator's activities. In addition, in August 2010, CASA informed ANAO that SMS Capability Assessments had commenced for all regular public transport operators. The results of the Capability Assessments will provide a sound indication of the extent to which regular public transport operators have implemented systems and procedures tailored to their business that are designed to promote high standards of aviation safety.

Formal agency comments on the proposed report

CASA

CASA welcomes any constructive review and external scrutiny of its processes and procedures. In addition to the recommendation, which CASA supports, the report has identified a number of areas where CASA can improve and it is the intention to apply appropriate measures to ensure that lessons learnt will be applied in future especially in relation to the introduction of new regulations.

Notwithstanding this, it should be noted that CASA remains at the forefront of Civil Aviation Authorities worldwide and our implementation of safety management systems in the aviation industry is at the leading edge across ICAO member states. Although not indicated within the report, CASA undertook a review of lessons learnt from other regulators in their implementation of SMS and has diligently applied these in our approach. Ensuring the ongoing safety of aviation has been and will continue to be paramount to CASA in the introduction of any new systems or regulations.

⁴ CASA's current compliance approach involves conducting surveillance, which consists of operational surveillance and scheduled annual audits against the conditions of an operator's AOC. The air transport sector is examined by CASA against nine elements, one of which is the operator's SMS. On an annual basis, a sample of the elements are selected and examined so as to provide a snapshot of the system under review, with a full audit cycle covering all nine elements for each operator taking three years to complete.

Department of Infrastructure and Transport

Given the report and its recommendation primarily relate to CASA, our comments concentrate on those matters which are within the scope of the department's responsibilities.

I note the report has incorporated background information on the international and domestic policy settings for the implementation of the SMS regulatory model. The inclusion of this information clarifies the role of the International Civil Aviation Organisation (ICAO) in Australia's aviation safety framework as well as the responsibilities of the Australian Government's aviation agencies.

In regard to your request for an update on the State Safety Program (SSP), the department has prepared a draft SSP which has been circulated to a cross-agency team assisting in the preparation of the SSP and the Aviation Implementation Group. A project plan which outlines the strategy, governance arrangements and timelines for development of the SSP has been prepared and is being implemented.

Consistent with ICAO's timelines, the project has a November 2010 completion date. The Aviation Policy Group was advised of progress at its August 2010 meeting and will oversee final development of the SSP.

The report notes that progress with the Regulatory Reform Program has been slow. To this end, a dedicated taskforce comprising drafters and technical specialists from the Office of Legislative Drafting and Publishing and CASA was established in March 2010 to focus resources on completion of the Program by the end of 2011.

Recommendation

Recommendation No. 1

Paragraph 3.95

ANAO *recommends* that the Civil Aviation Safety Authority enhance the rigour of its desktop review of operators' safety management systems by introducing procedures that provide a clearer and more consistent evidentiary trail as to the basis on which approvals are granted, particularly in circumstances where the underlying records indicate that one or more elements required to be in place had not been found to be suitably present in the operator's safety management system documentation at the time of the assessment.

CASA response: Agreed.

Audit Findings

1. Introduction

This chapter describes the background to the audit, the role of the Civil Aviation Safety Authority, the requirement for certain aircraft operators to have a Safety Management System, and the audit objectives and approach.

Background

1.1 Australia is a signatory to the *Convention on International Civil Aviation*, commonly referred to as the *Chicago Convention*, which sets out the agreed principles to maintain a safe and orderly international civil aviation environment.⁵ The *Chicago Convention* created the International Civil Aviation Organisation (ICAO), a specialised organisation of the United Nations.⁶ The annexes to the *Chicago Convention* outline the International Standards and Recommended Practices (SARP). Annex 6 is of primary relevance to this audit as it relates to the operation of aircraft.

1.2 The *Chicago Convention* is cited in a number of Australian Commonwealth laws, including the *Air Navigation Act 1920* (Air Navigation Act) and the *Civil Aviation Act 1988* (Civil Aviation Act). The Minister for Infrastructure, Transport, Regional Development and Local Government, through the Civil Aviation Safety Authority (CASA) as the regulator, administers Australian air safety within this legal framework.

Australia's civil aviation regulator

1.3 CASA is a statutory authority operating within the Infrastructure, Transport, Regional Development and Local Government portfolio. CASA was established in 1995 by amendments to the Civil Aviation Act. The Director of Aviation Safety manages CASA subject to the directions of, and in accordance with policies determined by, the Board of CASA, which in turn reports to the

⁵ The *Convention on International Civil Aviation* was signed in Chicago on 7 December 1944 and came into force on 4 April 1947. Australia became a signatory to the *Chicago Convention* on 1 March 1947, and is now one of 190 contracting states. Source: International Civil Aviation Organisation, *Convention on International Civil Aviation*, ninth edition, 2006.

⁶ <http://www.icao.int/cji/goto_m.pl?icao/en/hist/history02.htm> [accessed 1 September 2010].

Minister for Infrastructure, Transport, Regional Development and Local Government.⁷

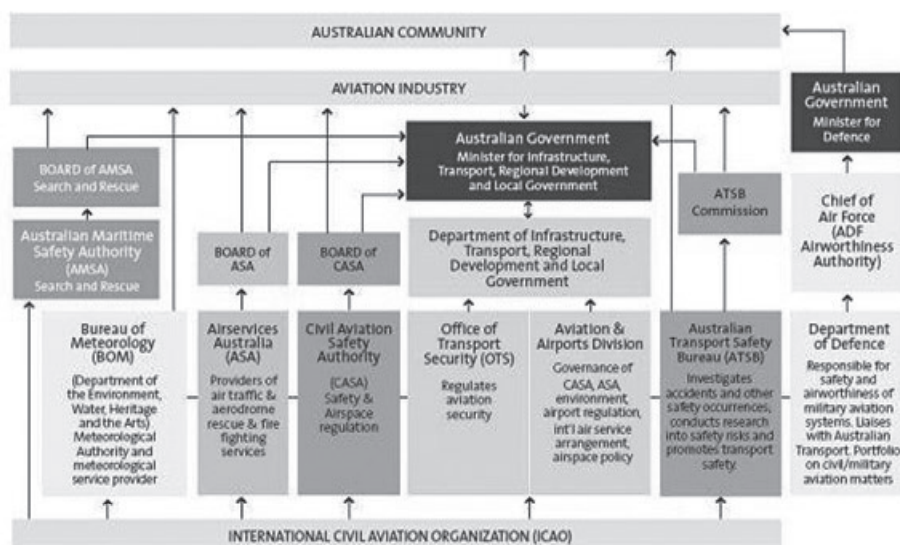
1.4 CASA is responsible for regulating aviation safety in Australia, the safety of Australian aircraft overseas as well as for regulating and administering Australia's airspace.⁸ Although the responsibility for regulating the civil aviation industry rests with CASA, a number of other Australian Government agencies have responsibilities for the aviation industry, including:

- the Department of Infrastructure, Transport, Regional Development and Local Government (DITRD LG), which is responsible for providing policy advice on aviation and airports;
- Airservices Australia, which provides air traffic control management services to the aviation industry;
- the Australian Transport Safety Bureau (ATSB), which conducts investigations of aviation accidents and safety occurrences, and compiles and analyses safety data;
- the Australian Maritime Safety Authority, which coordinates Australia's civil aviation search and rescue activities over the Indian, Pacific and Southern oceans; and
- the Bureau of Meteorology, which provides weather forecasts, observations and weather-related chart services to the civil aviation industry.

1.5 Figure 1.1 illustrates the relationships between the relevant Australian Government agencies that have responsibilities for aviation. There is a range of legislation in place to support aviation safety in Australia, with the Air Navigation Act being the primary legal instrument that gives effect to the *Chicago Convention*.

⁷ Civil Aviation Act, s.73(1).

⁸ The regulation of Australian airspace is governed by the *Airspace Act 2007* and is managed by CASA's Office of Airspace Regulation. This was previously the responsibility of Airservices Australia, which is responsible for the provision of air traffic control management services, aeronautical data, telecommunications and navigation services, aviation rescue and fire fighting services.

Figure 1.1**Australian safety organisation framework**

Source: Department of Infrastructure, Transport, Regional Development and Local Government, *National Aviation Policy White Paper*, p.100.

1.6 The Australian Government set out its policy objectives for the aviation industry in December 2009 with the release of the *National Aviation Policy White Paper*.⁹ The first aviation goal is that safety and security underpin industry growth and remain the highest priorities for the Australian aviation industry and the Australian Government.¹⁰

1.7 In this context, CASA's mission is to 'enhance and promote aviation safety through effective safety regulation and by encouraging industry to deliver high standards of safety'.¹¹ CASA's functions and associated safety related functions are set out in section 9 of the Civil Aviation Act.

1.8 CASA receives appropriation funding and generates income, predominantly through cost recovery of regulatory services in line with the

⁹ Available at: <<http://www.infrastructure.gov.au/aviation/nap/>> [accessed 24 February 2010].

¹⁰ Australian Government, *National Aviation Policy White Paper*, 2009, p.2.

¹¹ CASA Corporate Plan 2008-09 to 2010-11, available at: <http://www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_92569> [accessed 3 March 2010].

Australian Government Cost Recovery Guidelines. Total revenue for 2009-10 was budgeted to be \$152.8 million.¹²

Regulations for aviation safety

1.9 CASA regulates the aviation industry using a suite of orders and regulations under the authority of the Civil Aviation Act. CASA currently regulates aviation safety through the:

- *Civil Aviation Regulations 1988* (CAR);
- *Civil Aviation Safety Regulations 1998* (CASR); and
- Civil Aviation Orders (CAO).

1.10 The CARs and CASRs are made under the authority of the Civil Aviation Act, and CAOs are issued by the Director of Aviation Safety.

Regulatory Reform Program

1.11 CASA is in the process of reforming its regulatory structure to align the Australian aviation safety regulatory framework with that of the international community.¹³ This process commenced in 1996 as the *Regulatory Framework Programme*¹⁴, and became the Regulatory Reform Program in December 1999.¹⁵ The Program involves replacing the CARs and CAOs, and maintaining two tiers of legislation, being the Civil Aviation Act and the CASRs.¹⁶

1.12 The progress of the Regulatory Reform Program has been slower than anticipated, and has been subject to scrutiny by the Aviation Regulation Review Taskforce in 2007 and the Senate Standing Committee on Rural and Regional Affairs and Transport in 2008. Until the Regulatory Reform Program is completed, CASA will operate under a combined regulatory framework

¹² Department of Infrastructure, Transport, Regional Development and Local Government Portfolio Budget Statements 2009–10, p. 132.

¹³ Aviation Regulation Review Taskforce, *Report on activities and findings*, December 2007, p. 2.

¹⁴ The Senate, Standing Committee of Rural and Regional Affairs and Transport, *Administration of the Civil Aviation Safety Authority (CASA) and related matters*, September 2008, p. 24.

¹⁵ The Senate, Questions on Notice, *Civil Aviation Safety Authority: Regulatory Reform Program*, Question 2722, 2007, available from <http://parlinfo.aph.gov.au/parlInfo/genpdf/chamber/hansards/2007-03-21/0287/hansard_frag.pdf;fileType%3Dapplication%2Fpdf> [accessed 31 March 2010].

¹⁶ CASA media release, *Regulatory reform program refined*, 9 February 2006, available from <http://www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_92107> [accessed 31 March 2010].

consisting of the CARs, CAOs and CASRs.¹⁷ There is an expectation that the Regulatory Reform Program will be completed by 2011.¹⁸

Relevant aircraft operators

1.13 The focus of this audit is on the regulation of regular public transport operators who hold an Air Operator's Certificate (AOC). In particular, this audit focused on:

- high capacity operators, which are those operators using aircraft with maximum seating capacity exceeding 38 seats or maximum payload exceeding 4200 kg for scheduled flight services, such as Qantas Airways, Virgin Blue and Jetstar Airways¹⁹; and
- low capacity operators, which includes all other operators with scheduled flight services.²⁰

1.14 The distinguishing factor between regular public transport operators and charter operators is the notion of *regular* public transport, as opposed to non-scheduled public transport.

The new safety management approach

1.15 New ICAO Standards place a responsibility for *Chicago Convention* contracting states to have a State Safety Program (SSP), and for operators to implement a Safety Management System (SMS) that is acceptable to the relevant state.²¹

1.16 The SSP is a system that is defined by ICAO as an integrated set of regulations and activities aimed at improving safety. An SMS is a management tool for the management of safety by an organisation.

¹⁷ Aviation Regulation Review Taskforce, *Report on activities and findings*, December 2007, p. 2.

¹⁸ Department of Infrastructure, Transport, Regional Development and Local Government, National Aviation Policy White Paper, *Flight Path to the Future*, December 2009, p. 114.

¹⁹ CAO 82.0 defines high capacity aircraft as aircraft that are certified as having a maximum seating capacity exceeding 38 seats or a maximum payload of more than 4200 kg.

²⁰ This relates to operators who fly aircraft with 38 seats or fewer or a maximum payload of 4200 kg or less on scheduled flight services.

²¹ International Civil Aviation Organisation, *Convention on International Civil Aviation*, Annex 6 (s3.3.4).

The State Safety Program

1.17 The SSP is a management system for managing civil aviation safety by the state and has four components:

- safety policy and objectives;
- safety risk management;
- safety assurance; and
- safety promotion.

1.18 Part of the development of a state's SSP is the notion of an 'acceptable level of safety', which is defined by ICAO to be the minimum degree of safety that must be assured by an SSP in practice. The ICAO requirement is for the relevant state to establish an acceptable level of safety as part of its SSP. It is not set by ICAO.

1.19 For the purposes of the development of the SSP for Australia, the Australian Department of State is DITRDLG, and CASA is a key contributor as the aviation safety regulator. In June 2010, DITRDLG informed ANAO that:

- a project plan for the preparation of the initial SSP had been developed;
- progress with development of the SSP will be reported upon by DITRDLG at meetings of the Aviation Implementation Group (AIG) up to November 2010, and after that date, the department will report to the AIG on implementation of the SSP²²; and
- ICAO has recognised that implementation of an SSP is a gradual process, that will typically be phased over three years.

1.20 In October 2010, the Department of Infrastructure and Transport (formerly DITRDLG) advised ANAO that:

In regard to your request for an update on the SSP, the department has prepared a draft SSP which has been circulated to a cross-agency team assisting in the preparation of the SSP and the Aviation Implementation Group. A project plan which outlines the strategy, governance arrangements

²² The Aviation Policy Group (APG) is the peak Government aviation advisory group consisting of the heads of DITRDLG, CASA and Airservices Australia and the Chief of Air Force. The AIG is a Senior Executive Service group drawn from the APG members that supports the APG in the implementation of cross agency aviation strategies.

and timelines for development of the SSP has been prepared and is being implemented.

Consistent with ICAO's timelines, the project has a November 2010 completion date. The Aviation Policy Group was advised of progress at its August 2010 meeting and will oversee final development of the SSP.

The Safety Management System regulatory approach

1.21 An SMS is a systematic approach to managing safety, which encompasses organisational structures, accountabilities, policies and procedures. ICAO has mandated that an SMS has to be capable of:

- identifying safety hazards;
- ensuring that remedial action necessary to maintain an acceptable level of safety is implemented;
- providing for continuous monitoring and regular assessment of the safety level achieved; and
- making continuous improvement to the overall level of safety.

1.22 The framework for an SMS mirrors the SSP framework, and includes four components as follows:

- safety policy and objectives;
- safety risk management;
- safety assurance; and
- safety promotion.

The relationship between the State Safety Program and the Safety Management System approach

1.23 Contracting states to the *Chicago Convention* are required, as part of their SSP, to mandate that operators implement an SMS. As outlined above, the state is required to develop and maintain an SSP, and operators are required to develop and maintain an SMS. This is an important distinction— although it will have oversight of the SMS, the state will have no role in the establishment of an operator's SMS as it is responsible for ensuring the SMS is 'acceptable'.

1.24 The SSP represents the overarching national framework for the management of aviation safety, whereas the SMS is a structured safety management system that functions at the operator level, the aim of which is to

order and focus the operator's approach to the execution of its safety responsibilities. Together, the SSP and the SMS are expected to align the civil aviation objectives of the state and the operators. This approach is designed to provide consistency and ensure that safety is a key consideration of all organisations in the civil aviation industry. In June 2010, DITRDLG informed ANAO that:

ICAO has recognised that the implementation of an SSP is still at an early stage and the full SSP will be implemented through a staged approach. ICAO expects SSP will continue to further evolve based on the experience of ICAO states.

Audit objectives and approach

1.25 In September 2008, the Senate Committee on Rural and Regional Affairs and Transport presented a report on the *Administration of the Civil Aviation Safety Authority and related matters*. That report made three recommendations, two of which related to CASA's governance framework and its Regulatory Reform Program. The third recommendation requested that ANAO audit CASA's implementation and administration of the SMS approach.²³

1.26 An audit aligned to the recommendation of the Senate Committee was included in ANAO's Audit Work Program for 2009-10.²⁴ The specific objective of the audit was to assess CASA's implementation of an SMS approach to regulating aircraft operators.

1.27 The majority of audit fieldwork was conducted between August 2009 and March 2010. In addition to the review of relevant Australian and international aviation safety legislation, regulations and policy, ANAO examined relevant data contained in CASA's information technology systems. ANAO also:

- interviewed key staff from CASA (at the authority's head office, Operations Headquarters and various Regional Offices) and DITRDLG;

²³ The Senate, Rural and Regional Affairs and Transport Committee, *Administration of the Civil Aviation Safety Authority (CASA) and related matters*, 2008, p. 44.

²⁴ Australian National Audit Office, *Audit Work Program July 2009*, p. 64.

- engaged with key stakeholders, including the ATSB and a sample of regular public transport operators involved in the SMS implementation; and
- reviewed key documentation and electronic files held by CASA.

1.28 The audit was conducted in accordance with ANAO Auditing Standards at a cost to the ANAO of \$605 000.

2. Establishing the Safety Management System Regulatory Framework

This chapter examines CASA's development of the regulatory framework necessary to require regular public transport operators to implement an SMS, and the timeframe allowed for operators to progressively implement their respective SMS'.

Introduction

2.1 CASA's corporate goals include development and implementation of appropriate aviation safety standards that are aligned with international practice as promulgated by ICAO under the *Chicago Convention*. In this respect, on 4 October 2005, a proposal for the amendment of Annexes 6, 11 and 14 of the *Chicago Convention* was considered.²⁵ The proposal was outlined in a letter from ICAO to all contracting states and selected international organisations on 7 October 2005, with all recipients being invited to respond by 31 December 2005. In total, ICAO received comments from 67 contracting states and four international organisations. Australia's support of the proposed amendments was summarised by ICAO as follows:

Australia supports the concept of harmonisation of provisions, definition and description of the concept and the requirements for safety management systems across all Annexes. We look forward to receiving the draft proposals, as they will support incorporation of consistent safety management system requirements within Australian regulations.²⁶

2.2 The ICAO secretariat proposed that the safety management provisions in Annex 6 of the *Chicago Convention* become Recommended Practices from 23 November 2006 and Standards from 1 January 2009. Amendment 30 to Annex 6, Part 1 was adopted by ICAO on 14 March 2006, effective from 17 July 2006, and applicable from 23 November 2006. Annex 6 to the *Chicago Convention* now states that:

²⁵ Annex 14 was amended in 2001 to require contracting states to mandate aerodrome operators to implement an approved SMS. Air traffic service providers were subsequently required to implement an approved SMS as a result of ICAO amending Annex 11.

²⁶ ICAO Working Paper AN-WP/8101, 24 January 2006.

From 1 January 2009, states shall require, as part of their safety programme, that an operator implement a safety management system acceptable to the state of the Operator that, as a minimum:

- a) identifies safety hazards;
- b) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
- c) provides for continuous monitoring and regular assessment of the safety level achieved; and
- d) aims to make continuous improvement to the overall level of safety.

A safety management system shall clearly define lines of safety accountability throughout the operator's organisation, including a direct accountability for safety on the part of senior management.

2.3 In addition to ICAO mandating the adoption of an SMS approach to regulating aircraft operators, between 2002 and 2007 the ATSB issued four recommendations to CASA to mandate SMS implementation for passenger carrying operators.

Timeframe available to CASA to require operators to implement an SMS

2.4 As noted, Annex 6 of the *Chicago Convention* was amended and ratified in March 2006 (effective from July 2006) to include the requirements relating to operator SMS'. The timeframe provided for contracting states to require operators to implement an approved SMS was 1 January 2009. This meant that, excluding the preliminary advice received from ICAO regarding the proposed SMS requirements, CASA had approximately 33 months to develop and implement the SMS regulatory framework in the timeframe specified by ICAO. In June 2010, CASA advised ANAO that it had published a Notice of Proposed Rule Making and issued draft advisory material in 2002 for a Civil Aviation Safety Regulation Part 119 (CASR Part 119), which included Safety Management System requirements.²⁷ CASA further advised that:

²⁷ CASR Part 119 and the CASR 119 Implementation Project are discussed further in Chapter 3 of this audit report.

These rules were not finalised and made as law, however, being caught by the Regulatory Reform delays and the then Director's decision in 2006 to put a hold on all of the new CASR Parts and subject them to a risk-based review.

The CAO amendments to mandate SMS were made necessary by the delays in implementing Regulatory Reform generally, and Part 119 specifically.

It can be shown that discussions with the passenger carrying industry on requirements for Safety Management Systems were established as early as 2000 and general safety promotional material on safety management systems was promulgated as early as 1998.

2.5 The Canadian civil aviation regulator was the first contracting state to the *Chicago Convention* to implement the requirement for operators to have an SMS. Transport Canada adopted a phased approach to implementing an SMS and developed a timetable that determined the order in which the various sectors of the aviation industry would be required to implement SMS'.²⁸ For airline regulators, Transport Canada's regulations implementing the SMS approach took effect in May 2005, but operators were granted an exemption until September 2008.²⁹

2.6 By way of comparison to the early development of regulations by the Canadian regulator,³⁰ it was not until 2007–08 that CASA commenced the process of amending the CAOs to reflect ICAO's mandate that an SMS requirement for aircraft operators and maintenance providers be implemented in early 2009.³¹ In its 2007–08 Annual Report, CASA outlined that its target was to produce the relevant CAO amendments by May 2008 but that this had been:

delayed due to drafting resource constraints and conflicting priorities. Notice of Proposed Rule Making to be published in 3rd quarter and rule making now forecast for 4th quarter 2008.³²

²⁸ Office of the Auditor General, *Report of the Auditor General of Canada to the House of Commons: Oversight of Air Transportation Safety—Transport Canada*, Canada, 2008, p. 8.

²⁹ *ibid.*, p. 10.

³⁰ In October 2010, CASA commented to ANAO that it was mindful of the problems encountered by Canada and the approach CASA had taken incorporated the lessons learnt from the Canadian experience.

³¹ CASA, *Annual Report 2007–08*, p. 45.

³² *ibid.*, p. 48.

Amendments to the Civil Aviation Orders (CAOs) to implement SMS requirements for regular public transport operators

2.7 As noted in Chapter 1, CASA regulates the aviation industry using a suite of orders and regulations under the authority of the Civil Aviation Act (the Act). Under section 27 of the Act, CASA may issue Air Operator's Certificates (AOCs) with respect to aircraft for the purpose of safety regulation. Section 28BA of the Act provides that an AOC has effect subject to any conditions specified in the regulations or the CAOs. In addition, under section 98 of the Act, CASA may issue CAOs (that are not inconsistent with the Act) in respect to matters that include conditions on AOCs.

2.8 Part 82 of the CAOs specifies conditions on AOCs for various types of operations. This includes:

- Part 82.5 which contains conditions on AOCs that authorise regular public transport operations in high capacity aircraft³³; and
- Part 82.3 which contains conditions on AOCs that authorise regular public transport operations in other than high capacity aircraft.³⁴

2.9 To establish an SMS regulatory approach for regular public transport operators, CASA proposed to amend CAO 82.5 and CAO 82.3.³⁵ To effect amendments to the CAOs, CASA was required to:

- register the changes on the Federal Register of Legislative Instruments; and
- prepare a Regulatory Impact Statement.

³³ 'High capacity aircraft' are defined as aircraft certified as having a maximum seating capacity exceeding 38 seats or a maximum payload exceeding 4200 kg.

³⁴ For the purposes of this audit, regular public transport operators who are regulated by Part 82.3 are referred to as 'low capacity operators'.

³⁵ More broadly, CASA is undertaking a review of existing civil aviation legislation. This process entails a complete review of the existing Regulations and Orders. These are to be progressively replaced with Civil Aviation Safety Regulations (CASRs), Manuals of Standards and associated supporting material such as Advisory Circulars. In this context, CASA intends to incorporate the CAO requirements into the proposed CASR Part 119, which will also extend the SMS requirements to charter operators.

Approach taken to registering the CAO amendments as a legislative instrument

2.10 Section 5(1) of the *Legislative Instruments Act 2003* (Legislative Instruments Act) defines a legislative instrument (subject to sections 6, 7 and 9) as an instrument in writing that is of a legislative character and that is or was made in the exercise of a power delegated by the Parliament. Further, section 5(2) of the Legislative Instruments Act provides that, without limiting the generality of section 5(1), an instrument is taken to be of a legislative character if it determines the law or alters the content of the law, rather than applying the law in a particular case; and it has the direct or indirect effect of affecting a privilege or interest, imposing an obligation, creating a right, or varying or removing an obligation or right. Accordingly, the CAO amendments establishing an SMS regulatory approach for regular public transport operators were legislative instruments in terms of the Legislative Instruments Act.

2.11 The Legislative Instruments Act encourages appropriate consultation before legislative instruments are made, without being prescriptive as to how this is to be done. Whilst a failure to consult does not affect the validity or enforceability of a legislative instrument, section 17 of the Legislative Instruments Act provides that, before a legislative instrument is made, the rule-maker:

must be satisfied that any consultation that is considered by the rule-maker to be appropriate and that is reasonably practicable to undertake, has been undertaken.

2.12 This applies, in particular, where the proposed instrument is likely to have ‘a direct, or a substantial indirect, effect on business’. Similarly, section 16 of the Civil Aviation Act provides that, in the performance of its functions and the exercise of its powers, CASA must consult with government, commercial, industrial, consumer and other relevant bodies and organisations (including ICAO and bodies representing the aviation industry). Accordingly, undertaking an appropriate consultation process, together with the robust and timely development of the text of the CAO amendments, was important if CASA was to meet the 1 January 2009 SMS implementation deadline set by ICAO.

2.13 However, there were delays in the development and drafting of the CAO amendments. As a result, rather than publishing a Notice of Proposed Rule Making in the third quarter of calendar 2008 (see paragraph 2.6), the

Notice for the proposed changes to CAO 82.3 and CAO 82.5 was not issued until 10 November 2008. The Notice of Proposed Rule Making introduced, and invited public comments on, a proposed regulatory framework for:

- the phased introduction of an SMS by operators conducting regular public transport services;
- the phased introduction of Human Factors and Non-Technical Skills Training by operators conducting regular public transport operations;
- carriage of an AOC and Safety Operational Specifications on board international aircraft; and
- related Civil Aviation Advisory Publications (CAAP).

2.14 The period for public comment on the proposals outlined in the Notice of Proposed Rule Making closed on 15 December 2008, allowing very little time for CASA to consider any comments received and have any changes made to the draft instruments and draft explanatory statements if the ICAO timetable of January 2009 was to be met. CASA has informed ANAO that, as the SMS requirements had been discussed with industry over a number of years, the timeframe was considered more than adequate for comment and any amendments to be made. As it eventuated, five responses were received, with CASA considering the relatively small number of comments received as evidencing the benefit of the approach that had been taken. CASA concluded that the responses indicated that the proposals outlined in the Notice of Proposed Rule Making were well accepted and supportive of the introduction of the SMS approach (as well as the proposed Human Factors and Non-Technical Skills Training requirements). Nevertheless, CASA's Legal Services Group advised the then Director of Aviation Safety that 'final, time-consuming drafting changes were required to the draft instruments and draft explanatory statements'.

Delay in completing the Regulatory Impact Statement

2.15 Through best practice regulation requirements administered by the Office of Best Practice Regulation (OBPR) within the Department of Finance and Deregulation, the Commonwealth seeks to implement the principles of good regulatory process and consultation. When introducing or amending regulation, departments and agencies must meet a number of requirements

aimed at ensuring that any regulatory change is warranted, and that any costs imposed on business and individuals or the economy are justified.³⁶ According to the OBPR, CASA complied in full with the Government's best practice regulation requirements in 2008-09.³⁷

2.16 Under the best practice regulation requirements, a Regulatory Impact Statement is required when there are significant impacts on business and individuals or the economy. Where departments and agencies introduce or amend regulation, the OBPR has a role in advising on the level of analysis required, and in assisting departments and agencies to quantify compliance costs and prepare Regulatory Impact Statements. The CAO amendments proposed to implement the SMS requirements for regular public transport operators represented the implementation of new aviation safety standards. The OBPR advised CASA that a Regulatory Impact Statement was required for those CAO amendments.

2.17 Where required in relation to a proposal, the Regulatory Impact Statement is to be provided to the decision-maker prior to a decision being made to proceed with a particular policy option.³⁸ In June 2010, CASA advised ANAO that it provided the OBPR with a draft Regulation Impact Statement on 28 October 2008 and had continued to work with it to meet the best practice regulation requirements. In December 2008, the then Director of Aviation Safety was advised by CASA's Legal Services Group that a provisional draft of the Regulatory Impact Statement had been prepared, but that the Statement had not yet been finalised. The then Director of Aviation Safety was further advised that, until the Regulatory Impact Statement had been finalised, he should not sign the CAO 82.3 and CAO 82.5 amendments.

2.18 On 21 January 2009, the OBPR advised CASA that the draft Regulation Impact Statement met the Australian Government's best practice regulation requirements. The Regulatory Impact Statement was included as Annex D in the Notice of Final Rule Making dated 30 January 2009.

³⁶ *Best Practice Regulation Handbook*, August 2007, p. 10 available at <<http://www.finance.gov.au/obpr/docs/handbook.pdf>>. [accessed 1 September 2010].

³⁷ Department of Finance and Deregulation, Office of Best Practice Regulation, *Best Practice Regulation Report 2008–09*, December 2009, p. 29.

³⁸ *Best Practice Regulation Handbook*, op. cit.

Civil Aviation Advisory Publications (CAAPs)

2.19 At the time of drafting the proposed CAO amendments, CASA also developed a number of advisory publications, in the form of CAAPs, to provide the aviation industry with further guidance and strategies to assist with the introduction of an SMS and Human Factors and Non-Technical Skills training. Specifically, the CAAPs were designed to provide operators with detailed guidelines on how to build an SMS under a phased implementation program, and advice on which SMS elements were to be addressed as part of the implementation. In total, a set of three related advisory publications were issued by CASA, namely:

- CAAP SMS-1(0)—*Safety Management Systems for Regular Public Transport Operations*—to provide guidance material for AOC holders operating under CAO 82.3 or CAO 82.5;
- CAAP SMS-2(0)—*Integration of Human Factors into Safety Management Systems*—to provide advice and guidance for integrating human factors into a regular public transport operator’s SMS; and
- CAAP SMS-3(0)—*Human Factors and Non-Technical Skills Training for Regular Public Transport Operations*—to provide advice and guidance for developing human factor training and associated non-technical skills assessment for Flight Operations Safety-Critical Personnel.

2.20 Being advisory in nature, the CAAPs do not contain legislative requirements and operators are essentially ‘free to develop alternative means to demonstrate compliance with the CAO requirements’.³⁹ That said, CAO 82.3 and CAO 82.5 both state that in considering whether to approve a proposed SMS, CASA will refer to the guidance contained within the advisory publications.⁴⁰ In practice, the approach CASA took to assessing regular public transport operators’ proposed SMS’ relied heavily on the content of the CAAPs, in particular CAAP SMS-1(0).

³⁹ Notice of Final Rule Making, Annex D (Regulatory Impact Statement), p. 46.

⁴⁰ CAO 82.3 and CAO 82.5 both state that: ‘guidance on what CASA will consider in deciding whether to approve an SMS is contained in the following (the CAAP SMS package): [CAAP SMS-1(0), CAAP SMS-2(0) and CAAP SMS-3(0)]’.

Finalisation of the amended Civil Aviation Orders

2.21 On 22 January 2009, the then Director of Aviation Safety signed *Civil Aviation Order 82.3 Amendment Order (No. 1) 2009* and *Civil Aviation Order 82.5 Amendment Order (No. 1) 2009* to give effect to the SMS requirements for regular public transport operators. Each instrument was to commence on the day after it was registered on the Federal Register of Legislative Instruments. Registration took place on 30 January 2009, meaning that the amendments took effect on 31 January 2009. The Notice of Final Rule Making was completed by CASA on 30 January 2009. Table 2.1 outlines the changes that were made to the CAOs.

Table 2.1

Amendments made to CAO 82.3 and CAO 82.5 in order to implement SMS requirements for regular public transport operators

| Before Amendment | After Amendment |
|---|---|
| <p>2.1 Each operator must:</p> <p>(a) establish and maintain an appropriate organisation with a sound and effective management structure; and</p> <p>(b) make adequate provision for training and checking of personnel and the inspection and maintenance of aircraft.</p> | <p>2.1 Each operator must:</p> <p>(a) establish and maintain an appropriate organisation, with a sound and effective management structure that uses a safety management system approved by CASA;</p> <p><i>Note:</i> Guidance on what CASA will consider in deciding whether to approve an SMS is contained in the following (the <i>CAAP SMS package</i>):</p> <ul style="list-style-type: none"> • CAAP SMS-1(0)—SMS for Regular Public Transport Operations; • CAAP SMS-2(0)—Integration of Human Factors into SMS; • CAAP SMS-3(0)—Human Factors and Non-Technical Skills Training for Regular Public Transport Operations. <p>(b) make adequate provision for training and checking of personnel and the inspection and maintenance of aircraft; and</p> <p>(c) have a program, approved by CASA, to train and assess personnel in human factors and non-technical skills with the aim of minimising human error.</p> <p><i>Note:</i> The CAAP SMS package contains guidance on what CASA will consider in deciding whether to approve a program for human factors and non-technical skill.</p> |

Source: ANAO analysis of CAO 82.3 and CAO 82.5, *Civil Aviation Order 82.3 Amendment Order (No. 1) 2009* and *Civil Aviation Order 82.5 Amendment Order (No. 1) 2009*.

2.22 In addition to the amendments made to subparagraph 2.1 of each Order (as outlined in Table 2.1), both Orders were also amended to include a new subsection providing a definition of an SMS and the key components.

The SMS framework

2.23 The ICAO Safety Management Manual (SMM) provides *Chicago Convention* contracting states with guidance on developing the regulatory framework for the implementation of SMS' by service providers. In this role, the SMM outlines a principled approach to the implementation of an SMS by service providers in the form of an ICAO SMS framework, intended as a 'principled guide for the development and implementation of a service provider's SMS'.⁴¹

2.24 In this regard, Chapters 8 and 9 of the SMM describe the requirements associated with the planning and operation of an SMS and outline four components that constitute the basic building blocks of an SMS. These building blocks represent the four overarching safety management processes that underlie the actual management system. The components are:

- safety policy and objectives;
- safety risk management;
- safety assurance; and
- safety promotion.

2.25 Within the four components, in total there are 12 elements that represent the key safety management processes that assist an organisation to identify and manage safety hazards, and to continuously monitor and assess safety performance. Together, the four components and 12 elements comprise the ICAO SMS framework.

CASA's SMS framework

2.26 In June 2010, CASA emphasised to ANAO that the guidance material contained in the SMM is neither standard nor recommended practice and is not binding on contracting states. Nevertheless, the SMS framework developed by CASA is largely based on the four-component framework suggested by

⁴¹ ICAO *Safety Management Manual*, 2nd edition, 2009 (Document 9859), p. 8–3.

ICAO in the SMM.⁴² Similar to the ICAO principled guide, each component in CASA's SMS framework is subdivided into elements which encompass the specific sub-processes, specific tasks or tools that the management system must utilise. These elements formed the basis of the minimum SMS requirements set out at subsection 2A of both amended CAOs.

2.27 With the exception of three Safety Policy and Objective elements⁴³, the amended CAOs align with the corresponding elements recommended in the ICAO SMM. Table 2.2 provides a comparison between the ICAO SMS framework and the framework adopted by CASA.

⁴² In June 2010, CASA advised ANAO that the elements adopted by CASA in the SMS framework were also contained in Appendix 7 to Annex 6 of the *Chicago Convention*.

⁴³ Two additional elements included in the CAO amendments that were not included in the ICAO SMM were the requirement for an SMS to include documented details of the SMS Implementation Plan and Relevant Third Party Relationships and Interactions. In terms of the SMS Implementation Plan, ANAO notes that, despite not identifying it as a key element, the ICAO SMM does support the development of an SMS Implementation Plan and provides guidance on the methodology for developing a Plan for service providers. The third element that did not align between the ICAO SMM and the CAO amendments was the inclusion of 'SMS Documentation' as a standalone key element in the SMM principled model, but not in the amended CAOs. However, ANAO notes that despite not being identified as a separate key element, the requirement to have documented details of all SMS elements was clearly provided for against each of the 13 elements listed at subsection 2A of the amended CAOs.

Table 2.2**Comparison between ICAO principled SMS framework and CASA mandated SMS framework**

| ICAO Safety Management Manual framework for an SMS | CAO 82.3 and CAO 82.5 required elements for a regular public transport operator's SMS ^A |
|--|---|
| Safety Policy and Objectives <ul style="list-style-type: none"> • Management commitment and responsibility • Safety accountabilities • Appointment of key safety personnel • Coordination of emergency response planning • SMS documentation | Safety Policy and Objectives <ul style="list-style-type: none"> • Management commitment to, and responsibility for, safety risk management • Safety accountabilities of managers • Appointment of key safety personnel • SMS implementation plan • Relevant third party relationships and interactions • Coordination of the emergency response plan |
| Safety Risk Management <ul style="list-style-type: none"> • Hazard identification • Risk assessment and mitigation | Safety Risk Management <ul style="list-style-type: none"> • Hazard identification process • Risk assessment and mitigation processes |
| Safety Assurance <ul style="list-style-type: none"> • Safety performance monitoring and measurement • Management of change • Continuous improvement of the SMS | Safety Assurance <ul style="list-style-type: none"> • Safety performance monitoring and measurement • Management of change • Continuous improvement of the SMS |
| Safety Promotion <ul style="list-style-type: none"> • Training and education • Safety communication | Safety Promotion <ul style="list-style-type: none"> • Training and education • Safety communication |
| Note A: CAO 82.3 and CAO 82.5 also both require an SMS to include a Flight Data Analysis Program (FDAP) for those operators who operate an aircraft with a maximum take-off weight exceeding 27 000 kg. | |

Source: ANAO analysis.

2.28 In addition to the 13 SMS elements mandated under the CAOs, CAAP SMS-1(0) introduced a 14th element (Internal Safety Investigation) as part of the Safety Assurance component of SMS implementation. That element was not suggested in the ICAO SMM or prescribed in the CAOs (see Table 2.2). Whilst not being mandatory, this element was included as part of CASA's assessment of whether an operator's proposed SMS had provided adequate evidence to support the Safety Assurance component.⁴⁴

⁴⁴ CAAP SMS-1(0) also retained the key Safety Policy and Objective element of having visible SMS documentation of all safety management activities as suggested in the ICAO principled guide (the 15th element in CAAP SMS-1(0)).

Phased introduction of SMS requirements

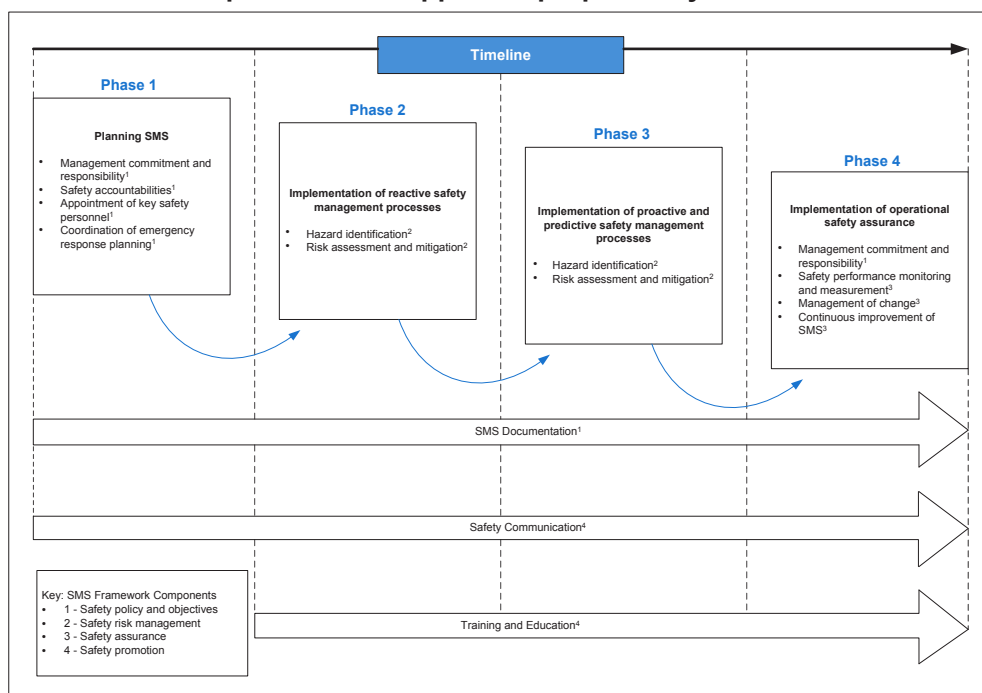
2.29 Chapter 10 of the ICAO SMM introduced a proposal for SMS implementation to be carried out using a phased approach. The aim of a phased approach was identified as three-fold, as follows:

- to provide a more manageable series of steps for operators to follow in implementing an SMS, including the allocation of resources;
- to effectively manage the workload associated with the SMS implementation; and
- to provide a robust SMS and not ‘merely an empty shell (that is, “ticking the appropriate boxes”)’.

2.30 The principles-based approach outlined in the ICAO SMM proposed four SMS implementation phases, each phase encompassing one or more component, and introducing specific elements, of the ICAO SMS framework (see Figure 2.1).⁴⁵ The four phases comprised:

- Phase 1: Planning SMS implementation—how the SMS will be developed, including establishing an accountability framework and developing a gap analysis and implementation plan;
- Phase 2: Reactive safety management processes—implementing and correcting potential deficiencies in existing safety management processes;
- Phase 3: Proactive and predictive safety management processes—developing forward-looking safety management processes to enable an operator to identify and respond to hazards based on reactive, proactive and predictive safety data; and
- Phase 4: Operational safety assurance—periodic monitoring, feedback and continuous improvement of the SMS.

⁴⁵ ICAO guidance on the development of an SMS Implementation Plan noted that the timeline for the implementation of each phase shall be commensurate with the size of the organisation and complexity of the services provided by the operator (Appendix 2 to Chapter 10 of the SMM). However, the SMM noted that: ‘a typical implementation time frame for an SMS is one to four years’ (ICAO SMM, p.8– 13).

Figure 2.1**Phased SMS implementation approach proposed by ICAO**

Source: ANAO analysis of ICAO SMM.

CASA's three-phased approach to SMS implementation

2.31 The implementation approach adopted by CASA was similar to the method suggested by ICAO in the SMM.⁴⁶ However, unlike the ICAO proposal, CASA structured its implementation phases around three safety management strategies, namely reactive⁴⁷, proactive⁴⁸ and predictive⁴⁹

⁴⁶ Whilst not binding on contracting states, ICAO guidance on how a state may develop regulations on SMS obligations included the recommendation that state regulations propose a phased implementation of an SMS that encompassed the four phases illustrated in Figure 2.1 above.

⁴⁷ Reactive processes involve responding to events that have already occurred, such as accidents and incidents (ICAO SMM pp 3–10 to 3–11).

⁴⁸ Proactive processes aim to identify safety risks through the analysis of organisational activities (ICAO SMM pp 3–10 to 3–11).

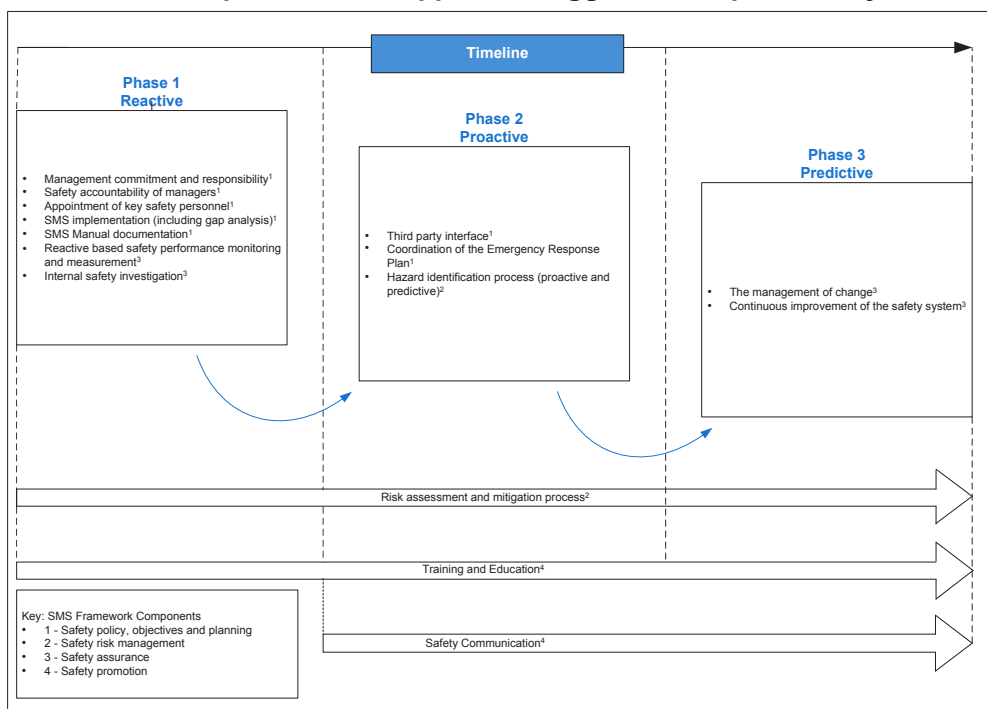
⁴⁹ Predictive processes rely on the collection of routine operational data and attempt to identify safety incidents that have not yet occurred (ICAO SMM pp. 3–10 to 3–11).

strategies. Distributed across each of the three phases were SMS elements of increasing complexity.

2.32 In support of the phased approach, the first SMS Civil Aviation Advisory Publication issued by CASA in January 2009⁵⁰ provided guidance to operators on how to adopt a transitional SMS implementation and outlined a suggested approach that encompassed the SMS implementation components and elements required under the amended CAOs. In this context, the approach suggested by CASA was similar to the ICAO SMS framework in terms of the allocation of key elements across various phases. Figure 2.2 illustrates the three-phased transitional approach suggested by CASA in relation to the four SMS implementation components and associated elements required under the amended CAOs.

Figure 2.2

Phased SMS implementation approach suggested to operators by CASA



Source: ANAO analysis of CAAP SMS-1(0).

⁵⁰ CAAP SMS-1(0).

2.33 In addition to providing guidance on the distribution of elements across the three phases, CAAP SMS-1(0) also provided a suggested implementation timeframe for each of the three phases. Table 2.3 illustrates the timeframe proposed in CAAP SMS-1(0).⁵¹

Table 2.3

Timeline for phased SMS implementation originally proposed by CASA

| Phase | CAO 82.3 transition (low capacity regular public transport operators) | CAO 82.5 transition (high capacity regular public transport operators) |
|--|--|---|
| Implementation Plan | 6 months from effective CAO amendment | |
| Phase 1 completion | 1 February 2010 | 1 July 2009 |
| Phase 2 completion | 1 July 2010 ^A | 1 February 2010 ^A |
| Phase 3 completion | 1 February 2011 ^B | 1 July 2010 ^B |
| Notes: A. Time period between the Phase 1 and Phase 2 proposed completion dates for CAO 82.3 and CAO 82.5 operators is five months and seven months respectively. B. Time period between the Phase 2 and Phase 3 proposed completion dates for CAO 82.3 and CAO 82.5 operators is seven months and five months respectively. | | |

Source: ANAO analysis of CAAP SMS-1(0).

2.34 As illustrated in Table 2.3, CASA allowed for different durations for each phase depending on whether the operator was a high capacity or low capacity operator, with additional time being provided to low capacity operators to address the elements in each phase of SMS implementation. This was seen as:

[reflecting] the operational difficulties faced by small and medium sized businesses which tend to operate in regional and remote parts of Australia. The additional months provided to [low capacity regular public transport] operators is to accommodate the additional need that such operators may have in terms of seeking advice, checking and reassurance from CASA that the activities being implemented align with the requirements of an SMS.⁵²

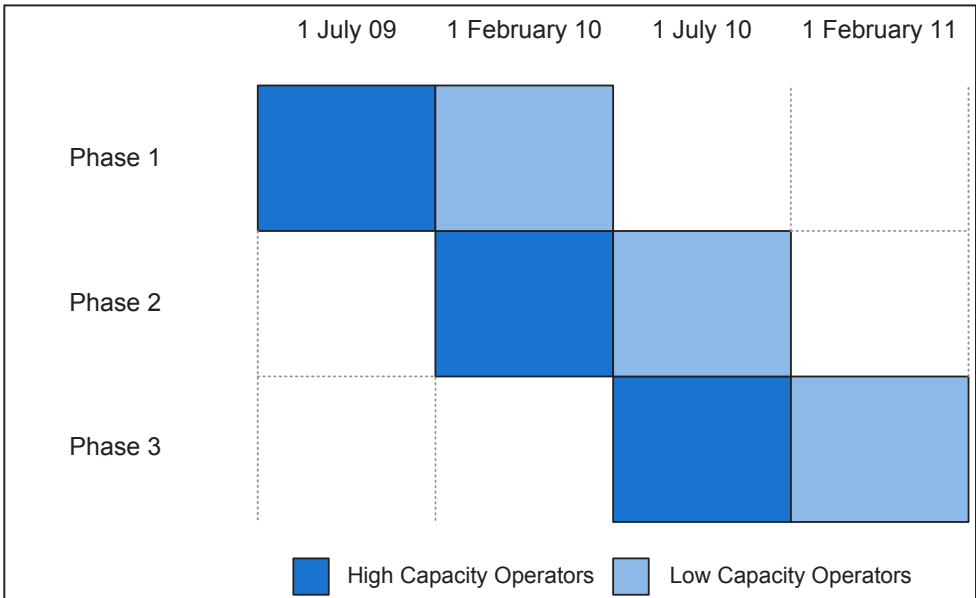
⁵¹ ANAO notes that CAAP SMS-1(0) stated that the proposed timeframe which is summarised in Table 2.3 could be varied per an agreed timetable between an individual operator and CASA.

⁵² Notice of Final Rule Making, Annex D (Regulatory Impact Statement), p. 21.

2.35 Figure 2.3 depicts the staggered implementation phase dates suggested by CASA in CAAP SMS-1(0).

Figure 2.3

CASA’s proposed phased approach to SMS implementation



Source: ANAO analysis of CAAP SMS-1(0).

2.36 In addition to the differing phase durations, CASA recognised that the diverse size and complexities of regular public transport operations may require a certain degree of flexibility in an operator’s SMS implementation approach. In this context, the SMM noted that the ICAO SMS framework should be ‘commensurate with the size of the organisation and the complexity of the services provided’.⁵³ In this regard, the guidance material provided by CASA in the CAAPs advised that operators needed to give consideration to their individual requirements when adopting the recommendations provided against each of the SMS elements and sub-elements.

⁵³ ICAO *Safety Management Manual*, 2nd edition, 2009 (Document 9859), p. 8-APP 1-1.

Basis for the phased approach to SMS implementation

2.37 The purpose of phasing the implementation of an SMS was to allow operators to plan for, and implement, the required change in a timely and effective way and to ease the burden placed on both affected operators and CASA inspectors. As such, regular public transport operators were not required to have an SMS acceptable to CASA in place from the date the amended Civil Aviation Orders took effect on 31 January 2009. Rather, the amended Orders provided for transitional arrangements that would allow operators to phase in an approved SMS. Specifically, the amended Orders:

- required low capacity regular public transport operators to adopt a *staged* approach to the submission to CASA of their plan for the implementation of an SMS. Section 1AA of CAO 82.3 required relevant operators⁵⁴ to submit an SMS Implementation Plan by 1 July 2009⁵⁵, seven months before the planned Phase 1 SMS implementation date of 1 February 2010⁵⁶; and
- allowed both low capacity and high capacity regular public transport operators the option of adopting a *phased* approach to the implementation of an SMS. Subparagraph 2.1(a) in both amended CAOs noted that guidance on what CASA would consider when determining whether to approve an SMS was contained in the CAAP SMS Package⁵⁷. In this context, while only advisory in nature, CAAP SMS-1(0) provided guidance on what an SMS was to include and suggested a three-phased implementation approach and timetable as outlined in Table 2.3 above.

2.38 As it eventuated, seven of the 18 high capacity operators (20 per cent of all regular public transport operators) elected *not* to use a phased approach to implementing their respective SMS'. The remaining 11 high capacity operators

⁵⁴ Relevant operator is defined in the Explanatory Statement to the amendments to CAO 82.3 as being an operator who holds an AOC on 1 April 2009.

⁵⁵ Unless otherwise approved in writing by CASA for a particular operator.

⁵⁶ High capacity operators were also required to submit an Implementation Plan to CASA under section 2A.2 of CAO 82.5, however the plan could be submitted by an operator at the same time as the SMS submission. In October 2010, CASA commented to ANAO that the Implementation Plan was a required section of the SMS manual.

⁵⁷ Comprising CAAP SMS-1(0), CAAP SMS-2(0) and CAAP SMS-3(0).

and all 17 low capacity operators did adopt a phased implementation approach.

SMS timeframe requirements

2.39 The amended CAOs establishing an SMS framework for regular public transport operators took effect on 31 January 2009, one month later than specified by ICAO. However, operators were not required to have an SMS acceptable to CASA in place from this date. Rather, the dates by which operators were to have the initial phase of an SMS approved by CASA in place were specified in the amendments as being 1 July 2009 and 1 February 2010 for high capacity and low capacity regular public transport operators respectively. In both cases, this was subject to CASA potentially varying the application of the changes to an earlier or later date, and the possibility that an operator may be granted an extension to the exemption from the requirement to use an approved SMS.⁵⁸

2.40 On 30 June 2009, CASA further extended the timeframe for high capacity regular public transport operators to achieve an approved SMS from 1 July 2009 to 2 November 2009.⁵⁹ This new time frame was conditional on operators submitting a proposed SMS manual⁶⁰ to CASA by 31 July 2009. However, similar to the amended Orders, the approval for the new timeframe was drafted in such a way as to allow CASA to vary the date for submitting a proposed SMS beyond 31 July 2009.⁶¹

⁵⁸ In October 2010, CASA informed ANAO that no operators were, or will be, granted indefinite extensions.

⁵⁹ CASA records indicate that the reason for the extension being granted was due to confusion amongst regular public transport operators regarding the date that safety manuals were required to be submitted to CASA, with many operators assuming that the 1 July 2009 due date was the date that safety manuals were required to be submitted to CASA for its consideration, as opposed to being the date by which the SMS needed to be approved and in place. On 19 October 2009, one operator was approved for an additional extension to 2 December 2009 for getting an approved SMS in place.

⁶⁰ The SMS manual may comprise a single manual or suite of manuals that set out the details of how an operator's proposed SMS would comply with the legislative requirements.

⁶¹ Under Instrument CASA 300/09, the submission date of 31 July 2009 could be varied by CASA where the operator established to CASA's satisfaction that exceptional circumstances existed beyond the operator's control making it reasonably impracticable to meet the submission date. Note 1 to the extension approval notes that where an operator has not submitted a proposed SMS to CASA by 31 July 2009, and CASA have not varied the submission date for this operator, the operator may not rely on the extension of time to introduce an SMS and will be in breach of AOC conditions from 1 July 2009.

Expected timeframe for full SMS implementation

2.41 In its administration of SMS approvals, CASA developed approval instruments that reflected the phased transition to full SMS implementation for each approved SMS. That is, the approval instrument recording CASA's approval of an operator's proposed SMS incorporated a requirement for the operator to subsequently demonstrate safety management capability in relation to the elements of the approved SMS over a phased period of time. Table 2.4 summarises the currently specified dates for the completion of all three transition phases for the 35 regular public transport operators who had SMS' approved by CASA under CAOs 82.3 and 82.5. In this respect, completion of each phase involves the relevant operator demonstrating its capability in relation to each SMS element encompassed by a phase to CASA's satisfaction on or before the specified date. The capability assessment process is discussed further in Chapter 4 of this audit report.

Table 2.4

General specified dates for demonstrating safety management capability to CASA in relation to each element of an approved SMS

| Phases | High capacity operators | Low capacity operators |
|---|------------------------------|------------------------------|
| Phase 1 elements | 2 November 2009 ^A | 1 February 2010 |
| Phase 2 elements | 29 April 2010 ^B | 1 August 2010 ^C |
| Phase 3 elements | 29 October 2010 ^D | 1 February 2011 ^E |
| <p>Notes:</p> <p>A. Phase 1 elements for one operator were required by 2 December 2009.</p> <p>B. The date for demonstrating capability in relation to Phase 2 elements is the earlier of six months after the date of the approval instrument approving an operator's proposed SMS or the Phase 2 date specified in the relevant operator's SMS Implementation Plan. Three high capacity operators had alternative Phase 2 dates of 25 May 2010, 11 May 2010 and 6 May 2010 respectively.</p> <p>C. The date for demonstrating capability in relation to Phase 2 elements is the earlier of six months after commencement of the approval instrument approving an operator's proposed SMS or the Phase 2 date specified in the relevant operator's SMS Implementation Plan. One low capacity operator had an alternative Phase 2 date of 25 July 2010.</p> <p>D. The date for demonstrating capability in relation to Phase 3 elements is the earlier of 12 months after the date of the approval instrument approving an operator's proposed SMS or the Phase 3 date specified in the relevant operator's SMS Implementation Plan. Three high capacity operators had alternative Phase 3 dates of 25 November 2010, 11 November 2010 and 6 November 2010 respectively.</p> <p>E. The date for demonstrating capability in relation to Phase 3 elements is the earlier of 12 months after commencement of the approval instrument approving an operator's proposed SMS or the Phase 3 date specified in the relevant operator's Implementation Plan. One low capacity operator had an alternative Phase 3 date of 25 January 2011.</p> | | |

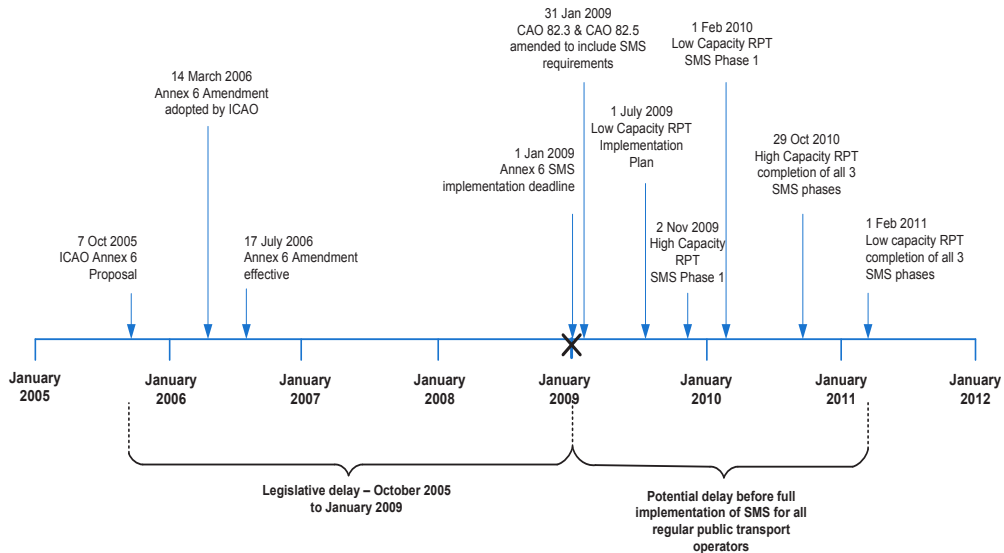
Source: ANAO analysis. Note: Three of the exception operators had their original SMS approvals revoked and another put in place due to airline name changes.

2.42 ANAO notes that the specified phase dates set out in the approval instruments deviate from the dates proposed in CAAP SMS-1(0) issued by CASA in January 2009 (summarised in Table 2.3). In this regard, the timeframe for completing all three phases for high capacity operators and one of the three phases for low capacity operators have been extended beyond the dates suggested in CAAP SMS-1(0).

2.43 As a result, and based on the phased implementation reflected in the approval instruments, full SMS implementation for both high capacity and low capacity operators that are currently using an approved SMS may not occur until February 2011, more than two years after both the amended Orders took effect and the date mandated by ICAO.⁶² Figure 2.4 provides a timeline illustrating the significant periods of delay between:

- when ICAO first proposed the changed obligations regarding SMS', and its adoption in March 2006, and when the amended CAOs introducing an SMS requirement for Australian regular public transport operators took effect in January 2009; and
- when the CAO amendments requiring regular public transport operators to establish and maintain an appropriate organisation with a sound and effective management structure that uses a safety management system approved by CASA took effect on 31 January 2009 and the potential completion of all three phases of SMS implementation, including operators' demonstrated SMS capability.

⁶² In October 2010, CASA commented to ANAO that it is: 'regarded internationally as a leader in this field. This is evidenced by CASA's core membership of the Safety Management International Collaboration Group.'

Figure 2.4**SMS implementation timeline**

Note: RPT in this figure refers to 'regular public transport operator'. Also see Notes to Table 2.4.

Source: ANAO analysis.

2.44 In respect to the impact of these delays, in June 2010 CASA informed ANAO that:

There had been no impact on the regulation of these affected operators. As each phase takes effect, the Safety Management System elements are added to the overall capability of the operator. The elements are added to the requirements of the operator's regulatory compliance and considered in surveillance planning and surveillance conduct. The "normal" oversight and surveillance against the existing regulatory requirements has continued throughout this process. The oversight processes will undergo a managed transition to full safety management system surveillance, combined with functional surveillance, to cover all aspects of the operation.

3. Desktop evaluation of operators' Safety Management System Manuals

This chapter examines the progress to date with CASA's implementation of the regulation of operators' Safety Management Systems. To date, CASA has completed a desktop review of operator manuals. Accordingly, this chapter focuses on CASA's evaluation of SMS manuals submitted to it by 35 regular public transport operators.

The CASR 119 Implementation Project

3.1 In response to the March 2006 amendment to Annex 6 of the *Chicago Convention* under which, from 1 January 2009, contracting states would require operators to implement an acceptable SMS (see paragraph 2.2), CASA developed the CASR 119 Implementation Project (the Project). The Project was developed to support and facilitate the implementation of the SMS-related amendments to CAOs 82.3 and 82.5 in the short term and, ultimately, implementation of the Civil Aviation Safety Regulation Part 119 (CASR Part 119), including SMS requirements, across the Australian aviation industry in the longer term.

3.2 In this context, the CASR 119 Implementation Project centred around two related stages:

- Stage One—to facilitate and support the adoption of the CAO 82.3 and 82.5 amendments by low capacity and high capacity regular public transport operators, including the introduction of an SMS; and
- Stage Two—to facilitate and support the implementation of a regulation, CASR Part 119, that will encompass both the regular public transport operators impacted under Stage One of the Project (being operators regulated under the amended CAO 82.3 and CAO 82.5) and charter operators currently regulated under CAO 82.1, including the implementation of an SMS by charter operators.⁶³

⁶³ In August 2010, CASA advised ANAO that there were at that time 589 active charter AOCs which did not include regular public transport operators—that is, they were not transitioned during Stage One and therefore will be identified for transition during Stage Two. Not all of these operators may be active at the time of Stage Two transition and some may choose not to transition.

3.3 In September 2009, CASA completed a Project Plan that identified a number of key milestones for Stage One of the Project, including CASA's development of tailored training materials, a template SMS manual appropriate for low capacity regular public transport operators (termed a Manual Authoring and Assessment Tool (MAAT)), an SMS assessment procedures manual⁶⁴ and an SMS Assessment Checklist. These and other milestones identified in the Project Plan are summarised in Table 3.1.

Table 3.1

Milestones identified for Stage One of the CASR 119 Implementation Project

| Deliverable | Target date |
|--|---------------------|
| Establishment of SMS Assessment Group by CASA | 1 July 2009 |
| Low capacity regular public transport SMS Implementation Plan submission to CASA | 1 July 2009 |
| SMS Assessment Checklist completed | 10 July 2009 |
| High capacity regular public transport SMS submission to CASA | 31 July 2009 |
| Updates to SPM and AOCM procedures and checklist ^A | 10 August 2009 |
| Training materials completed | from September 2009 |
| Manual Authoring and Assessment Tool implementation | 1 October 2009 |
| High capacity regular public transport SMS approval | 2 November 2009 |
| Low capacity regular public transport SMS submission to CASA | 2 November 2009 |
| Low capacity regular public transport SMS approval | 1 February 2010 |
| Note A: At the time of ANAO fieldwork in 2010, the SPM and AOCM were being updated as part of CASA Operation's Enhancement Program that was established by CASA in September 2009 to improve regulatory services and surveillance functions. | |

Source: *CASR 119 Implementation Project (Stage One) Project Plan*, Sept 09, v.1.2.

Delivery of project milestones to support SMS Phase 1 assessment

3.4 The number of regular public transport operators fluctuates. A total of 35 operators submitted an SMS to CASA for its consideration, comprising 18 high capacity operators and 17 low capacity operators.

⁶⁴ The Project Plan noted that the SMS assessment procedures would be delivered as Senior Management Instructions in the short term and then incorporated into an Air Operator Certification Manual (AOCM) and/or Surveillance Procedures Manual (SPM) as and when required.

3.5 As discussed in Chapter 2, both high capacity and low capacity regular public transport operators could adopt a three-phased approach to SMS implementation, thereby allowing them to plan for, and implement, the required CAO changes in a timely and effective way. However, all operators were obliged to provide evidence to CASA demonstrating capability in relation to specified Phase 1 elements of their SMS *prior* to having their proposed SMS approved.⁶⁵ Reflecting this requirement, the approval instruments documenting CASA's approval of each operator's proposed SMS specified a date for demonstrating Phase 1 capability that aligned with the new timeframe for SMS implementation of 2 November 2009 for high capacity operators⁶⁶ (with the exception of one operator that was required to implement immediate Phase 1 elements by 2 December 2009); and the CAO 82.3 amendment application date of 1 February 2010 for low capacity operators. As illustrated in Table 3.1, these dates were also the target dates for SMS approval for high and low capacity operators respectively.

3.6 To assist in this process, key outputs (including some project milestones identified in Table 3.1) for Stage One of the Project were developed by CASA in advance of the requirement date for operators to have an approved SMS in place, namely 2 November 2009 for high capacity operators and 1 February 2010 for low capacity operators. These outputs were to serve two functions—firstly, to provide support to regular public transport operators in submitting an SMS; and secondly, to assist CASA in the SMS assessment of Phase 1 elements (pre-SMS approval) and Phase 2 and Phase 3 elements (post-SMS approval). In this context, by 2 November 2009 CASA had:

- issued a CAAP SMS Package, involving a set of three related CAAPs that provided guidance to operators in developing and implementing SMS' acceptable to CASA;
- developed an SMS Assessment Checklist based on the CAAP SMS Package and the minimum SMS elements outlined in subparagraph 2A

⁶⁵ Note 3 to Table 1 in Schedule 1 of each of the 35 SMS approval instruments issued by CASA for low capacity and high capacity operators stated: 'For this SMS approval to be granted in the first place, immediate (phase 1) capability to CASA's satisfaction was required in the following elements: [*Phase 1 elements listed*].'

⁶⁶ As discussed at paragraph 2.40, CASA extended the original date of 1 July 2009 for high capacity operators to have an SMS in place (as required under the CAO 82.5 amendment) to 2 November 2009.

of both amended CAOs (the Assessment Checklist was finalised and released on 24 August 2009);

- published an internal Senior Management Instruction (SMI) that outlined the SMS assessment and approval process;⁶⁷
- produced a *Safety Management Toolkit* to provide aviation operators with ongoing information and advice to help them establish and maintain a safety culture within their operation;
- delivered industry training workshops designed to assist operator Safety Managers to implement the Phase 1 SMS requirements;
- installed and released (on 5 October 2009) a sample SMS manual (MAAT) to assist low capacity operators to develop a manual tailored to the specific nature, size and complexity of their operations; and
- provided internal training to CASA officers. In respect to the extent of training provided, CASA advised ANAO in August 2010 that:

All involved CASA officers received classroom training before commencing the assessment. Workplace mentoring and coaching was provided throughout the activity.

Cost recovery

3.7 The Australian Government adopts a cost recovery policy in order to promote the efficient and effective allocation of resources.⁶⁸ CASA has stated that it complies with this policy, through the application of the *Civil Aviation (Fees) Regulations 1995*, by recovering the costs of the safety regulatory services that it provides to the aviation industry.

3.8 The Australian Government Cost Recovery Guidelines state that fees charged to service providers (operators) should reflect the cost of providing the service. The Guidelines further state that partial cost recovery is generally not appropriate and should only be applied in certain circumstances. These circumstances can include when the cost of a service is being 'phased in' (as was the case with the SMS framework).⁶⁹ The costs of conducting the Stage

⁶⁷ Senior Management Instruction, *Approving an SMS Implementation Plan and SMS for CAO 82.3 and CAO 82.5 RPT Operations*, Oct 09, Issue 1.

⁶⁸ Commonwealth of Australia, *Australian Government Cost Recovery Guidelines*, July 2005, p. 2.

⁶⁹ *ibid.*, p. 40.

One SMS assessments (and assessing Implementation Plans for low capacity operators) were passed on to industry based on the cost recovery model outlined in Table 3.2. In August 2010, CASA advised ANAO that the revenue received in respect to SMS approvals between 1 July 2009 and 31 March 2010 was approximately \$30 000, and that annual revenues from SMS approvals are expected to be between \$30 000 and \$40 000.

Table 3.2

Cost recovery model for SMS assessments

| Type of operator | No. of hours charged for an SMS assessment | Hourly rate (\$) ^A | Total fee per operator (\$) |
|--|--|-------------------------------|-----------------------------|
| High capacity regular public transport operators | 7 | \$190 ^B | \$1 330 |
| Low capacity regular public transport operators | 4 | \$160 ^C | \$ 640 |
| Notes: A. Part 24.7 of the <i>Civil Aviation (Fees) Regulations 1995</i> stipulates that an hourly rate is to be applied. B. Part 4(2)(b) of the <i>Civil Aviation (Fees) Regulations 1995</i> states that if the service is to be provided by a senior CASA officer, or by a CASA officer with particular experience or qualifications, then the hourly rate is \$190. C. Part 4(2)(c) of the <i>Civil Aviation (Fees) Regulations 1995</i> states that in any other case, the hourly rate is \$160. | | | |

Source: *Civil Aviation (Fees) Regulations 1995*.

3.9 CASA has an information technology system (referred to as TIMELOG) that it uses to record the amount of time spent against specific tasks. ANAO sought information from CASA on the actual number of hours it took to assess and approve the SMS' for each of the 35 regular public transport operators. In March 2010, CASA advised ANAO that:

The hours assigned and tracked against the CASR 119 SMS project [*recorded in its IT system*] show an aggregate of the total time an inspector spent working on the project. The actual time categorisations did not specifically capture time spent against the assessment task, so the [*recorded*] hours...would not be a direct correlation of the assessment effort.

3.10 Although some of the time recorded against Stage One of the Project will relate to activities that operators should not be charged for (for example, training of assessing officers and the development of assessment tools), the majority of the time recorded can reasonably be expected to relate to the SMS assessments. For the period August 2009 to March 2010, CASA assessing

officers recorded 5 060 hours against the SMS assessment task. If CASA had adopted a full cost recovery approach, this would have equated to \$883 322 in charges to regular public transport operators. In respect to the difference between this figure and the \$30 000 received from operators (see paragraph 3.8), in August 2010 CASA advised ANAO that:

The hours recorded in TIMELOG are the aggregation of the project team's hours worked on the standards development, implementation of the project, together with hours worked on surveillance tasks and report preparation. These are not considered as part of the assessment for chargeable hours because these activities are funded by way of aviation fuel excise revenue within the CASA funding strategy.

3.11 More broadly, CASA advised ANAO that it is:

Reviewing its approach to cost recovery in the context of the regulatory reform program. CASA will be required to do so within the policy directions provided by the Government in the 2010 Aviation White Paper, that is, cost recovery for regulatory services is capped at \$15 million per year (adjusted by CPI) for the next five years. It is expected that all regulatory charges will be reviewed within the next two years supported by a revised activity based costing model and further development of the TIMELOG system.

The SMS approval process under Stage One of the CASR 119 Implementation Project

3.12 As described in paragraph 3.2, Stage One of the CASR 119 Implementation Project was established to facilitate and support the adoption of CAO 82.3 and 82.5 amendments, including the implementation of an approved SMS, by regular public transport operators.

3.13 In this context, the SMS approval process has been described by CASA as comprising two parts, as follows:

- Part 1: Document Evaluation—determining whether the SMS submitted by an operator contained the elements required under the CAOs, and whether these were suitable for the operator ('was it present and suitable?'); and
- Part 2: Capability Assessment—determining whether the elements in the submitted SMS have been implemented as approved and are operating effectively ('is the SMS operating and effective?').

3.14 In this regard, the SMI issued by CASA noted that SMS documentation evaluation was intended to assist in determining whether an operator's SMS

complied with the relevant legislative requirements, noting that it 'may not establish that the SMS Implementation Plan or SMS will work effectively in practice'⁷⁰. In addition, under the approach adopted by CASA, SMS approval could be provided in advance of suitable documentation being in place as long as CASA was satisfied with the timeline proposed by the operator to appropriately document its proposed SMS.

3.15 By 25 January 2010, CASA had approved SMS' for 35 regular public transport operators. By this date, Part 2 of the SMS approval process was yet to be undertaken, with CASA having not yet begun conducting formal onsite surveillance to test for the operating effectiveness of the SMS approved for any of the 35 operators.⁷¹ In this context, all SMS approvals were based solely on a documentation evaluation of the SMS material submitted to CASA by the relevant operator. Accordingly, CASA's approval of each SMS was conditional on the operator being able to subsequently demonstrate by specified dates safety management capability in accordance with the approved SMS in relation to each of the SMS elements identified as Phase 2 and Phase 3 elements. The capability must be demonstrable through:

- the operating effectiveness of the SMS;
- the competence of each of the operator's relevant personnel with respect to the SMS elements; and
- the comprehensive nature of the information, procedures and other material contained in the SMS manual that is relevant to the SMS elements.

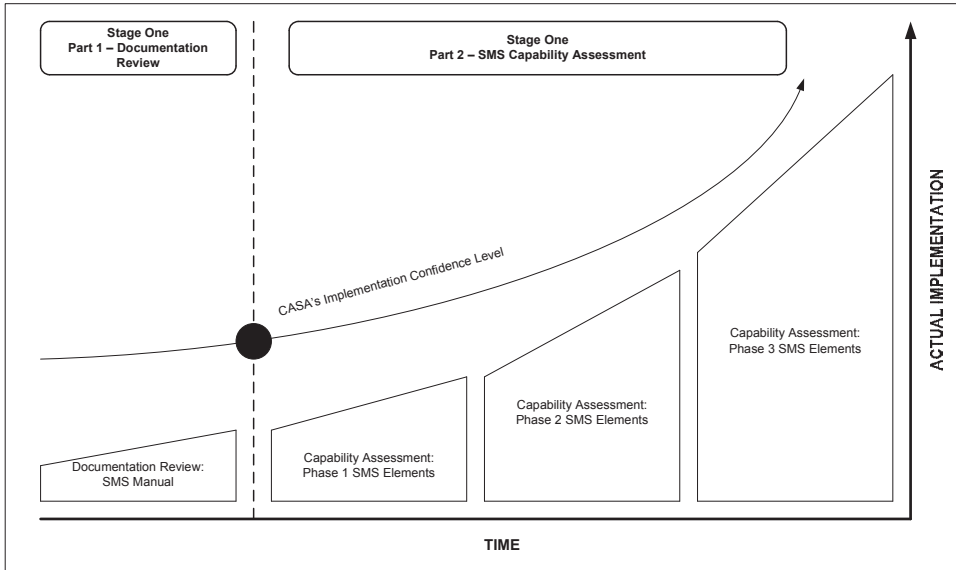
3.16 Figure 3.1 depicts the relationship between both parts of CASA's SMS approval process described in paragraph 3.13 and the three SMS implementation Phases, and illustrates that, at the time of approval (represented by the dot in the diagram), Capability Assessments remained outstanding for all three Phases.

⁷⁰ Senior Management Instruction, *Approving an SMS Implementation Plan and SMS for CAO 82.3 and CAO 82.5 RPT Operations*, Oct 09, Issue 1, p. 12.

⁷¹ CASA trialled its Capability Assessment process on one operator during February 2010. However, at that time, formal procedures had not yet been developed for conducting the assessment. This is discussed further at paragraph 4.21.

Figure 3.1

Relationship between Parts 1 and 2 of the SMS approval process within Stage One of the CASR 119 Implementation Project



Source: *CASR 119 Implementation Project: Phase One Transition Plan*, March 2010, v.1, p.15.

3.17 Accordingly, in deciding whether to approve an operator's proposed SMS, CASA did not consider the results of the Capability Assessment for any of the SMS implementation phases, or the results of the documentation evaluation for the remaining two phases where operators chose to adopt a phased documentation approach (see paragraph 3.70). In this way, the approvals were granted by CASA without knowledge as to whether the safety procedures and SMS elements contained within the SMS material submitted to CASA by the operator were operating as intended or effective. This was recognised by CASA in its Transition Plan⁷² which stated:

Document evaluation has not established if the plan or system described in the [SMS] documents are implemented and/or operating effectively. This is for the inspection phase (Part 2).

A large number of operators undertook a phased approach to both their SMS documentation and implementation, hence, at the conclusion of this Stage One

⁷² The Transition Plan was developed by CASA to assist business areas with transition of regular public transport SMS oversight to CASA's 'Business as Usual' regulatory activities.

of the CASR 119 Implementation Project, work remains before these 35 Safety Management Systems are completely approved.⁷³

3.18 In this regard, in March 2010 CASA estimated that approximately 440 person days would be required to achieve completion of Stage One of the CASR 119 Implementation Project (being the full implementation of the SMS framework for regular public transport operators).

3.19 In April 2010, ANAO requested that CASA confirm whether the approach outlined in the SMI for approving an SMS had been followed; in particular, whether CASA had conducted on-site inspections of the operator SMS' prior to their approval. In response, in June 2010 CASA advised as follows:

This approach is likely to be desired, and necessary for post implementation Safety Management System approvals. It was not seen as necessary—and therefore not enforced—during implementation due to the relatively close case manager approach employed.

SMI section 8.4 states 'The Assessment Officers must decide if an inspection of the operator's organisation should be conducted as part of the assessment'.

Safety Management Systems were approved (certified) based on assessing officer satisfaction with the application document evaluation. This stage is looking for evidence that the Safety Management System exists and [is] suitable for the operation. In accordance with the agreed approach, the Capability Assessment supports the approval process by ensuring the operator's Safety Management System is operating and effective.

The SMI was written to align with the [*Air Operator Certification Manual*] that predominantly covers ab initio entrants. As the implementation model was two-staged, a decision was made that inspections would occur at Stage 2 (Capability Assessment), with Stage 1 being the Documentation Review.

Assessment framework for SMS documentation evaluation

3.20 As discussed at paragraph 3.6, in October 2009, CASA issued an SMI that described the requirements and process for approving an SMS

⁷³ CASR 119 Implementation Project: Phase One Transition Plan, March 2010, v.1, p.12.

Implementation Plan and proposed SMS.⁷⁴ The SMI outlined a process for SMS assessment that was broadly based on the process management phases applicable to the initial issuing of an Air Operator's Certificate⁷⁵, but which was tailored into steps applicable for an SMS (or SMS Implementation Plan) approval, as follows:

- SMS submission⁷⁶, including recording information about the operator and the application package in a Job Register (a CASA electronic work order database) and SMS register and determining assessment cost estimates;
- document evaluation—primarily involving assessment of operator safety manuals against defined criteria to determine compliance with the relevant CAO;
- inspection of the operator's organisation, where considered necessary by CASA, to assess the operator's capability to comply with the relevant CAO and its proposed SMS;
- certification and approval, including final peer review, recommendation and preparation and execution of an instrument of approval; and
- post-approval, including evaluation of the approved SMS through various CASA surveillance activities to ensure that the operator has implemented the SMS phase(s) as approved and to test the effectiveness of the operator's system.

Requirement for low capacity operators to submit an SMS Implementation Plan ahead of their proposed SMS

3.21 The amendments made to CAOs 82.3 and 82.5 included the requirement that both low capacity and high capacity regular public transport operators implement an SMS that includes an Implementation Plan as an

⁷⁴ In August 2010, CASA advised ANAO that the content of the SMI will be incorporated into the next stage of development, being the Inspectors Handbook, which is scheduled for release in December 2010.

⁷⁵ The five process phases identified in the Air Operator Certification Manual are: Pre-Application; Application; Document Evaluation; Inspection; and Certification. In this regard, the SMI noted that some of the SMI administrative aspects for managing a stand alone application (for an SMS Implementation Plan or SMS) could vary from the administration required for the assessment of a full AOC application.

⁷⁶ Referred to in the SMI as Pre-Application and Application phases.

element of the SMS' Safety Policy and Objectives component. CAAP SMS-1(0) describes an SMS Implementation Plan as a document detailing all aspects of the development and implementation of an operator's SMS, including all areas covered in an operator's proposed SMS manual(s).⁷⁷ CAAP SMS-1(0) further stated that an SMS Implementation Plan was developed on the basis of an operator's gap analysis results⁷⁸, and may be formatted by an operator to suit the individual needs of an organisation, including adopting the three-phased approach to SMS implementation outlined in the CAAP.⁷⁹

3.22 Under CAO 82.3, low capacity regular public transport operators were required to adopt a staged approach to establishing a formalised SMS by submitting a plan for implementation (SMS Implementation Plan) by 1 July 2009⁸⁰, seven months before the planned SMS implementation date of 1 February 2010 for those operators. By way of comparison, under CAO 82.5, high capacity operators could submit their SMS Implementation Plan together with the proposed SMS. In this context, the SMI states the following with regard to high capacity regular public transport operators:

The operator's proposed SMS Implementation Plan must be submitted together with the proposed SMS at the time of the application. If the SMS is submitted without the implementation plan, the SMS will not be approved. This is because, without planning for its implementation, it cannot be assured of success.

3.23 In total, 17 low capacity operators had an SMS Implementation Plan approved by CASA under CAO 82.3 during Stage One of the CASR 119 Implementation Project. CASA's assessment process for the

⁷⁷ The SMI defined an SMS Implementation Plan as a: 'project plan in the form of a GANTT chart or equivalent showing aspects of proposed implementation of the SMS based on conducting a gap analysis'.

⁷⁸ Gap analysis involved comparing an organisation's existing operating safety systems against the SMS components required under the amended CAOs to determine which components needed to be added or modified in the organisation's current system to meet the SMS implementation requirements.

⁷⁹ The significance of an operator's SMS Implementation Plan was considered by CASA in the development of approval instruments for both high capacity and low capacity operators. In this context, CASA developed approval instruments that aligned to the SMS phase dates identified in the Implementation Plan by requiring operators to demonstrate safety management capability against specified SMS elements on or before the Phase 2 and Phase 3 dates specified in the Implementation Plan submitted by the relevant operator (Schedule 1 of the approval instrument).

⁸⁰ Unless otherwise approved in writing by CASA for a particular operator. Five of the 17 low capacity operators requested and were granted extensions beyond the required submission date of 1 July 2009.

Implementation Plans submitted for consideration was broadly consistent with the assessment process undertaken for a proposed SMS, and included:

- operator submission and CASA acknowledgement of the proposed Implementation Plan (including issue of a cost estimate);
- desktop review against a number of identified criteria using an Implementation Plan Assessment Checklist⁸¹;
- preparation of an Assessment Summary for quality assurance and a Standard Form of Recommendation based on the results of the desktop review; and
- approval of the Implementation Plan by the CASA delegate (where approved).

3.24 In respect to high capacity operators, the majority of the individual Implementation Plan Assessment Checklists had not been completed by assessing officers against any of the criteria. However, with the exception of one operator⁸², the 'SMS Implementation Plan' element in the Assessment Checklists completed in relation to the SMS' proposed by high capacity operators indicated that a suitable Implementation Plan was present in the SMS documentation provided, as required under CAO 82.5. Despite this, the Transition Brief prepared by CASA in relation to three operators expressly stated that these operators did not provide an Implementation Plan. In this respect, in August 2010 CASA advised ANAO that:

All operators had a form of Implementation Plan in place at the time of assessment. In some cases this took the form of a written assurance that this had been developed and was already fully implemented.

SMS documentation evaluation

3.25 The ICAO Safety Management Manual includes 'SMS Documentation' as a key element in the Safety Policy and Objectives component of the suggested SMS framework. It notes that 'without doubt, the most important piece of documentation of an SMS is the SMS manual...a key instrument for

⁸¹ The Implementation Plan Assessment Checklist criteria were based on guidance provided in CAAP SMS-1(0) (section 3.5) and the four SMS components and 13 elements required under CAO 82.3.

⁸² In respect to that operator, the SMS Implementation Plan element in the SMS Assessment Checklist was rated as being 'indeterminate', with a supporting comment from the assessing officer that: 'these separate documents need to be incorporated...or referenced in the SMS'.

communicating the organisation's approach to safety to the whole organisation'.⁸³ In this context, SMS document evaluation has been described by CASA as:

...The most labour intensive phase of this whole process, hence when making a determination about the required assessment tasks the team coordinator and assessing officer should give careful consideration [to] the completeness, quality and complexity of the SMS Implementation Plan and SMS.

Assessment of an operator's SMS Implementation Plan and SMS in parts may require a greater degree of analysis to determine if the documented details are considered suitable for the structure of the operator's organisation and the nature and scope of its operations. In this regard prior to document evaluation, the assessing officer should familiarise themselves with the operational context of the operator's organisation.⁸⁴

3.26 Assessment guidelines set out by CASA in the SMI stated that the primary objective of document evaluation was to assess the proposed SMS and identify any omissions or deficiencies by:

- reviewing the Compliance Statement (or equivalent document containing all the applicable legislative requirements cross-referenced to the SMS);
- reviewing the proposed SMS submission, including all associated manuals and attachments; and
- assessing the content of the submission against an identified set of criteria contained in an SMS Assessment Checklist.

Submission of an SMS manual

3.27 The legislative requirements for what is to be included in a regular public transport operator's SMS, and provided to CASA for approval, are set out in CAO 82.3 (for low capacity operators) and CAO 82.5 (for high capacity operators). These requirements and the supporting advisory material provided in the CAAP SMS Package⁸⁵ allowed operators to develop an SMS that addressed their particular operating requirements. As such, operators were

⁸³ ICAO *Safety Management Manual*, 2nd edition, 2009 (Document 9859), p. 8–12.

⁸⁴ Senior Management Instruction, *Approving an SMS Implementation Plan and SMS for CAO 82.3 and CAO 82.5 RPT Operations*, Oct 09, Issue 1, p. 13.

⁸⁵ Comprising CAAP SMS-1(0), CAAP SMS-2(0) and CAAP SMS-3(0).

obliged to make their own safety assessments and develop management practices to meet the mandatory minimum requirements contained in the relevant CAO.

3.28 The SMI outlined that, as a minimum, the SMS submitted for approval would be expected to include and document a statement of compliance (or equivalent); an SMS Implementation Plan (if not submitted separately⁸⁶) in the form of a GANTT chart or equivalent based on a gap analysis; and the relevant manual and document(s) that described the organisational management structure and proposed SMS elements. In practice, operators submitted SMS' in the form of a manual or suite of manuals⁸⁷ (the SMS manual) that set out the details of how the operator's proposed SMS would comply with the legislative requirements.

3.29 The CAO amendments that came into effect on 31 January 2009 required that regular public transport operators establish and maintain an appropriate organisation with a sound and effective management structure that uses a safety management system approved by CASA, but did not prescribe a date by which operators were required to submit an SMS to CASA for assessment. Through another instrument, CASA required all high capacity operators to submit a proposed SMS by 31 July 2009, with the exception of one operator which was required to submit an SMS manual by 15 November 2009.⁸⁸ In terms of low capacity operators, on 28 September 2009 and 15 October 2009, CASA sent letters to these operators advising that proposed SMS manuals submitted after 2 November 2009 would not generally be acceptable, unless an operator established to CASA's satisfaction that exceptional circumstances existed beyond its control.⁸⁹ In this context, on

⁸⁶ As noted, low capacity regular public transport operators were required under CAO 82.3 to submit an SMS Implementation Plan seven months ahead of submitting their proposed SMS.

⁸⁷ A number of operators submitted a proposed SMS manual that was in the form of an existing Operations Manual (as required under Regulation 215 of the *Civil Aviation Regulations 1988*) or in the form of a separate document that made reference to other interrelated documents, for example an Emergency Response Plan. In these instances, the supporting documentation was also considered by CASA in the SMS assessment process.

⁸⁸ The approval instrument for this operator's SMS was inconsistent in its reference to the submission date of an SMS manual. Specifically, sub-section 2(1) of the instrument correctly described the proposed SMS manual as having been submitted on or before 15 November 2009, whereas sub-section 2(4) incorrectly referred to the submission date as 31 July 2009.

⁸⁹ One low capacity operator was granted an extension from 2 November 2009 to 30 November 2009 to submit its SMS manual to CASA for assessment.

30 October 2009 one operator requested a two month extension (to 2 January 2010) to the submission date for its proposed SMS. This request was declined by CASA on 3 November 2009, with the operator being advised:

To reiterate previous formal and informal correspondence, the 2 November submission date was promulgated to ensure that each operator's SMS is assessed and approved (if appropriate) by 1 February 2010. A delay of more than a week or two will put at risk *[your]* chances of having a SMS approved by 1 February 2010; this in turn will put your AOC at risk.

3.30 The operator submitted the first version of its SMS manual to CASA on 13 November 2009, which was subsequently the subject of a further amendment before being resubmitted on 21 December 2009. In this regard, the approval instrument for that operator's SMS subsequently prepared by CASA, which defined the SMS manual as having been submitted before 2 December 2009, was inconsistent with both the November 2009 advice from CASA to the operator and with the Standard Form of Recommendation recommending the SMS for approval (which had noted that a second SMS submission was not made until 21 December 2009). Further, an email from the assessing officer to the then CASR 119 Implementation Project Manager in January 2010 recommending approval of the operator's SMS indicated potential limitations in the material provided in the SMS manual and the associated documentation review. In this respect, CASA advised ANAO in August 2010 that:

In most cases there was a request from CASA to the operator for additional documentation and/or information. In the majority of cases these requests were verbal (phone conversation) followed by an email outlining the precise requirements. There were as many as ten of these conversations with each operator. Some smaller changes may not have been followed with a confirmation email. CASA will trace all records of correspondence and ensure they are included in TRIM.

3.31 In total, CASA received 35 SMS submissions from 35 AOC holders. In two instances, the SMS manual was shared by two AOCs in the one group.

CASA desktop review of SMS documentation submitted by operators

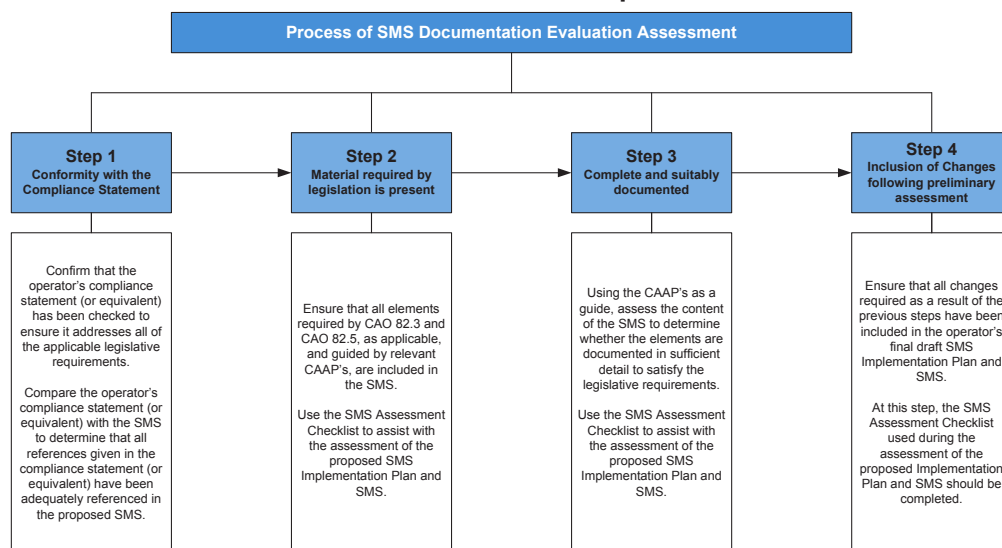
3.32 The SMI published by CASA stressed the importance of a robust assessment process, noting that:

without a documented assessment process, the CASA delegate may not be able to be satisfied *[that]* the operator has a suitable SMS Implementation Plan or SMS.

3.33 In this context, the SMI summarised the assessment process for SMS documentation evaluation into four key steps, as illustrated in Figure 3.2.

Figure 3.2

SMS documentation evaluation assessment process



Source: ANAO analysis of CASA Senior Management Instruction, *Approving an SMS Implementation Plan and SMS for CAO 82.3 and CAO 82.5 RPT Operations*, Oct 09, Issue 1.

3.34 As identified in Figure 3.2 (and discussed at paragraph 3.26), Step 1 of the assessment process for SMS documentation evaluation required CASA to review an operator's Compliance Statement to ensure that it addressed the legislative requirements under CAO 82.3 or CAO 82.5, as relevant, and that it aligned with the operator's submitted SMS. In this regard, the SMI referred to Sections 6.10 and 7.10 (*Compliance with Legislation*) of the Air Operator Certification Manual⁹⁰ regarding the initial issue of an AOC for high capacity and low capacity operators respectively, which stated that:

⁹⁰ The Air Operator Certification Manual describes the policy and procedures to be followed by CASA in assessing an application for, and issuing, an AOC. It provides guidance to CASA staff responsible for the assessment of an application for an AOC and its subsequent issue and may also be used by applicants for an AOC to assist them in their understanding of the processes followed by CASA.

Section 28(1)(a) of the Act requires that CASA be satisfied that the applicant has complied with, or is capable of complying with, the provisions of the Act, Regulations and Civil Aviation Orders that relate to safety. The compliance statement is a tool for the applicant to construct a document that provides sufficient detail to convince CASA that he/she both understands the requirements and has put in place the appropriate instructions, procedures and practices to ensure compliance. A properly prepared compliance statement is of benefit to the applicant both directly and indirectly. It provides a system for both the applicant and CASA to ensure that their obligations under the Act are completely discharged.

3.35 In this respect, the SMI for the approval of SMS documentation stated that:

it is expected the operator's Compliance Statement (or equivalent) be updated and presented at the time of the SMS application. The Compliance Statement should contain all the applicable legislative requirements cross referenced to the SMS...If more practical, it is suggested a separate Compliance Statement (or equivalent) be created and kept as an addendum to the AOC compliance statement.

3.36 In May 2010, ANAO requested that CASA confirm whether Compliance Statements incorporating the SMS requirements were submitted by all 35 regular public transport operators that had had an SMS approved. CASA's response of June 2010 was that:

Some, but not all, operators provided a compliance statement. This requirement is likely to be desired, and necessary for post implementation Safety Management System approvals. It was not seen as necessary—and therefore not enforced—during implementation due to the relatively close case manager approach employed. SMI section 8.3.2 'A proposed SMS application package, should include: the statement of compliance (or equivalent)'. Operators who attended the SMS workshops received a GANTT chart with all elements listed.⁹¹ Where this was completed and submitted, this was considered equivalent to the compliance statement.

3.37 The remaining steps of the assessment process (Steps 2 to 4 identified in Figure 3.2) were undertaken using a suite of assessment checklists and other tools developed by CASA to assist assessing officers in the review of both an

⁹¹ CASA records indicate that approximately 21 of the 35 operators (60 per cent) who had SMS' approved by CASA attended the industry workshops.

SMS Implementation Plan and a proposed SMS. The suite of assessment tools consisted of:

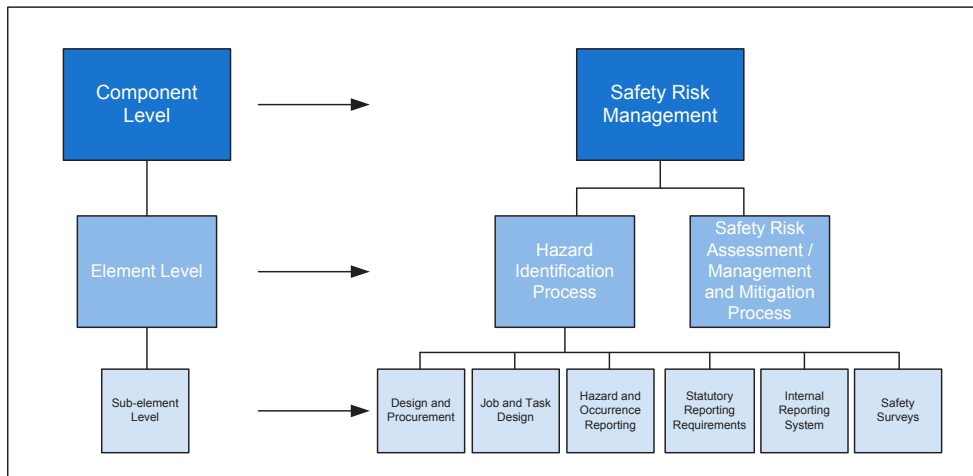
- an SMS Implementation Plan Assessment Checklist and an SMS Assessment Checklist which both included items identified in the amended CAOs 82.5 and 82.3 and in CAAP SMS-1(0) and CAAP SMS-2(0). Specifically:
 - CAO mandatory components for an SMS (for example, Safety Risk Management);
 - CAO mandatory elements within each component of an SMS (for example, Hazard Identification Process); and
 - CAAP non-mandatory sub-elements provided for guidance only (for example, Hazard and Occurrence reporting).
- guidance instructions, an SMS Checklist Summary Table and Assessment Sign-Off; and
- supplementary guidance providing references to the ICAO Safety Management Manual, Transport Canada, Civil Aviation Authority of Singapore and Civil Aviation Authority UK.

3.38 A summary of all the SMS components, elements and sub-elements recommended in CAAP SMS-1(0) is included at Table A 1 of Appendix 1⁹², and the SMS hierarchy is summarised in Figure 3.3.

⁹² The CAAP recommended framework included 15 SMS elements in total (two more than the minimum mandatory elements specified in CAOs 82.3 and 82.5 (see paragraph 2.28 and footnote 44)).

Figure 3.3

The component, element and sub-element hierarchy on which the SMS framework is based: Safety Risk Management component



Source: ANAO analysis of CAO 82.3 and CAO 82.5 and Civil Aviation Advisory Publication SMS-1(0)—*Safety Management Systems for Regular Public Transport Operations*.

Level of training and guidance material provided by CASA for officers conducting a desktop review

3.39 In April 2010, CASA advised ANAO that ‘many meetings were held to discuss the manual checklists and [they] were often discussed at team meetings’. In this regard, information provided by CASA indicates that informal meetings were held in the later half of 2009 where Air Transport Inspectors (ATIs) were given the opportunity to provide feedback to an SMS Project Team on their current SMS assessments.

3.40 However, published guidance material in the SMI contained no specific procedures for how to interpret the SMS Assessment Checklist; compile the results of the assessment; or evaluate the results against any predetermined standards.⁹³ In this context, CASA records indicate that the only instructional material produced to assist ATIs in the assessment of SMS’ and SMS Implementation Plans were elementary guidance notes that formed part of the

⁹³ In October 2010, CASA commented to ANAO that: ‘assessing officers were provided with training, mentoring, procedures and checklists. Ultimately, the operator’s manual was assessed, by the assessing officer, using experience and expert judgement.’

SMS Assessment Checklist package, namely *Instructions on the use of the Safety Management System Assessment Checklists* (the Instructions), which set out four assessment criteria against which each line item in the Assessment Checklist was to be assessed⁹⁴, namely:

- Present—the component, element or sub-element is addressed in the operator's SMS submission (Phase 1 assessment);
- Suitable—the component, element or sub-element is manifestly suitable for the operator and meets relevant legislative requirements (Phase 1 assessment);
- Operating—the component, element or sub-element is functioning at the time of capability assessment (assessed subsequent to the SMS approval, aligned with the agreed Phase dates as defined in the instrument of approval); and
- Effective—the component, element or sub-element is functioning effectively; that is, delivering the desired outcome(s) of the legislated requirements (assessed post surveillance as part of Phase 2, 3 and onwards).

3.41 An assessment against every CAO-level element was mandatory and each such element was to be assessed as 'Yes' against the 'Present' and 'Suitable' criteria if the assessment was recommending approval of the SMS to the Delegate. By way of comparison, assessment and annotation against the CAAP level sub-elements was optional as these sub-elements were for guidance only. Nevertheless, ANAO analysis of the completed Assessment Checklists identified that the majority of the operators were assessed and rated against Phase 1 sub-elements, and for a number of operators, Phase 2 and Phase 3 sub-elements.

3.42 The guidance provided in the Instructions did not clearly advise the assessing officers whether operators needed to demonstrate evidence that all, some or none of the CAAP level sub-elements were suitably present before CASA could determine that the associated CAO level elements had been adequately satisfied. That is, the Instructions did not identify any assessment

⁹⁴ The Instructions advised that each line item would be assessed against the four assessment criteria and the results recorded in the Assessment Checklist. The available answer options for each item were noted in the Instructions as: 'yes', 'no' or 'missing/more information' for high capacity operators; and 'yes', 'no', 'missing/more information', 'not applicable', or 'somewhat' for low capacity operators.

thresholds on the number of 'No' sub-element ratings that would result in an overall 'No' at the higher element level, or similarly, the number of 'Missing/More Information' ratings that would be acceptable to CASA (Figure 3.4 sets out the relevant excerpt from the Instructions). In October 2010, CASA commented to ANAO that:

More guidance would be useful. As much as possible was provided in the time available. More should be made available for this, and other, approvals in future.

Figure 3.4

Guidance notes provided to SMS assessors on compiling an overall rating

Notes for Assessing Officer:

- When all sub-elements are present, i.e. 'Yes', then the element becomes 'Yes'. When all elements are present, i.e. 'Yes', then the component becomes 'Yes'.
- Due to sub-elements being CAAP based, not all sub-elements need to be 'Yes' to give a 'Yes' rating at the element level. Any 'No' at the element level automatically equates to a 'No' at the component level, this is due to elements being CAO based.
- All sub-elements and elements can be 'scrolled up' to make it easier to see the results.
- Where the assessment of a component and/or element is 'Yes' reflect this assessment in the Assessment Summary Table of this report by annotating 'Satisfied'.
- Sign-off signifies that the position holder is satisfied that the submissions supplied by the operator meet the relevant legislative requirements.

Source: *Instructions on the use of the Safety Management System Assessment Checklists (Form 6 for low capacity operators).*

3.43 For example, the Assessment Checklist completed in relation to one operator's proposed SMS included numerous Phase 1 CAAP level sub-elements which had been assessed as either being not Present or not Suitable (identified by a result of 'No' against these sub-elements), or as requiring more information (identified as a result of 'MI' against these sub-elements). However, the associated higher CAO level element was assessed as being 'Present'. Similarly, a significant number of elements were rated as being either not Present or not Suitable, or requiring more information to be assessed, yet these results were not reflected in the assessment of the CAO-based component level.⁹⁵ Despite these results, the Assessment Summary for this operator reported that the SMS addressed all of the elements required and provided comments in support of this decision.

⁹⁵ In this respect, the Instructions had stated that: 'Any "No" at the element level automatically equates to a "No" at the component level, this is due to elements being CAO based'.

3.44 Similarly, the Assessment Checklists completed in relation to the SMS' proposed by two other operators rated the Phase 1 element of 'Management Commitment and Responsibility' as being suitably present in the documentation submitted despite determining that more information was required to be able to assess the relevant SMS' against two of the three associated sub-elements.⁹⁶

3.45 In addition, while noting that 'any "No" at the element level automatically equates to a "No" at the component level' (see Figure 3.4), the Instructions did not provide any guidance on whether a rating of 'indeterminate' or 'more information required' in respect to an element translated to a similar rating at the component level, and if so, how this would be interpreted by an assessing officer. For example, the Assessment Checklist completed in relation to the SMS submitted by the operator mentioned at paragraph 3.43 included mixed results (No, Yes, More Information and blank results). However, these results were not reflected at two of the four higher component levels. Similarly, the Assessment Checklist completed in relation to the proposed SMS of another operator reported that one Phase 1 element was considered Present but not fully Suitable by the assessing officer, however this result was not reflected in the overall CAO level component or adequately addressed in the Assessment Summary which rated the element as Satisfied, with supporting comments that 'Proactive risk assessment and mitigation process [were] in place'. In October 2010, CASA informed ANAO that:

As SMS regulations are necessarily outcome-based, assessment against the requirements will require expertise on the part of the assessor. Judgement by the experienced and expert assessor is necessary to determine the acceptability of the content.

Limitations of the SMS Assessment Checklist

3.46 A desktop review of an operator's proposed SMS manual against the criteria set out in the Assessment Checklist was the predominant compliance approach used by CASA to satisfy itself that an operator had a suitable SMS Implementation Plan and/or SMS in place. In this context, the Assessment Checklist was developed by CASA to assist with assessing whether an operator's SMS Implementation Plan and proposed SMS documented and

⁹⁶ The relevant sub-elements were 'Just Culture' and 'Safety Objectives'.

suitably described details of the mandatory and non-mandatory elements (assessed as 'Present' and 'Suitable' in the Checklist); and to record results and any relevant findings such as omissions or deficiencies identified during the assessment process.

3.47 In total, there were in excess of 540 line items included in the template Checklist for assessing SMS manuals which covered the mandatory SMS requirements specified in the CAOs and guidance set out in the SMS CAAP Package. The Instructions on the use of the Assessment Checklist advised that every CAO level element, of which there were 15 in total, must be assessed and the associated ratings compiled.

3.48 However, ANAO analysis identified that CASA's assessment of the SMS' proposed by a number of operators failed to report results against CAO level components or elements, and/or compiled results at the component level that were inconsistent with the Instructions. For example, of the 35 regular transport operator proposed SMS' assessed and approved by CASA:

- the Assessment Checklists completed in relation to 13 operators (37 per cent) had one or more CAO level component(s) for which no rating had been recorded against either the Present and Suitable criteria, that is, the line item was blank against this component; and
- only 19 operator SMS' (54 per cent) were rated as satisfying all CAO level elements (indicated by a 'Yes' against both the Present and Suitable criteria for all elements). Of the remaining 16 operators:
 - six were rated as having included all the required elements in the SMS manual submitted to CASA, but with one or more element(s) being rated as not suitable; and
 - the remaining ten operators were rated as having one or more required element(s) not present in their proposed SMS.

3.49 Table 3.3 summarises ANAO analysis of the results recorded in the Assessment Checklists completed by CASA.⁹⁷

⁹⁷ Table 3.3 does not include analysis of the results against the Flight Data Analysis Program (FDAP) component—the fifth component included the SMS Assessment Checklist. Under the new CAO requirements, regular public transport operators who operate an aircraft with a maximum take-off weight exceeding 27 000kg must include a FDAP as part of their SMS. In August 2010, CASA advised ANAO that the FDAP requirement applied to 16 of the 18 high capacity operators.

Table 3.3**Recorded assessment results against mandatory SMS components and elements**

| Rating given in the SMS Assessment Checklist | Number of operators ^A | |
|---|----------------------------------|-------------------|
| | CAO level Component | CAO level Element |
| 'Yes' for both the 'Present' and 'Suitable' criteria for all components/elements | 22 | 19 |
| 'Yes' for the 'Present' ^B criterion only for one or more component/element | 0 | 6 |
| 'Yes' for the 'Suitable' ^C criterion only for one or more component/element | 0 | 0 |
| Other than 'Yes' for both the 'Present' and 'Suitable' criteria for one or more component/element | 1 | 10 |
| No results recorded against either of the 'Present' or 'Suitable' criteria for one or more component/element | 13 | 7 |
| Notes: A. The total number of operators across all categories exceeds 35 as some operators were included in more than one category. B. These operators were rated as other than 'Yes' against the criterion 'Suitable' (ie, a rating of either 'No', 'More Information', 'Somewhat' or no rating given) for the same component/element. C. These operators were rated as other than 'Yes' against the criterion 'Present' (ie, a rating of either 'No', 'More Information', 'Somewhat' or no rating given) for the same component/element. | | |

Source: ANAO analysis of SMS Assessment Checklists completed by CASA in relation to the SMS⁹⁸ proposed by 35 regular public transport operators.

3.50 Similarly, ANAO also identified examples where there were mixed results recorded in the Assessment Checklist for CAAP level sub-elements that resulted in an overall positive result for the higher level element, often with no explanatory comment provided to reconcile the apparent inconsistency. For example, the Assessment Checklist completed in relation to the SMS proposed by one operator included a significant number of instances where sub-elements were indicated as not being present in the documentation submitted⁹⁸, yet at the higher level the operator was assessed as having satisfied the associated element. In this situation, the SMS approval had been granted notwithstanding that the CASA desktop review had identified that SMS content was missing or deficient at the Phase 1 level.

⁹⁸ Indicated by a rating of 'No' or 'More Information' at the sub-element line item.

3.51 ANAO's analysis of the assessment line items included in the template Assessment Checklist revealed that it was principally based on the guidance material contained in the SMS CAAP Package (in particular, CAAP SMS-1(0)), with the majority of the items referencing verbatim the wording in the CAAPs. In this context, a significant number of the line items that assessors were expected to complete were:

- subjective in nature, making it more difficult for assessors to adopt a consistent approach in the absence of sound guidance;
- unable to be substantiated by a desktop review of the documentation submitted by operators because it could only be evaluated by observation of an operator's actual practices (Capability Assessment), rather than the desktop review of the proposed practice set out in safety manuals; or
- intended as guidance material only, designed solely to provide explanatory information. The guidance nature of some line items was also recognised by CASA assessing officers during the documentation evaluation. For example, several line items for two operators were rated as being 'Not Applicable' against both the Present and Suitable criteria, with supporting comments noting that these line items were not appropriate as criteria ('Statement. Not an assessment criteria'; 'Not a requirement.').

3.52 ANAO analysis of the assessment results recorded in the completed Assessment Checklists identified a number of instances in which CASA's documentation evaluation had determined an operator's SMS satisfied a line item in relation to both the 'Present' and 'Suitable' criteria, even though the item was unable to be effectively measured through a desktop review. Table 3.4 provides examples of a number of these line items.

3.53 Against this background, in October 2010 CASA informed ANAO that:

Some of the checklist items, at the lower level, were extracted from the CAAP to provide further guidance for assessing officers. Some of these may not be able to be determined at the document evaluation stage. Where the assessing officer knew this to be the case for the operator, they made an assessment and annotated the checklist accordingly. It was clear in the SMI and the guidance material that the CAO element component level must be present in the documentation. The CAAP elements were not necessarily required, depending on the approach taken by the operator.

Table 3.4**Examples of line items in the SMS Assessment Checklist unable to be effectively assessed through a desktop review of documentation**

| SMS Assessment Checklist line Item | Associated CAAP ^A reference |
|---|--|
| The Safety Manager has an understanding of safety management principles, acquired through formal training and practical experience. | 3.4.1 |
| The primary function of the safety management documentation is to provide management with the ability to effectively communicate the organisation's approach to safety to the whole organisation. | 3.8.2 |
| Safety surveys provide managers and staff the opportunity to respond to questions about various safety related matters. | 4.2.13 |
| The results of safety surveys can be analysed to provide cost effective identification of hazards and safety concerns. Surveys may be conducted using electronic or paper-based checklists, questionnaires or interviews. | 4.2.13 |
| The Safety Management System ensures the level of safety of the organisation is not eroded by the inputs, services and supplies provided by external organisations. | 3.6.3 |
| The change management effort is commensurate with the operational risk to the organisation (CAAP SMS-2(0)). | 6.5 |
| Managers ensure that sufficient resources are made available to achieve the outcomes of the Safety Management System. | 3.3.4 |
| Chief Executive Officers (CEO) can demonstrate a commitment to safety by having: <ul style="list-style-type: none"> recruited a management team appropriate to the size and complexity of the organisation; developed and disseminating a safety policy and safety objectives; created and adequately resourced the Safety Management System program; and specified roles, responsibilities and accountabilities of the management team in relation to aviation safety. | 3.2.1 |
| Safety messages are learned and retained by the use of positive motivation. | 6.2.6 |
| Note A: References taken from CAAP SMS-1(0) unless otherwise indicated. | |

Source: ANAO analysis of SMS Assessment Checklists.

3.54 There were also instances where the assessing officer's comments recorded in a completed Checklist were inconsistent with the rating given.⁹⁹ For example, the SMS submitted by one operator was assessed as having satisfied part of the CAAP level sub-element that the SMS' safety objectives be Specific, Measurable, Achievable and Realistic and have a specified Timeframe (SMART). However, the comments from the assessing officer against a line item for this sub-element noted that the operator still needed to include SMART safety objectives in its safety manual, thereby indicating that SMART safety objectives were neither present nor, therefore, able to be assessed as being suitable at the time of CASA's desktop review. In a further example, CASA's documentation evaluation of the SMS submitted by an operator assessed one line item as being both present and suitable as a Phase 1 sub-element, despite the associated comment from the assessing officer indicating that the SMS manual being assessed did not suitably document this aspect of the SMS (with noted comment: 'How, by whom and when?').

3.55 In this respect, in October 2010, CASA informed ANAO that:

Checklists contained some comments that were intended to be useful to assessors at the capability assessment stage. The assessing officer made judgements, at the element level, based on experience and expertise, as well as the guidance material.

One SMS Assessment Checklist for multiple operators

3.56 When developing the SMS Assessment Checklist, CASA created one Checklist template for both high capacity and low capacity regular public transport operators. In this context, as noted, the Checklist included approximately 540 line items¹⁰⁰ based on the CAAP SMS Package and left the interpretation and compilation of the assessment results largely in the hands of each assessing officer. For example, other than the 13¹⁰¹ mandatory CAO-based elements, a determination about whether the remaining non-mandatory sub-elements and more detailed guidance material needed to be assessed as

⁹⁹ The Checklist Instructions note that comments from an assessing officer should include: 'any pertinent information relating to the assessment...to aid future assessments'.

¹⁰⁰ A further 10 line items (approximately) were included as part of the FDAP component.

¹⁰¹ The Assessment Summary included 13 CAO-based elements based on the minimum mandatory SMS elements identified in the amended CAOs, however the SMS Assessment Checklist identified 15 elements, based on CAAP SMS-1(0) which includes two additional non-mandatory elements (see paragraph 3.38).

being both present and suitable in order for an SMS to be approved was left to the discretion of the assessing officer and their knowledge and understanding about the operator's organisation.¹⁰² Some assessing officers reported results against each line item, some assessed only a number of the line items, and one operator was assessed only at the sub-element and element level. In this regard, the SMI noted that:

The certification methodology does not depend upon the size or scope of an operation or the kind or size of the aircraft utilised. Section 28 of the Act contains no variation to CASA's obligation in this regard.

SMS Assessment Checklist quality control

3.57 Instructions provided by CASA with the SMS Assessment Checklist package noted that an electronic version of the completed SMS Assessment Checklist was to be placed on CASA's electronic record keeping system (the TRIM system). Specifically, the Instructions noted:

This checklist is to be used as a detailed assessment form when assessing an SMS application (SMS Implementation Plan and/or SMS Manual and associated documentation). It is to be TRIMed in the operator's file upon completion—i.e. when the assessing officer is satisfied that all CAO level items are present and suitable.

3.58 In this context, ANAO understands that hard copies of the SMS Assessment Checklists are not held by either the regional or central CASA offices, and nor are electronic scans of the final signed version of the form, and that the electronic document was the only record available. In May 2010, ANAO requested that CASA confirm this understanding. In response, in June 2010 CASA advised ANAO as follows: 'it is my understanding that CASA policy is not to keep hard copies because TRIM is our (only) archive'.

3.59 In terms of documentation held on the TRIM system, the SMI states that assessing officers will use a 'version controlled SMS Assessment Checklist' package that includes the SMS Assessment Checklist and SMS Implementation Plan Assessment Checklist. However, ANAO analysis of the TRIM system

¹⁰² See SMI quote at paragraph 3.25. In this regard, the SMI noted that to properly consider an SMS, an assessing officer should gather sufficient knowledge and understanding about the operator's organisation and operations, and further noted that: 'this should not be limited to the guidance in this SMI but also by reviewing CASA's records and corporate knowledge about the operator and, if necessary, conduct an inspection of the operator's organisation'.

identified instances where CASA either did not employ a version controlled system or employed a system that was not robust and which potentially compromised the integrity of the assessment process.¹⁰³ For example, there were instances where:

- Assessment Checklists were not dated at the time of assessment;
- Assessment Checklists were electronically misfiled on the TRIM system;
- multiple versions of the Assessment Checklist existed for a single operator with no apparent document naming conventions in place, including some versions not referencing the name of the operator or date of assessment;¹⁰⁴
- CASA provided ANAO with electronic copies of Assessment Checklists (or ANAO obtained copies from TRIM) where the content was not 'locked' and could therefore be edited; and
- key documentation was not uploaded into TRIM. For example, for one operator a draft version only of the Standard Form of Recommendation was held on TRIM. In addition, as with the Assessment Checklists, CASA did not hold hard copies of the final Standard Forms of Recommendation for any operator.

3.60 The absence of sound arrangements to maintain electronic records with regard to the SMS assessment and approval process is potentially detrimental to the effective and accountable conduct of future SMS assessments. This is because the administrative procedures for maintaining electronic Checklists for subsequent assessment phases appears to duplicate existing records, again using the SMS manual Assessment Checklist. In this regard, the legislation makes no provision for how changes to an operator's approved SMS will be implemented.¹⁰⁵ For example, results from a Phase 2 assessment for two operators were reported in another version of the original Assessment Checklist, with the previous Phase 1 results being deleted. In this regard,

¹⁰³ In this regard, during the course of the audit CASA had difficulty identifying which document on TRIM was considered the 'final' SMS Assessment Checklist for a number of operators.

¹⁰⁴ For example, two undated versions of the SMS Assessment Checklist held on TRIM for one operator had significantly different assessment results.

¹⁰⁵ ANAO notes CASA's advice of June 2010 that ongoing Phase 2 documentation reviews for seven high capacity operators utilising a phased documentation approach were about 50 per cent completed.

in June 2010 CASA advised ANAO that no formal procedures had been developed regarding how CASA would manage the assessment process for ongoing SMS resubmissions. Specifically, CASA advised that:

No additional formal process is required. Operators are clear that (1) the SMS will be introduced in phases and (2) resubmission of their manual prior to making changes is required before each phase assessment. Ongoing resubmissions are managed as per the first assessment. The checklist is continually updated as per the phased implementation timeframes.

3.61 ANAO notes that developing robust record keeping guidelines and adopting an adequate quality controlled document management system is paramount to maintaining an adequate record of the SMS assessments. In August 2010, CASA informed ANAO that:

The Standards Implementation Branch have employed a TRIM and document management specialist to rectify the version control and TRIM inconsistencies, ensure hard and soft document records are maintained in accordance with CASA and Government policies; and to ensure these remain well managed in the future. This work is ongoing.

ANAO analysis of Assessment Checklists held on TRIM

3.62 During the course of the audit, CASA provided ANAO with the electronic document reference numbers for each of the Assessment Checklists that were held on CASA's TRIM system for the 35 regular public transport operators that had SMS' approved. However, as previously discussed, ANAO analysis of the TRIM system identified several instances where multiple versions of the Assessment Checklist existed for an operator, in some cases with versions being undated at the time of assessment.

3.63 In light of this, in May 2010 ANAO requested that CASA verify the TRIM references for each of the final Assessment Checklists that formed the basis for the 35 SMS approvals. In particular, CASA was asked to confirm the final Assessment Checklist for eight operators in respect to which multiple Checklist references were held on TRIM. In June 2010, CASA responded providing a list of the TRIM reference numbers for the final Assessment

Checklists for all 35 operators.¹⁰⁶ ANAO analysis has been undertaken on the Assessment Checklists referred to in the list provided by CASA.

Compilation of desktop review results

3.64 As discussed at paragraph 3.56, assessment results reported in the Assessment Checklist were compiled from the assessing officer's review of the SMS content against the Checklist criteria together with their knowledge of the operator's organisation and its operations gathered via CASA records and corporate knowledge.

3.65 As part of the SMS Assessment Checklist package, CASA developed an SMS Checklist Assessment Summary Table and Assessment Sign-Off (see paragraph 3.37). These were developed to assist assessing officers to compile the results from the Assessment Checklist and to have these results certified in a quality assurance process by the Assessment Coordinator.¹⁰⁷ At the conclusion of this process, the SMS was assessed as having Passed or Failed overall to signify 'that the position holder is satisfied that the [SMS] submissions supplied by the operator meet [or did not meet] the relevant legislative requirements'.

3.66 Further, the SMI stated that during the quality assurance process the role of the Assessment Coordinator was to review and certify the Assessment Checklist and Assessment Summary prepared by the assessing officer '*if all the requirements have been met*'. There was no guidance provided on the impact on the overall assessment of any mandatory and non-mandatory assessment thresholds, such as where one, some or all of the components, elements or sub-elements in the checklist were not satisfactorily evidenced in the SMS manual. In this regard, neither the SMI or the assessment instructions provide any direction on what assessment ratings would result in an operator's proposed SMS receiving an unfavourable determination and failing to be recommended or approved. In light of this, it appears that CASA guidance to assessing

¹⁰⁶ ANAO notes that the TRIM references provided by CASA for two of the operators appear to be the latest version of the SMS Checklist, not the version that formed the basis of the original SMS approval. ANAO did not obtain copies of these Checklists during fieldwork. Accordingly, for these operators ANAO analysis has been undertaken on the TRIM references originally provided by CASA on 16 March 2010.

¹⁰⁷ In certifying the Assessment Sign-Off the Assessment Coordinator declared that he or she had: 'reviewed the assessment for completeness and consistency, and recommend[ed] acceptance of the operator's submission'.

officers was focussed on supporting a favourable outcome for the assessments. In this context, in August 2010 CASA informed ANAO that:

Many applications initially receive an 'unfavourable determination'. Determining what is favourable or unfavourable is always, at some level, a professional judgement. CASA's assessing officers were fully qualified and prepared to make the required determinations. Specifically, the assessing officers for the assessment of Safety Management Systems were recruited and employed as system specialists. CASA provided them with the best available training and mentoring within the available time and resources. Instructions and direction were provided where possible. More could be provided for future assessments. CASA will support operators, within its mandate, to achieve the required levels of safety compliance. CASA has not and will not provide a 'focus on supporting favourable outcomes'.

3.67 Compilation of the Assessment Checklist results involved the assessing officer noting 'Satisfied' against 13 CAO-based elements in the Assessment Summary Table. In this context, a note to the template Assessment Summary advised that an element could be assessed as being satisfied if it was either:

- present and suitable at the time of assessment; or
- not present but 'suitably timed consistent with a phased approach'.¹⁰⁸

3.68 In this regard, an operator's proposed SMS could be assessed as having 'Satisfied' the requirements even though comments in the Assessment Summary highlighted that the operator still needed to address outstanding elements in further phases. For example, the Assessment Summaries prepared in relation to two operators each rated the relevant SMS as having 'Satisfied' all CAO-based elements despite the associated comments noting that further documentation was required to evidence compliance against a number of the elements.

3.69 CASA records indicate that assessing officers were not provided with any formal guidance regarding how to interpret the Assessment Summary or determine an overall Pass or Fail rating where one or more of the 13 elements were determined to be 'unsatisfied' in the proposed SMS. All 35 operators who had SMS' recommended for approval had an overall assessment result of Pass,

¹⁰⁸ In this way, results for Phase 2 and Phase 3 elements were also reflected in the Summary Table.

with all 13 elements considered to have been satisfied by CASA. In this regard, for those operators who used a phased documentation approach (that is, did not have all three Phases of documentation assessed at the outset prior to approval), the decision to approve an operator's full SMS documentation was based solely on a documentation evaluation on Phase 1 of a three-phased documentation review, with subsequent documentation to be submitted and assessed at a future date.¹⁰⁹ As discussed, the decision to approve all 35 operators' SMS documentation was also made prior to any Capability Assessment of any of the three phases. In these respects, in October 2010 CASA commented to ANAO that:

The operator must have a system within which to operate and refine so that its capability can be assessed. The instrument of approval makes this clear.

3.70 In June 2010 CASA advised ANAO that seven of the 18 high capacity operators (39 per cent) had used a phased documentation approach and that, at that time, a review of Phase 2 documentation for these operators was approximately 50 per cent complete. In this regard, the SMS approvals for all seven operators were conditional upon Phase 2 documentation and capability being demonstrated within 6 months of the commencement of the approval instruments (that is, between 29 April 2010 and 25 May 2010). The CASA advice of June 2010 indicates that this approval condition was not met. In addition, the Assessment Summary was not developed in such a way as to clearly distinguish between those elements that:

- had been addressed in the proposed SMS manual at the time of the assessment;
- were not present at the time of the assessment but were suitably timelined to be included in a subsequent implementation Phase (including the anticipated date when evidence of the element would be achieved); or

¹⁰⁹ Guidance published by CASA regarding the approach taken for Capability Assessment stated that: 'Assigned Air Transport Inspectors will conduct a document assessment for new SMS manual content prior to each Phase 2 and Phase 3 element's specified date. Documentation must be submitted to CASA to allow assessment within the CASA Service Delivery Standard. For some operators, this may have been completed during the initial SMS assessment resulting in all required elements being fully documented in the SMS manual used as the basis for granting the SMS approval. If however certain Phase 2 and Phase 3 elements, contained in Table 1 of the SMS Approval, were still under development at the time of SMS approval, a documentation review of proposed capability (again using the SMS manual as a basis), must be found acceptable by CASA and by the specified date.'

- were not present at the time of the assessment and had not been suitably timed.

3.71 Further, ANAO analysis of completed Assessment Checklists identified a number of instances where the approach taken to the compilation of the overall assessment result for an operator potentially compromised the robustness of the assessment and approval process. This included instances where comments included in the Assessment Summary were inadequate or did not accurately reflect the comments included in the associated Assessment Checklist. In this regard, ANAO notes there were inconsistencies in the level of detail provided by the various assessing officers.

3.72 For example, the Assessment Checklist completed in relation to one operator identified that a number of aspects regarding the appointment of key safety personnel were outstanding, including, that the submitted SMS manual did not provide adequate information to substantiate the Safety Manager's formal training and that the operator had no alternate Safety Manager. However, when the results of the checklist were compiled in the Assessment Summary, the assessing officer determined that the SMS did include sufficient details to evidence the appointment of key safety personnel, and provided no comments highlighting the limitations in the SMS manual. In this way, the Assessment Summary did not provide an accurate reflection of the results set out in the associated Assessment Checklist.

3.73 Similarly, the Assessment Checklist completed in relation to another operator's proposed SMS identified that more information was required to evidence that the operator's Emergency Response Plan (ERP) was both present in the SMS and suitable.¹¹⁰ This was highlighted by both the ratings given for each line item in the Assessment Checklist (with 39 'More Information' results being recorded out of 44 assessments against the Present and Suitable criteria) and the comments from the assessing officer against each of the 22 line items associated with the ERP element (which noted 'Phase 2 element to be assessed').¹¹¹ However, the Assessment Summary was compiled in such a way

¹¹⁰ In June 2010 CASA informed ANAO that this operator had: 'all three phases of documentation assessed and approved at the outset (that is, it did not utilise a phased documentation approach)'. In this regard, the Phase 2 element for ERP should have been both present and suitable during the documentation evaluation.

¹¹¹ Despite nearly 90 per cent of the line items being assessed as requiring more information, the overall rating of the SMS against the ERP element was favourable. That is, the element was assessed in the Assessment Checklist as being both Present and Suitable.

as to indicate that this element was not only satisfied but also adequately documented ('Well documented in Safety Management Manual and associated documentation'). In the same way, the supporting comments in the Standard Form of Recommendation did not identify that this element was insufficiently evidenced during the documentation evaluation ('[the operator] have an established and robust safety management system and have moved to further enhance their system during the assessment process').

3.74 In summary, ANAO analysis identified that the assessing officers' observations recorded in the Assessment Summaries prepared for a number of operators provided insufficient detail to be meaningful for a quality assurance process and reported little or no comment despite notes against line items in the associated Assessment Checklist for some of these operators indicating that the proposed SMS manuals required further updating.¹¹² In particular, the Assessment Summaries prepared for:

- the assessment of three operators included no supporting comments of the outcomes of the assessment;
- the assessment of three operators contained only one comment against one of the elements ('Programmed as per the approved [*Implementation Plan*] for phase 2 July 2010'), with no comment being included against the remainder of the elements;
- the assessment of one operator provided only one comment against one of the elements, with the remaining comments simply directing the delegate to the Assessment Checklist TRIM reference; and
- the assessment of six operators included the same standard comment against each of the 13 elements ('Well documented in SMS manual and related manuals' and 'Well documented within Safety Management Manual and other associated documentation').

CASA's approach to SMS approval

3.75 The SMI outlined CASA's approach to approving an SMS (or SMS Implementation Plan) and described the approval process as aligning with

¹¹² In October 2010, CASA informed ANAO that its view was that: 'there should not need to be exact alignment between the detailed checklist comments and the summary checklist comments, which should contain the assessing officer's high-level assessment against the element'.

CASA's Air Operator Certification Manual for issuing an initial Air Operator's Certificate (see paragraph 3.19). As such, the SMI documented the steps involved in certifying an operator's submitted SMS following completion of the documentation evaluation and inspection phases, with the SMI advising that 'when the document evaluation and inspection phases are complete, the certification phase can be commenced'. In this context, the role of the CASA delegate was defined as including a review of the Standard Form of Recommendation and draft instrument of approval for the purpose of determining whether the SMS documentation complied with the associated legislative requirements. In June 2010, CASA informed ANAO that the delegate also reviewed the Assessment Summary but did not review the completed Assessment Checklist.¹¹³ Specifically, CASA advised ANAO that:

Prior to signing the instrument of approval, the Delegate reviews the [*Standard Form of Recommendation*], drafted instrument and summary checklist. The Delegate has the link to the detailed checklist and is informed that they can have access to any detail necessary to make a decision.

3.76 On the basis of this review, CASA approved SMS' for 35 regular public transport operators under Stage One of the CASR 119 Implementation Project.

The Standard Form of Recommendation

3.77 Observations from the desktop review, including references to documentation held on TRIM in support of the recommendation, were provided to the delegate within the Standard Form of Recommendation (see Figure 3.5).

¹¹³ Similarly, in May 2010 CASA advised ANAO that, in order to prepare the approval instrument, CASA's Legal Services Group were also provided with the SMS Assessment Summary only, not the full Assessment Checklist.

Figure 3.5

Extract from CASA's Standard Form of Recommendation

1.4 Supporting Comments

< Case Manager to provide any supporting comments here - click to type >

1.5 Supporting Documentation

| | |
|--------------|---|
| TRIM Number: | < TRIM reference > |
| Form(s): | <ul style="list-style-type: none">Form 6 – Implementation Plan for SMS Checklist [completed and signed by Assessing Officer and Assessment Coordinator] |

Source: Standard Form of Recommendation template provided by CASA on 11 March 2010.

3.78 ANAO analysis of the Recommendations for approval made in relation to the 35 operators identified inconsistencies and errors in the supporting information provided to the delegate. Specifically, there were instances where:

- the TRIM document referenced was a link to the Form 6 Assessment Summary only (as implied in Figure 3.5), with no reference being made to the complete Assessment Checklist. For example, the Recommendations for approval prepared in relation to five operators did not provide the delegate with any reference to the associated complete Assessment Checklist held on TRIM that formed the basis of the approval. This was inconsistent with CASA's advice of June 2010 that the delegate was provided with a 'link to the detailed checklist' prior to approving an SMS (see paragraph 3.75);
- the TRIM number referenced was not a link to a specific document but an entire electronic file that, for some operators, contained numerous versions of the Assessment Checklist, the final of which could often not be clearly identified. For example, 17 of the 35 Standard Forms of Recommendation did not reference the completed Assessment Checklist, but instead included a reference to the operator's entry control file; and
- one Recommendation for approval incorrectly referenced the supporting TRIM number for an operator, referring to documentation that did not exist. In this regard, in providing the correct reference number to ANAO in June 2010, CASA advised that 'the numbers may have been transposed when the documentation was drafted for submission'.

3.79 In the above examples, the Recommendations did not serve to direct the CASA delegate to the final completed version of the Assessment Checklist

to allow for further review prior to a determination being made as to whether to approve an SMS. In addition, a significant number of Recommendations either did not reference the title of the SMS manual that was the subject of the assessment, or referenced an incorrect title name.¹¹⁴ For example, of the 35 Recommendations for approval that were provided to the delegate:

- 14 (40 per cent) did not include a full description (including the title and date) of the relevant operator's SMS manual or suite of manuals; and
- of the remaining 21 recommendations, 12 incorrectly referenced the relevant operator's SMS manual or suite of manuals by instead referring to the SMS manual submitted by another operator.

3.80 In this context, ANAO analysis identified instances where both the Assessment Summary and the Recommendation for approval did not clearly state the title, version number and/or date of the manual(s) being assessed; a correct reference to the Assessment Checklist held on TRIM that formed the basis of the approval; or the date the SMS assessment was undertaken by CASA.¹¹⁵ For these operators, any future review or audit of the assessment process would experience difficulty in determining the SMS documentation that was the subject of the assessment, and subsequent approval. In October 2010, CASA informed ANAO that the standards implementation project now has a dedicated TRIM expert to address these concerns and to ensure future records are correctly referenced.

3.81 Notwithstanding the above discrepancies, Recommendations commending the SMS' of all 35 regular public transport operators for approval were certified by the relevant ATI, the former CASR 119 Implementation Project Manager and the CASA delegate, as follows:

¹¹⁴ Similarly, the SMS Checklists and Assessment Summaries for a significant number of operators also failed to include the full details of the relevant SMS manual under assessment.

¹¹⁵ ANAO analysis also identified difficulties with determining the exact date of a number of assessments based on TRIM records.

Recommendation

I am satisfied that the applicant has provided a suitable Safety Management System in accordance with Subparagraph 2.1(a) of Civil Aviation Order [82.5 or 82.3 as applicable], and that all relevant information pertaining to this assessment has been forwarded to the delegate for consideration.

3.82 As discussed at paragraph 3.66, the SMI had little regard to specific conditions or assessment ratings that would lead to an SMS failing to be recommended for approval, with guidance being limited to procedural directions on preparing an unfavourable recommendation. Specifically, the SMI stated:

Where it is likely the application cannot be recommended for approval, the recommendation to the CASA delegate must contain a statement of reasons accompanying the recommendation. The operator is to be advised in writing about the results of the application. Any refusal notice must be drafted by [Legal Services Division].

Development of SMS approvals to govern the phased implementation

3.83 CASA approvals for regular public transport operator SMS' were issued subject to conditions designed to control the progressive implementation of SMS elements through three phases. As such, in the administration of the SMS approvals CASA developed approval instruments that governed when an operator would be required to demonstrate both immediate and future safety management capabilities to CASA in accordance with the legislative requirements (see Table A 2 and Table A 3 in Appendix 2). Specifically, Phase 1 capability was required to be demonstrated prior to approval of the SMS (see from paragraph 3.12), and Phases 2 and 3 were required to be demonstrated within six and 12 months of the approval respectively. The approval instruments did not have regard to the size or scope of an operator or the size of the aircraft used, or whether or not an operator had elected to deliver its SMS using a phased approach.¹¹⁶ As such, CASA developed approval instruments that included standardised content for both

¹¹⁶ In June 2010, CASA advised ANAO that: 'CASA's approval process did not differ between the "phased" and "not phased" operators'. In this regard, there were seven high capacity operators who elected not to adopt a phased approach to SMS implementation. The remaining 11 high capacity and 17 low capacity operators all elected to deliver their SMS using a phased approach.

high capacity and low capacity regular public transport operators.¹¹⁷ The administrative approach adopted resulted in the approval instrument being the only mechanism available to CASA to govern the phased implementation of an operator's approved SMS.¹¹⁸

Requirement to demonstrate Phase 1 capability prior to SMS approval

3.84 CASA incorporated conditions in the approval instruments that were intended to prevent an SMS being approved without capability in relation to the reactive and most easily established elements of the proposed SMS (Phase 1 elements) being demonstrated by the operator. Note 3 to Table 1 in Schedule 1 of the standard SMS approval instrument identified seven Phase 1 CAO-based elements in respect to which capability was required to be demonstrated immediately; that is, prior to a decision being made as to whether to approve the SMS documentation. Specifically, Note 3 stated:

For this SMS approval to be granted in the first place, immediate (phase 1) capability to CASA's satisfaction was required in the following elements: ...[Table to Note 3 listing seven elements – see Table A 2 at Appendix 2].

3.85 Legal advice prepared by CASA's Legal Services Group in April 2010 described Phase 1 of SMS implementation as:

...a threshold phase 1, demonstrating commitment, knowledge, risk assessment and readiness to progressively implement the other SMS elements over the remaining phases. Phase 1 compliance gave rise to CASA's issue of a conditional SMS approval.

3.86 The term 'capability' was not defined in Note 3. However, the term 'capability' was defined at Section 2 of Schedule 1 to the approval instrument to include the operating effectiveness of the SMS. Specifically, the approval instruments stipulate that 'capability' must be demonstrable through three means, as follows:

1. The operator must be able to demonstrate safety management capability in accordance with the approved SMS in relation to each of the SMS elements set out in Table 1 (the *SMS elements*).

¹¹⁷ Specified dates for Phase 1 elements differed between high capacity and low capacity operators. In addition, the standardised approval instrument for low capacity operators specified a commencement date (1 February 2010) whereas the approval instrument for high capacity operators did not specify a date.

¹¹⁸ In October 2010, CASA commented to ANAO that 'careful wording of the Instrument of Approval effectively catered for phased, or non-phased, implementation'.

2. The capability must be demonstrable through the following:
 - (a) the operating effectiveness of the SMS;
 - (b) the competence of each of the operator's relevant personnel with respect to the SMS elements; and
 - (c) the comprehensive nature of the information, procedures and other material contained in the SMS manual that is relevant to the SMS elements.¹¹⁹

3.87 As such, the requirement at Note 3 for operators to demonstrate immediate capability in order for an SMS to be approved 'in the first place' could reasonably be interpreted as requiring operators to demonstrate the three points set out in paragraph 3.86 to CASA in relation to the specified Phase 1 elements, including the requirement that operators demonstrate the *operating effectiveness* of the SMS. That is, the approval instrument appears to indicate that CASA would undertake a capability assessment against Phase 1 elements prior to approving an SMS. In this context, in order to satisfy itself that 'each of the operator's relevant personnel' were competent with respect to the Phase 1 SMS elements (see 2(b) at paragraph 3.86), it is inherent that CASA would therefore need to conduct an onsite inspection of the operator premises before determining whether this requirement had been met. However, in June 2010 CASA advised ANAO that it did not expect operators to provide evidence of Phase 1 capability prior to approval of their SMS. Specifically, CASA advised:

These imply that CASA expected operators to provide evidence of phase 1 capability prior to approval. This is not correct. The documented assessment approach called for onsite validation, when considered necessary, to have confidence—this is not a capability assessment. The wording on the instrument was 'the operator must be able to demonstrate capability in accordance with schedule 1 (which provided the correct dates)'.

3.88 The above advice appears to be inconsistent with the conditions of the approval instrument executed in respect of each of the 35 regular public transport operators' SMS'. In terms of the 'onsite validation', the option for CASA to conduct an inspection of an operator's organisation, where considered necessary, was outlined in the SMI (and is discussed at paragraphs 3.15 and 3.20). However, the SMS approval instrument does not refer to onsite

¹¹⁹ This definition of capability in the approval instrument is consistent with CASA's 'surveillance process' outlined in the guidelines for a Capability Assessment.

validation or inspections, but instead that 'immediate (phase 1) capability to CASA's satisfaction was required' in order for the approval to be granted. In this respect, in August 2010 CASA informed ANAO that the intention of its wording was:

to ensure operators were in fact capable of using, and were using, the required elements at the time of approval and/or in accordance with the agreed timeline. The fact that the operators must be capable of demonstrating on a given date does not necessarily correlate to CASA conducting the assessment on that date.

3.89 As already discussed, CASA approved all 35 SMS' on the basis of a documentation evaluation alone (for some operators, an evaluation of only Phase 1 documentation) which examined whether the seven SMS Phase 1 elements required under the CAOs were present in the SMS documentation and suitable for the operator, not on the basis of a capability assessment that evaluated whether the elements were operating or effective.¹²⁰

3.90 CASA's documented assessment approach (outlined in both the SMI and the Assessment Instructions) did not provide any guidance on minimum requirements necessary to meet CASA's satisfaction for Phase 1 elements. In this context, there were instances where decisions made by CASA resulted in the approval of an SMS despite the required elements not being fully demonstrated by the operator.

Specified dates for implementation of Phase 2 and Phase 3 elements

3.91 Under the terms of the SMS approvals, regular public transport operators implementing an SMS through a phased approach had restrictions placed around the date by which they must be able to demonstrate capability in relation to the elements in Phase 2 and Phase 3 (that is, demonstrate those elements to be present, suitable, operating and effective). A specific provision in the approval instrument required relevant operators to ensure Phase 2 and 3 elements were implemented in accordance with the dates stipulated in their SMS Implementation Plan.¹²¹ However, the approval instrument also

¹²⁰ ANAO notes that the Transition Plan prepared by CASA includes a future Capability Assessment against Phase 1 elements as part of the transitional arrangement to CASA's 'Business As Usual' regulatory activities. However, the approval instrument assumes that demonstrated capability against Phase 1 has occurred prior to the approval of an SMS and as such, places no obligation on operators to demonstrate capability against these elements after the approval.

¹²¹ Sections 2(1) and 3(1) of the approval instruments for high capacity and low capacity operators respectively.

stipulated that the timeframe for full implementation of Phase 2 and Phase 3 elements could not exceed six months and 12 months from the date of the SMS approval respectively. Specifically, the approval instrument stated:

In spite of anything else in this instrument, if the operator's phase 2 date is more than 6 months after the date of this instrument, the specified date is deemed to be the date that is 6 months after the date of this instrument.

In spite of anything else in this instrument, if the operator's phase 3 date is more than 12 months after the date of this instrument, the specified date is deemed to be the date that is 12 months after the date of this instrument.¹²²

3.92 Within these time limitations, CASA was able to vary the Phase 2 or Phase 3 dates specified in an operator's SMS Implementation Plan under identified conditions:

For an element of an SMS mentioned in Table 1 of Schedule 1, CASA may vary a specified date but only if the operator establishes, to CASA's satisfaction, that unforeseen and exceptional circumstances, beyond the operator's control, make it reasonably impracticable for the operator to meet the date.¹²³

3.93 Legal advice prepared by CASA Legal Services Division in April 2010 examined both the provision in the SMS approval instrument for CASA to vary specified phase dates, and the time limitations set by the approvals.¹²⁴ In this regard, the advice stated:

In spite of anything else in the instrument, if the operator's phase 2 date is more than 6 months after the date of the instrument, the specified date is deemed to be the date that is 6 months after the date of the instrument, ie. 29 April 2010.

Thus, Phases 2 and 3, involving the other SMS elements, required progressive implementation, including progressive depth and sophistication of knowledge

¹²² Sections 2(2) and 2(3), and Sections 3(2) and 3(3) of the approval instruments for high capacity and low capacity operators respectively. A note at section 3 of Schedule 1 to the approval instruments also supported this timeframe stating: 'the *specified date* is the phase 2 or phase 3 date, as the case may be, but it may not be a date that is more than 6 months or 12 months after the date of this instrument. If the phase 2 or phase 3 date is more than that, then 6 months or 12 months after the date of this instrument is deemed to be the specified date.'

¹²³ Approval conditions for high capacity and low capacity operators are included at Sections 4 and 5 of the approval instruments respectively. ANAO notes that these conditions relate to variations to the Phase 2 and Phase 3 dates in Table 1 of Schedule 1, not the Phase 1 elements referred to at Note 3 to Table 1 of Schedule 1.

¹²⁴ See paragraph 3.85.

and skill, within at most 6 months and 12 months respectively depending on the nature of the element.

3.94 However, despite highlighting that Phase 2 and Phase 3 implementation was required within *at most* six months and 12 months respectively, the legal advice recommended that a Phase 2 date for one operator be extended beyond six months from the date of the SMS approval¹²⁵ on the basis of CASA's authority to vary a specified date under the SMS approval.¹²⁶ As identified in Table 2.4, CASA ultimately agreed to the inclusion of extended Phase 2 and Phase 3 dates for three high capacity operators.

Recommendation No.1

3.95 ANAO *recommends* that the Civil Aviation Safety Authority enhance the rigour of its desktop review of operators' safety management systems by introducing procedures that provide a clearer and more consistent evidentiary trail as to the basis on which approvals are granted, particularly in circumstances where the underlying records indicate that one or more elements required to be in place had not been found to be suitably present in the operator's safety management system documentation at the time of the assessment.

CASA response

3.96 CASA agreed to the recommendation and commented that it would 'ensure all future approvals have clear procedures in place and are supported by a robust records management framework.'

¹²⁵ The operator in question was a high capacity operator which, as with the majority of high capacity operators, had its SMS documentation approved on 29 October 2009 and therefore had to be able to demonstrate capability against each of the SMS elements for Phase 2 by 29 April 2010. A later Phase 2 date was agreed by CASA for this operator.

¹²⁶ The legal advice noted that the test to be applied for granting the variation was whether the operator had established that it was reasonably impractical to meet the specified Phase 2 date. In this respect, section 2 of the approval instrument provided that CASA may vary a specified date for an element, but only if the operator establishes, to CASA's satisfaction, that unforeseen and exceptional circumstances, beyond the operator's control, make it reasonably impractical for the operator to meet the date.

4. Assessments of operating effectiveness

This chapter examines the second part of the SMS approval process—conducting a Capability Assessment to evaluate the operating effectiveness of an SMS approved under Part One of the approval process. To date, CASA has not conducted onsite surveillance of operator organisations to determine whether the approved SMS’ are operating as intended and are delivering the desired outcomes of the legislated requirements. As a result, this chapter focuses on how CASA intends to incorporate assessments of the operating effectiveness of approved SMS’ into its existing surveillance practices.

Introduction

4.1 The Civil Aviation Act requires CASA to conduct comprehensive aviation industry surveillance. CASA’s Surveillance Procedures Manual defines surveillance as: ‘The mechanism by which CASA monitors the ongoing safety health and maturity of [certificate] holders undertaking aviation endeavours’. To achieve its legislative functions, CASA conducts ‘safety oversight’ activities of AOC holders primarily through:

- scheduled audits¹²⁷—for AOC holders, annual audits are conducted to determine compliance with the conditions of the AOC; and
- operational surveillance—additional scrutiny of certificate holders in addition to scheduled audits.¹²⁸

4.2 CASA has 11 regional offices; three of which are responsible for Air Transport operations and eight are responsible for General Aviation. Air Transport includes high capacity regular public transport operators, the larger low capacity regular public transport operators and the Certificate of Approval (COA) operators that maintain those aircraft.¹²⁹ General Aviation includes the

¹²⁷ The CASA Surveillance Procedures Manual defines scheduled audits as ‘audits planned and carried out at a frequency based on the segment of the industry and the perceived risk of the segment’.

¹²⁸ Operational surveillance consists of special audits and spot checks, which are additional scrutiny, based on safety intelligence and planned in addition to scheduled audits.

¹²⁹ A COA is issued to persons and organisations that intend to carry out the design, distribution or maintenance of aircraft, aircraft components or aircraft materials.

remaining low capacity regular public transport operators, charter operators, operators who conduct aerial work, flying training organisations and the remaining COA operators.

4.3 CASA's approach to safety oversight has evolved over time, and has moved from focusing on product audits to system audits.¹³⁰ This is consistent with CASA's adoption of the SMS (which is essentially a system approach to safety oversight).

4.4 The current CASA surveillance philosophy, documented in the CASA Surveillance Procedures Manual, outlines the systems-based audit approach. The General Aviation sector is audited against the Management System Model, which consists of four systems attributes:

- management responsibility;
- infrastructure;
- process in practice; and
- monitoring and improvement.

4.5 The Air Transport sector is audited against the CASA Regulatory Oversight System (CROS) elements, which are: aircraft configuration control; manuals; flight operations; personnel training and qualifications; route structures; flight crew and cabin crew flight rest and duty time; technical administration; SMS; and air freight operations.

Capability assessments

4.6 CASA has described the SMS approval process as comprising two parts: a Documentation Evaluation to determine whether required SMS elements are present and suitable; and a Capability Assessment to evaluate the operating effectiveness of the SMS. As discussed, CASA conducted a desktop Documentation Evaluation of the SMS proposed by each regular public

¹³⁰ Product audits are those involving inspection of aircraft, aircraft components, documents relating to design, maintenance, manufacture, operational airworthiness aspects and major defect reporting, training courses, examinations, weight and loading data facilities and procedures for the storage and supply of aircraft components and materials. A systems audit seeks to assess an operator's management system and its ability to keep operational risks as low as reasonably practicable.

transport operator prior to granting the approvals.¹³¹ In terms of the Capability Assessment, in June 2010 CASA informed ANAO that:

As the implementation model was two-staged, a decision was made that inspections would occur at Stage 2 (Capability Assessment), with Stage 1 being the Documentation Review.¹³²

4.7 Accordingly, under the approval conditions, an operator is required to be able to demonstrate safety management capability against phased SMS elements by dates specified in the approval. This includes the operator being able to demonstrate:

- the operating effectiveness of the SMS;
- the competence of the operator's personnel with respect to the SMS elements; and
- the comprehensive nature of the information, procedures and other material contained in the SMS manual.

4.8 The operator must demonstrate the capability to CASA on request.

4.9 In December 2009, one month after the SMS approvals for high capacity operators were given, CASA prepared an initial draft of an SMS Capability Assessment manual outlining the procedures for conducting a Capability Assessment. All 35 SMS' had been approved by CASA by 25 January 2010. However, a final version of the manual was not approved for distribution until 9 March 2010.

4.10 In this regard, at the time the SMS approvals were given for both high capacity and low capacity operators it appears that CASA did not have clearly documented procedures in place for how or when it would assess the capability of the operators in relation to their respective approved SMS to assure itself that the conditions of the approval were being met. Further, the SMI issued by CASA in October 2009 identified that the assessment of the operating effectiveness of an operator's SMS would be subject to CASA surveillance activities post-certification. This, together with CASA's advice to ANAO of June 2010 referred to in paragraph 3.87, further indicates that it was

¹³¹ In all cases, the desktop review assessed the documented Phase 1 elements of an operator's proposed SMS. Where an operator's SMS documentation also addressed Phase 2 and/or Phase 3 elements, these were also assessed by CASA through the Documentation Evaluation prior to approval.

¹³² See paragraph 3.19.

not the intention of CASA to conduct any inspections assessing the capability of the SMS' prior to their approval. In this respect, in October 2010 CASA informed ANAO that:

Assessing officers were encouraged to conduct inspections if they felt it necessary to complete their assessment. Many inspections were carried out. Capability Assessments are deliberate, scheduled activities carried out post manual assessment to validate the operator's SMS manual content and capability(ies) as required by each phase.

The SMS Capability Assessment manual is a comprehensive document that describes all the processes and guidance needed to carry out the assessments. The capability process was able to commence in the second quarter of 2010.

No specified date for CASA to conduct a Capability Assessment

4.11 The conditions of approval required that 'the operator must demonstrate the [SMS] capability to CASA on request' and specified that the capability must be demonstrable by the operator within six months and 12 months after the date of the approval for Phase 2 and Phase 3 elements respectively. However, the approval instrument did not specify a date by which CASA *would request* demonstration of SMS capability or undertake onsite inspections as part of a Capability Assessment.

4.12 The Capability Assessment manual proposed that CASA would measure the effectiveness of an SMS based on post-certification surveillance that would examine the performance of the system 'to confirm that implemented SMS elements are documented, in place, understood and being utilised by the organisation under review'. Specifically, the manual stated that:

The second level of oversight [SMS Capability Assessment] can involve local operational surveillance or a systems Assessment by a multi disciplinary surveillance team. Inspectors will go into a company to watch how it operates and speak with the workers to measure how well a company's procedures identify and address safety hazards before they become a serious safety risk...It is always testing the effectiveness of the safety management system for finding, reporting and addressing safety hazards before they become safety problems.

4.13 In meetings held with CASA during the course of the audit, ANAO was informed that oversight of SMS¹³³ for regular public transport operators would become part of CASA's general operational surveillance and audit activity (described by CASA as 'Business as Usual'¹³³) and assessment of the operating effectiveness of the approved SMS¹³³ would be undertaken as part of scheduled surveillance. This is consistent with information contained in the Transition Plan which states that the Capability Assessment will be transitioned to CASA's Business as Usual surveillance.

Incorporating SMS Capability Assessment into CASA's existing surveillance activities

4.14 CASA's current compliance approach involves conducting surveillance, which consists of operational surveillance and scheduled annual audits against the conditions of an operator's AOC. Operators that are managed by the Air Transport office are audited against the CROS elements that identify systems, sub-systems and elements used by a typical AOC and Certificate of Approval¹³⁴ holder, including an operator's SMS. ANAO understands that prior to the new requirements under the amended CAOs for all regular public transport operators to have an SMS, the SMS CROS element was brought into place by CASA as part of its safety oversight activities in anticipation of the new requirements. In August 2010, CASA informed ANAO that:

CASA had no regulatory basis for SMS assessment prior to the introduction of CAO 82.5 and CAO 82.3 and the Capability Assessment approach and procedures. However, 1-2 years prior to the introduction, CASA conducted SMS gap analysis and SMS preparedness assessments of each operator's SMS using a combination of ICAO framework and other guidance procedures and checklists. 28BE of the Act was used as the head of power. The purpose of this preparatory action was also to assist and encourage industry engagement prior to the introduction.

4.15 The full audit cycle against the CROS elements takes three years to complete. That is, the intention is for CASA to ensure that, for each operator,

¹³³ CASA's 'Business as Usual' regulatory activities were not directly examined in this performance audit because the focus of the audit was on CASA's approach to the implementation and administration of SMS¹³³ for AOC holders involved in regular public transport.

¹³⁴ A certificate granted by CASA recognising that the holder has met the civil aviation regulatory requirements for the granting of a Certificate defined in Regulation 30 of the *Civil Aviation Regulations 1988*.

each CROS element will be audited over a three-year period to ensure a total systems review during that period.¹³⁵ However, on an annual basis, only a sample of the CROS elements are selected and audited to provide a snapshot of the system under review. ANAO sought advice from CASA as to when in the audit cycle CASA expects to assess the SMS for the 35 operators that have already been approved, with CASA informing ANAO in August 2010 that:

The Safety Oversight Branch has been tasked with the responsibility for planning the capability assessments, as the project did not have the necessary resources to oversee this function. Timing in regards to the finalisation of this task is currently being incorporated into the existing surveillance plans. Confirmation on the completion of this task can be provided to ANAO if required.¹³⁶

4.16 The approach outlined in the Capability Assessment manual describes the assessment process in terms of the four SMS components and associated elements required under CAOs 82.3 and 82.5 and detailed in the SMS CAAP Package and Assessment Checklist. Specifically, the procedure outlined in the manual applies a set of ‘expectations’ that are used to determine whether an operator has applied the SMS policies and procedures specified in their safety manuals appropriately. During the SMS Capability Assessment, inspectors are to observe the safety system activity and rate each SMS sub-element with a score from one to five, with a score of three or above meaning that the regulations are being met and that the company goes beyond the basic requirements.

4.17 It is intended that CASA assessing officers will audit operators’ SMS’ and rate each requirement with a score and findings that will be reported in an Assessment report and distributed to the operator for comment. Any adverse findings in the Assessment report are expected to result in the operator being required to submit a Corrective Action Plan addressing a reasonable timeframe for corrective action. Results from the Capability Assessment will also be reflected in an operator’s scheduled annual Audit Report against the SMS

¹³⁵ A total systems review is to be completed over a three year period and includes the nine systems described at paragraph 4.5.

¹³⁶ In October 2010, CASA informed ANAO that the capability assessments have commenced and are expected to be completed by mid 2011.

CROS element and may involve CASA issuing the operator with a Request for Corrective Action¹³⁷, or in the extreme case a Safety Alert.¹³⁸

4.18 In terms of the Capability Assessment process for SMS Phases 1, 2 and 3, CASA advised ANAO that assessments were expected to commence in May 2010. In this regard, as discussed, the majority of high capacity operators had their SMS documentation approved on 29 October 2009 and therefore were required to be able to *demonstrate* capability against each of the SMS elements for Phase 2 by 29 April 2010.¹³⁹

4.19 CASA has recognised the potential logistical difficulties in conducting Capability Assessments across each of the 35 regular public transport operators:

With the transition of SMS oversight back to Operations, it is important that the capability assessments of these 35 SMS' are managed in the most efficient and effective manner possible.

There are a number of outstanding risks identified for stage 2 which directly impact the transition approach. Specifically:

- disproportionate distribution of system resources through Australia—both experienced and unexperienced;
- potential unstandardised Safety Management System assessments; and
- available travel and associated financial resources available to support this significant undertaking.

It is proposed that these capability assessments are locally enacted with coordination occurring centrally through the new CASR 119 Project Manager. This will ensure that CASA can continue to monitor and measure the industry-wide implementation of SMS.¹⁴⁰

4.20 In this regard, the transition to Stage Two of the CASR 119 Implementation Project, incorporating assessment of the proposed SMS' of

¹³⁷ A Request for Corrective Action details operator deficiencies that involve non-compliance with legislation and must be addressed by a specified response date.

¹³⁸ A Safety Alert is a particular type of Request for Corrective Action that must be addressed immediately by the operator.

¹³⁹ Six months after the approval date of 29 October 2009.

¹⁴⁰ *CASR 119 Implementation Project: Phase One Transition Plan*, March 2010, v.1, p. 21.

approximately 300 charter operators, may present additional challenges. In addition, CASA has identified that a number of Stage 1 initiatives are essential to Stage 2 as they provide the mechanism to support industry in complying with new legislative requirements.

Capability Assessment for one operator

4.21 During meetings with CASA in February 2010, ANAO was informed that CASA had trialled an SMS Capability Assessment on one regular public transport operator during that month. As noted at paragraph 4.9, at that time CASA had not completed any formal procedures for conducting an SMS Capability Assessment, but development of a document outlining the approach CASA would take to carrying out the assessments was underway. The procedures outlined in that document were used to develop findings that were incorporated into the scheduled annual Audit Report for that operator undertaken as part of CASA's current compliance approach (Business as Usual).

4.22 In total, the audit identified 19 Requests for Corrective Action that required remedial and corrective action. Significantly, more than half of the Requests for Corrective Action issued related to deficiencies identified in all four components of the operator's approved SMS, including ten of the 14 key CAO-based elements.¹⁴¹ The broad nature of the non-compliance for this operator was noted in the Executive Summary to the audit:

The audit found significant deficiencies in the capability of the *[operator's]* Integrated SMS. This followed the generally positive report card 12 months previously. Evidence from interviews and sampling of documentation suggests that performance of the SMS has been severely compromised by broad non-conformance with procedurally driven processes across several key elements and failure to progress planned development...As a result 10 Requests for Corrective Action (RCA) and 3 Audit Observations (AO) were issued against relevant SMS elements of CAO 82.5 (2A).

4.23 The earlier desktop review of the operator's proposed SMS undertaken in October 2009 had determined that all of the 10 key SMS elements identified in the Requests for Corrective Action were both present in the SMS documentation submitted and suitable for the operator, and therefore satisfied

¹⁴¹ 'Documentation' is not included as a separate element in the CAOs and as such is not included as a key CAO-based element in the ANAO analysis.

the legislative requirements.¹⁴² It was on the basis of this assessment that the SMS was recommended for approval by the project manager on 28 October 2009 and approved by the delegate the following day. In this regard, neither the Assessment Summary nor the Standard Form of Recommendation completed in relation to this operator identified any concerns CASA had with the operator's SMS as a result of conducting the desktop review. Rather, in terms of the risk assessment and mitigation element, the Assessment Summary noted that 'there [*was*] no reason to doubt its soundness in practice'.

4.24 The above example highlights the risks involved with granting an approval based solely on a desktop documentation evaluation. As noted at paragraphs 4.7 and 4.8, under the approval conditions for their SMS, each operator is required to be able to demonstrate safety management capability, when requested to do so by CASA. In August 2010, CASA informed ANAO that capability assessments had commenced for all regular public transport operators. In October 2010, CASA further commented to ANAO that:

It should be noted that at no time during CASA's implementation of SMS into high or low capacity operators was airline safety ever compromised. CASA's routine risk based surveillance of the operators continued throughout the process and the SMS documentation and the imminent capability assessments were, and continue to be, conducted in addition to the existing oversight regime. Until such time as the SMS is fully incorporated into all relevant operators this process will continue.

Any implication that the approval of SMS documentation could have in any way compromised the safety of airline passengers is strongly refuted.

¹⁴² The elements were assessed as satisfying the requirements overall despite comments from the assessing officer that a significant number of the sub-elements and associated line items were indeterminate or incomplete.

The introduction of SMS drew on the experiences of other countries in relation to the associated risks. Australia is recognised as one of the countries to have taken the lead in this safety field. The report does not acknowledge that Australia successfully introduced SMS into Airways and Aerodrome regulation in 2003, with the transition completed in 2005.



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28 October 2010

Appendices

Appendix 1: SMS components, elements and sub-elements

Table A 1

Components, elements and sub-elements set out in the SMS Assessment Checklist as recommended in CAAP SMS-1(0)

| SAFETY POLICY AND OBJECTIVES | |
|------------------------------|--|
| | Management Commitment and Responsibility |
| | Safety Policy |
| | Just Culture |
| | Safety Objectives |
| | Safety Accountabilities of Managers |
| | Appointment of Key Safety Personnel |
| | Safety Manager |
| | Safety Responsibilities |
| | Deputy Safety Manager |
| | Safety Committee and Action Groups |
| | Safety Committee (Safety Review Board (SRB)) |
| | Safety Action Group (SAG) |
| | Safety Management System Implementation Plan |
| | Gap Analysis and Project Plan |
| | Relevant Third Party Relationships and Interactions |
| | Coordination of Emergency Response Plan |
| | Documentation—Safety Management System Manual ^A |
| SAFETY RISK MANAGEMENT | |
| | General Risk Management and Human Factors |
| | Hazard Identification Process |
| | Design and Procurement CAAP SMS-2(0) |
| | Job and Task Design CAAP SMS-2(0) |
| | Hazard and Occurrence Reporting |
| | Statutory Reporting Requirements |
| | Internal Reporting System |
| | Safety Surveys |
| | Safety Risk Assessment/Management and Mitigation Processes |

| SAFETY ASSURANCE | |
|--|---|
| | General |
| | Systems to Achieve Safety Oversight |
| | Safety Performance Monitoring and Measurement |
| | Internal Safety Investigation ^B |
| | Investigation Management |
| | Scope of Safety Investigations |
| | Management of Change |
| | Continuous Improvement of the Safety Management System |
| | Management Review |
| SAFETY PROMOTION | |
| | Training and Education ^C |
| | Training Requirements |
| | Training Documentation |
| | Initial Safety Training—all staff |
| | Safety Training for Management |
| | Specialist Safety Training |
| | Training for the Safety Manager |
| | Safety Training for Operational Safety Critical Personnel |
| | Delivery Methods |
| | Safety Communication |
| | Safety Promotion and Safety Culture |
| | Management Role |
| | Safety Promotion Focus |
| | Motivation |
| | Safety Topics |
| | Methods of Dissemination |
| COMPONENT FLIGHT DATA ANALYSIS PROGRAM (FDAP) | |
| Notes: | |
| A. Documentation is not identified as a separate element in CAO 82.3 or CAO 82.5, the SMS Assessment Summary or the SMS Approval Instrument. | |
| B. Internal Safety Investigation is not identified as an element in CAO 82.3 or CAO 82.5 or the SMS Assessment Summary. | |
| C. Training and Education is not identified as a separate element in the SMS Assessment Checklist. | |

Source: ANAO analysis of CASA documentation.

Appendix 2: SMS approval conditions: specified dates for operators being capable of demonstrating safety management capability

Table A 2

Immediate Phase 1 conditional elements

| Element | Specified date for high capacity operators | Specified date for low capacity operators |
|---|--|---|
| Safety policy, objectives and planning | | |
| Management commitment to, and responsibility for, safety risk management | 2 November 2009 ^A | 1 February 2010 |
| Safety accountabilities of managers | 2 November 2009 | 1 February 2010 |
| Appointment of key safety personnel | 2 November 2009 | 1 February 2010 |
| SMS implementation plan, including gap analysis | 2 November 2009 | 1 February 2010 |
| Safety risk management | | |
| Risk assessment and mitigation process—Phase 1 capability—reactive | 2 November 2009 | 1 February 2010 |
| Safety assurance | | |
| Safety performance monitoring and measurement—reactive, including incident and accident investigation | 2 November 2009 | 1 February 2010 |
| Safety promotion | | |
| Training and education—key personnel | 2 November 2009 | 1 February 2010 |
| Note: A. The specified date for one operator was 2 December 2009 for all seven elements. | | |

Source: ANAO analysis of SMS approval instruments.

Table A 3**Future Phase 2 and Phase 3 conditional elements**

| Element | Specified date |
|--|----------------|
| Safety policy, objectives and planning | |
| Relevant third party relationships and interactions | Phase 2 date |
| Coordination of the emergency response plan | Phase 2 date |
| Safety risk management | |
| Hazard identification processes—proactive and predictive capability | Phase 2 date |
| Risk assessment and mitigation process—proactive and predictive capability | Phase 2 date |
| Safety assurance | |
| Internal safety investigation ^A | Phase 2 date |
| Management of change | Phase 3 date |
| Continuous improvement of the SMS | Phase 3 date |
| Safety promotion | |
| Training and education—all safety critical personnel—Phase 2 capability | Phase 2 date |
| Training and education—all safety critical personnel—Phase 3 capability | Phase 3 date |
| Safety communication—Phase 2 capability | Phase 2 date |
| Safety communication—Phase 3 capability | Phase 3 date |
| Very large aeroplanes (FDAP) | |
| For an operator who operates an aircraft with a maximum take-off weight exceeding 27,000kg—a Flight Data Analysis Program (FDAP) in accordance with paragraph 2A.3 of CAO 82.3 or 82.5 ^B | Phase 2 date |
| Notes: | |
| A. This element was not included in the SMS Assessment Summary for the 35 regular public transport operators. The reason for this is not clear from CASA records, however ANAO notes that this element is not based on a specific CAO requirement. | |
| B. The FDAP requirement is noted in the SMS Assessment Checklist template as a Phase 1 component. | |

Source: ANAO analysis of SMS approval instruments.

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