Australian Government
Civil Aviation Safety Authority

ADVISORY CIRCULAR
AC 119-01 v2.3

Safety management systems for air transport operations

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Advisory circulars are intended to provide advice and guidance to illustrate a means, but not necessarily the only means, of complying with the Regulations, or to explain certain regulatory requirements by providing informative, interpretative and explanatory material.

Advisory circulars should always be read in conjunction with the relevant regulations.

Audience

This advisory circular (AC) applies to air operator's certificate (AOC) holders operating under the Part 119 of the Civil Aviation Safety Regulations 1998 (CASR) – Air Transport Operations who are operators conducting air transport operations.

Notes:

1. Operators should familiarise themselves with the safety management systems (SMS) aspects of Part 119 Acceptable Means of Compliance (AMC) and Guidance Material (GM) prior to reading this AC.
2. Organisations who do not currently have an SMS are encouraged to read SMS for Aviation - A practical guide resource kit (v3.0), which is available on the CASA website. The kit can be used in conjunction with the content in this AC. References to relevant booklets in the kit have been included throughout the AC.

Purpose

The purpose of this document is to assist organisations to meet Part 119 of CASR requirements and provide examples of SMS processes suitable for organisations operating under them. It has been developed to provide organisations with an understanding of SMS concepts to develop, implement and maintain an effective SMS. It can also be applied by other organisations wishing to implement SMS.

This AC is not intended to be read or referred to in isolation. It is a component of a consolidated series of reference materials that are designed to direct and guide applicants and assessors when designing, implementing, approving and operating an SMS, or when changing an existing SMS. Additional information which complements and aids the intent of this AC is at Appendix A.

For further information

For further information or to provide feedback on this AC, visit CASA's contact us page.

Unless specified otherwise, all subregulations, regulations, Divisions, Subparts and Parts referenced in this AC are references to the *Civil Aviation Safety Regulations 1998 (CASR)*.

Status

This version of the AC is approved by the National Manager, Flight Standards Branch.

Note: Changes made in the current version are annotated with change bars..

Version	Date	Details
v2.3	March 2025	Notable changes: • Section 2.3 replacement of all reference to CASA Form 1591 with safety management system (OPS.08) assessment tool. • Appendix C replaced with new content to describe safety management systems continued deferral in accordance with CASA EX73/24, or the process for operators to implement an SMS before the end of the deferral period.
v2.2	October 2024	Minor editorial changes.
v2.1	February 2023	Section 5.1 expanded to include additional paragraphs (5.1.12 and 5.1.13, 5.1.14, 5.1.15) related to performance marker for regulation 119.190(2)(a)(i) - consideration of Australia's State Safety Programme (SSP). The paragraphs are modified to provide more contextualised and simplified explanation of the SSP and its relationship with an operator's safety management system. In Appendices B and C, the SMS Implementation Plan submission date of 2 December 2022 has been changed to 3 April 2023.
v2.0	September 2022	Addition of new information on SMS implementation planning to sections 2.3.4, 4.2.1, 4.2.2, 4.2.5, 4.3.1, 4.3.2. Updated Figure 2 - Gap analysis. Addition of information related to Just Culture policy and safety policy to sections 5.1.6, 5.2.8. Addition of a section related to the State Safety Program (SSP) at 5.1.13. Addition of information related to safety investigation to 6.2.19. Sections 8.2.18 and 8.2.22 updated and additional information related to SMS training plan and SMS training and assessment. Table 2, example of safety training plan. New Appendix B contains an SMS Implementation and Planning Tool with instructions and tools to conduct gap analysis and SMS implementation planning. New Appendix C contains instructions to air transport and relevant aerial work operators on how to submit implementation plan to CASA.
v1.2	June 2021	Linkage to the State Safety Programme (SSP) incorporated.
v1.1	December	Minor editorial changes to improve clarity.
v1.0	November 2020	This is the first AC to be issued on this subject. It is an update of Civil Aviation Advisory Circular (CAAP) SMS-01 v1.1 Safety Management Systems for Regular Public Transport Operations.

Contents

1 Reference material

1.1 Acronyms

The acronyms and abbreviations used in this AC are listed in the table below.

Acronym	Description
AC	advisory circular
AMC	acceptable means of compliance
AME	aircraft maintenance engineer
AOC	air operator's certificate
ATS	air traffic services
ATSB	Australian Transport Safety Bureau
CAP	Civil Aviation Publication (United Kingdom)
CAAP	Civil Aviation Advisory Publication
CASA	Civil Aviation Safety Authority
CASR	*Civil Aviation Safety Regulations 1998*
CEO	Chief Executive Officer (see also Accountable Manager)
CREAM	cognitive reliability and error analysis method
CRM	crew resource management
ERP	emergency response plan
FAA	Federal Aviation Administration (United States)
HF	human factors
ICAO	International Civil Aviation Organization
IRM	immediately reportable matter
LAME	licensed aircraft maintenance engineer
LOSA	line operations safety audit
RRM	routinely reportable matter
SAG	safety action group
SMM	safety management manual
SMS	safety management system
SOP	standard operating procedure
SPI	safety performance indicator
SPT	safety performance targets
SRB	Safety Review Board

Acronym	Description
STAMP	systems theoretic accident model and processes
TNA	training needs analysis

1.2 Definitions

Terms that have specific meaning within this AC are defined in the table below. Where definitions from the civil aviation legislation have been reproduced for ease of reference, these are identified by 'grey shading'. Should there be a discrepancy between a definition given in this AC and the civil aviation legislation, the definition in the legislation prevails.

Term	Definition
accident	An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with intention of flight until such time as all such persons have disembarked, in which: 1. a person is fatally or seriously injured as a result of: a. being in the aircraft b. direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or c. direct exposure to jet blast. 2. except when the injuries are from natural causes, self-inflicted, or caused by other persons, or when injuries are to stowaways hiding outside the areas normally available to the passengers and crew 3. the aircraft sustains damage or structural failure which: a. adversely affects the structural strength, performance or flight characteristics of the aircraft, and b. would normally require major repair or replacement of the affected component, and 4. except for engine failure or damage, when the damage is limited to the engine, its cowlings or accessories; or for damage limited to propellers, wing tips, antennas, tyres, brakes, fairings, small dents or puncture holes in the aircraft skin; or the aircraft is missing or is completely inaccessible. **Notes:** 1. For statistical uniformity only, an injury resulting in death within 30 days of the date of the accident is classified as a fatal injury by ICAO. 2. An aircraft is considered missing when the official search has been terminated and wreckage has not been located.
accountabilities	This term refers to obligations that may not be delegated.
Accountable Manager	A key person who is accountable and fully responsible for the organisation's SMS by accepting ultimate authority for the safe operation of the organisation. For the purpose of this AC, Chief Executive Officer (CEO) is synonymous.
change management	A systematic approach to controlling changes to any aspect of processes, procedures, products or services, both from the perspective of an organisation and individuals. Its objective is to ensure that safety risks resulting from change are reduced to as low as reasonably practicable.
competency	A combination of knowledge, skills, attitudes and behaviours required to perform a task to the prescribed standard.

Term	Definition
consequence	Outcome or impact of an event. **Notes:** 1. There can be more than one consequence from one event. 2. Consequences can range from positive to negative. 3. Consequences can be expressed qualitatively or quantitatively. 4. Consequences are considered in relation to the achievement of objectives.
contract	An arrangement or agreement between two or more parties enforceable by law. A contract is a legal document that describes commercial terms and conditions. **Note:** The term 'contract' for the purpose of this AC is also taken to mean the following: 1. Leasing arrangements, and 2. Service Level Agreement.
deputy Safety Manager	For the purpose of this AC, this position, in the absence of the Safety Manager, is documented and approved to act as a temporary substitute in their place.
error	An action or inaction by a person that leads to deviations from organisational or an individual's intentions or expectations.
flight data analysis	A process for analysing recorded flight data to improve the reliability of aircraft systems or components and the safety of flight operations.
hazard	A condition or an object with the potential to cause or contribute to an aircraft incident or accident.
Human Factors (HF)	Describes the many aspects of human performance which interact with their (aviation) environment to influence the outcome of events. It is a field of knowledge that involves optimising the relationship between the human operator and this environment.
incident	An occurrence, other than an accident, associated with the operation or maintenance of an aircraft which affects or could affect the safety of operation.
interfaces	Interactions between an organisation and other organisations, both internal (e.g. departments, divisions etc.) and external (service providers, contracted services, government bodies, foreign organisations etc.). This can also include, but is not limited to, ground handlers, maintenance providers, data service providers, aerodrome operators, among many others.
likelihood	Used as a general description of probability or frequency. **Note:** This can be expressed qualitatively or quantitatively.
LOSA	A behavioural observation data gathering technique, which aims to capture data on the performance of flight crews during normal operations.
Management of Change	A formal process to manage changes within an organisation in a systematic manner, so that changes which may impact identified hazards and risk mitigation strategies are accounted for before the implementation of such changes. Its objective is to ensure that safety risks resulting from change are managed to an acceptable level. Management of Change is sometimes also

Term	Definition
	referred to as Change Management.
non-technical skills	Specific HF competencies such as critical decision-making, team communication, situational awareness and workload management.
operational safety-critical personnel	for an Australian air transport operator, an aerial work operator or a balloon transport operator: a. means personnel carrying out, or responsible for, safety-related work, including: i personnel carrying out roles that have direct contact with the physical operation of aeroplanes, rotorcraft or Part 131 aircraft used in the operator's Australian air transport operations, aerial work operations or balloon transport operations; and ii personnel carrying out roles that have operational contact with personnel who operate aeroplanes, rotorcraft or Part 131 aircraft used in those operations; and iii personnel described as operational safety-critical personnel in the operator's exposition or operations manual; but b. does not include personnel who are employed or engaged by the operator (whether by contract or other arrangement) and are engaged in: i the provision of continuing airworthiness management services for aeroplanes, rotorcraft or Part 131 aircraft used in the operator's Australian air transport operations, aerial work operations or balloon transport operations; or ii carrying out maintenance on an aeroplane, rotorcraft, Part 131 aircraft or aeronautical product on behalf of an approved maintenance organisation.
operational safety-related work	Safety-related activity in one or more of the following work areas: • flying an aircraft • maintenance of an aircraft or aeronautical product • cabin crew operations • dispatch of aircraft • development, design, implementation and management of flight and maintenance operations safety-related processes (including safety investigations) • any other duties prescribed by an Air Operators Certificate (AOC) holder, its Continuing Airworthiness Management Organisation (CAMO), or an Approved Maintenance Organisation (AMO) as flight operations safety-related work.
responsibilities	This term refers to functions and activities that may be delegated.
risk	The predicted probability and severity of the consequences or outcomes of a hazard.
risk assessment	The overall process of hazard identification, risk analysis and risk evaluation.
risk management	The identification, assessment, and prioritisation of risks through coordinated and economical application of resources to minimise, monitor, and control the probability and/or impact of undesired events or to maximise the realisation of opportunities.
safety	The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an

Term	Definition
	acceptable level.
safety culture	People's values, attitudes, beliefs and behaviours relating to safety. Organisations with a positive safety culture are characterised by a genuine commitment, by communications founded on mutual trust, by shared perceptions of the importance of safety, and by confidence in the efficacy of preventive measures.
safety governance	The underpinning structure of meetings, committees and functions by which an organisation is managed and controlled in relation to safety. The aim is to ensure that there is appropriate oversight to manage the organisation's risks to an acceptable level.
safety management	This may be described as managing the identification of hazards and the mitigation of risks associated with those hazards until they reach the ALARP criteria.
Safety Manager	A person responsible for managing all aspects of the operation of the operator's SMS.
safety objective	Brief, high-level statements of desired achievements. These should be either process or outcome based.
safety performance	An organisation's safety achievement as defined by its safety performance targets (SPT) and safety performance indicators (SPI).
SMS	The organisational structure, procedures, processes and resources needed to implement safety management throughout all activities and processes conducted by the organisation.
SPI	Any data-based parameters used to monitor and assess performance towards an organisation's safety objectives.
SPT	A defined level of desired performance set for each SPI.
stakeholders	Those people and organisations that may affect, be affected by, or perceive themselves to be affected by a decision, activity or risk.
systemic	Relating to or affecting an entire system.
system safety	The application of engineering and management principles, criteria and techniques to optimise safety by the identification of safety related risks and eliminating or controlling them by design and/or procedures, based on acceptable system safety precedence.
threat	Events or errors that occur beyond the influence of an operational person, increase operational complexity and should be managed to maintain the margin of safety.
threat and error management	The process of detecting and responding to threats with countermeasures that reduce or eliminate the consequences of threats and mitigate the probability of errors or undesired states.
training	The process of bringing a person to an agreed standard of competency by practice and instruction.
Training Needs Analysis (TNA)	The identification of training needs at employee, departmental, or organisational level, for the organisation to perform effectively.
violation	Intended or deliberate deviations from rules, regulations or operating

Term	Definition
	procedures. A person committing a violation fully intends their actions. Violations can be one of four different types: • routine – common violations promoted by an indifferent environment, 'we do it this way all the time' • optimising – corner-cutting based on the path of least resistance, 'I know a better way of doing this' • exceptional or situational – one-off breaches of standards/regulations dictated by unusual circumstances that are not covered in procedures, 'we can't do this any other way' • acts of sabotage – acts of harmful intent to life, property of equipment.

1.3 References

Legislation

Legislation is available on the Federal Register of Legislation website https://www.legislation.gov.au/

Document	Title
CASA EX68/24	Flight Operations Regulations – SMS, HFP&NTS and T&C Systems – Supplementary Exemptions and Directions Instrument 2024 **Note:** As of publishing v2.3 of this AC, section 19 of CASA EX68/24 was relevant to an Australian air transport operator's compliance with SMS requirements.
CASA EX73/24	Flight Operations Regulations – SMS, HFP&NTS and T&C Systems – Supplementary Exemptions and Directions Instrument 2024 **Note:** As of publishing v2.3 of this AC, the sections of CASA EX73/24 relevant to SMS were contained in Parts 2 and 4 of the instrument.
Civil Aviation Act 1988	
Part 119 of CASR	Australian Air Transport Operations—Certification and Management

International Civil Aviation Organization documents

International Civil Aviation Organization (ICAO) documents are available for purchase from http://store1.icao.int/

Many ICAO documents are also available for reading, but not purchase or downloading, from the ICAO eLibrary (https://elibrary.icao.int/home).

Document	Title
International Civil Aviation Organization (ICAO)	Annex 19 - Safety Management, 2nd Edition, dated July 2016
International Civil Aviation Organization (ICAO)	Doc 9859 - Safety Management Manual, 4th Edition, dated 2018

Advisory material

CASA's advisory materials are available at https://www.casa.gov.au/publications-and-resources/guidance-materials

Document	Title
CASA OPS	Operations protocol framework
CASA OPS.08	Safety management system assessment (OPS.08) - protocol suite
United Kingdom - Civil Aviation Authority	CAP 795 — Safety Management Systems (SMS) Guidance for Organisations
Transport Canada	Advisory Circular (AC) No. 107-001 — Guidance on Safety Management System Development
Safety Management International Collaboration Group (SM ICG)	Various documents – refer to SM ICG website

2 General requirements

2.1 Introduction

2.1.1 The purpose of this document is to provide guidance on the implementation of Safety Management Systems (SMS). An SMS provides an organisation with a systematic capability designed to continuously monitor and improve safety performance. This AC should be read in conjunction with the 'SMS for Aviation - A practical guide resource kit (v3.0)' available on the CASA website that provides practical assistance on the development of the SMS for operators.

2.2 Underlying principles

Note: Also refer to SMS for Aviation – A Practical Guide: Safety Management System Basics (Booklet 1)

2.2.1 An SMS is a systematic approach based on managing risk through setting goals, capturing data, measuring performance and system refinement for managing safety risks. An SMS is woven into the fabric of an organisation that enables effective risk-based decision-making processes across the business where risks are identified and continuously managed to an acceptable level.

2.2.2 Effective safety management goes beyond simple compliance with regulations; it is a business-like approach to safety and it requires the support and ownership of the Accountable Manager to be effective. For the purpose of Part 119 of CASR and this AC, the term Chief Executive Officer (CEO) and Accountable Manager are interchangeable.

2.2.3 It is important to recognise that although an SMS is a top-down driven system, meaning the Accountable Manager of the organisation is accountable for both the implementation and the continuing compliance of the SMS, safety is a shared responsibility across the whole of an organisation and needs the involvement of all staff.

2.2.4 There is no one size fits all SMS that caters for all organisations; therefore, the resources applied to an SMS can be scaled to suit the size, nature and complexity of the operation to ensure the hazards and associated risks are effectively managed.

2.2.5 Where an organisation either solely or as part of a group has several approvals, an overarching SMS between the group and the subsidiary companies may be developed, provided there is clear accountability detailed in the corporate structure for the ownership of the SMS.

2.2.6 While most organisations will have some elements of an SMS in place already and some may even have an established system, albeit without a regulatory basis, there is a need to plan and monitor the transition during the establishment of a regulatory compliant system. The overall measure of success of the SMS will be determined by the completeness of the implementation of all elements tailored to the organisation and the effectiveness of the system outcomes.

2.2.7 An effective safety system can have positive flow-on effects into other areas of the business, such as reliability, quality and reputation.

2.2.8 While the 4-components and 12-elements of SMS may be presented as separate items, for an SMS to be effective, the interdependent relationships between the components must be considered. The SMS will mature as these develop, then continue to strengthen, enhancing the system's performance and ultimately effectiveness.

2.3 AC structure

2.3.1 This AC has been structured in a similar fashion to the way an organisation may want to structure their safety management system (SMS). The first three sections in this document include information relevant to the whole SMS, with the next four sections aligning to the four components of an SMS (as outlined in chapter 3 SMS Structure).

2.3.2 Throughout the AC, there are Performance Markers that have been extracted from CASA's safety management system (OPS.08) assessment tool[1], and aligned to relevant regulations in Part 119 of CASR. These Performance Markers will be used by CASA to evaluate the organisation's SMS components and elements, and to determine the overall level of the SMS's maturity and effectiveness. Figure 1 provides an example of the performance markers (highlighted in grey boxes).

Performance Marker for regulation 119.190(1)

- *The organisation has identified and documented the relevant internal and external interfaces and the critical nature of such interfaces.*

4.1.6 The organisation is responsible for managing and monitoring the interfaces to ensure the safe provision of their services and products. This will ensure the interfaces are not only managed effectively, but that they also remain current and relevant. Formal agreements are an effective way to accomplish this as the interfaces and associated responsibilities can be clearly defined. Any changes in the interfaces and associated impacts should be communicated to the relevant organisations within an appropriate timeframe.

Figure 1: Example of Performance Markers in AC 119-01

2.3.3 The aim of the content in each of the paragraphs following the Performance Markers references is to assist organisations to meet the requirements of the referenced regulation and to assist CASA when the evaluation of the effectiveness of the organisation's SMS is conducted.

2.3.4 Organisations may use the SMS implementation planning tool located at Appendix B of this AC to perform a gap analysis during the planning for SMS implementation. When SMS exposition/manual content has been produced, organisations are recommended to use the safety management system (OPS.08) assessment tool to check that all components and elements of the SMS framework are present and suitable. For a mature SMS, the safety management system (OPS.08) assessment tool can also be

[1] The Safety Management System (OPS.08) assessment tool is used to review SMS compliance requirements for Parts 119, 138 and 142 of CASR. Operators are recommended to use the Principle (OPS.08) and Worksheet (OPS.08) documents to accomplish their recommended actions in paragraph 2.3.4. The OPS.08 tools have been developed in reference to the CASA Form 1591 - safety management system evaluation tool.

used to internally assess the operational use and effectiveness of the SMS, and provide input to its continuous improvement. Also refer to 4.2 Implementation Planning – Gap analysis and 7.3 Continuous improvement of the SMS of this AC.

3 Safety management system structure

3.1.1 It is important to ensure all elements of the SMS framework are applied. The policies, processes and procedures that underpin the SMS are to be developed in line with the scale of your operations (refer to Scalability of this AC). They should reflect the size, complexity, nature of the business, and the environment in which the activities are undertaken by the organisation. The SMS must, at a minimum, address the 4-components and 12-elements in Table 1[2].

3.1.2 The structure presented in the table may serve as a template for a table of contents for an SMS, or as a checklist to ensure that all SMS elements relevant to air transport operations are duly considered.

Table 1: SMS Structure – components and elements

Components	Elements	AC section
1. Safety Policy and Objectives	1.1 Management commitment	5.1
	1.2 Safety accountabilities and responsibilities	5.2
	1.3 Appointment of key safety personnel	5.3
	1.4 Coordination of the emergency response plan	5.4
	1.5 SMS documentation	5.5
2. Safety Risk Management	2.1 Hazard identification	6.2
	2.2 Safety risk assessment and mitigation	6.3
3. Safety Assurance	3.1 Safety performance monitoring and measurement	7.1
	3.2 The management of change	7.2
	3.3 Continuous improvement of the SMS	7.3
4. Safety Promotion	4.1 Safety training and education	8.2
	4.2 Safety communication	8.3

Note: Third-Party Interface, Internal Safety Investigations and Implementation Plan previously listed in CAAP SMS-01 v1.1 have now been incorporated into other sections of this AC.

[2] See subregulation 119.190(2) of CASR.

4 Building a safety management system

4.1 Scalability

4.1.1 The aviation industry is characterised by the diverse range of operating environments and activities. One of the key characteristics of SMS is that no one system will be appropriate for all organisations. Part 119 of CASR requires an SMS to be appropriate for the size of the organisation, the nature and complexity of its operations.

4.1.2 The differences between the SMS at diverse organisations are primarily due to the:

- variety of operations being conducted
- volume of data available
- size of the organisation's workforce
- organisational structure
- nature and number of interfaces
- nature and number of sites
- resources available.

4.1.3 The organisation should carry out an analysis of its activities to determine the right level of resources to manage the SMS. This should include the determination of the organisational structure required to manage the SMS and would consider who will be responsible for managing and maintaining the SMS, what safety committees, if any, are needed and the requirement for specific safety specialists.

4.1.4 While the elements comprising an SMS are the same regardless of the size of the organisation, large sophisticated organisations may need a safety department with a dedicated team of people and systems to collect, analyse and re-communicate the volume of safety-critical information generated. At the other end of the scale, a smaller operator could capture safety-critical information in a less technologically dependant or sophisticated approach and may only need the services of a Safety Manager on a part time basis.

4.1.5 The SMS should also consider the complexity of the activities undertaken and the interfaces with external organisations, such as ground handlers, maintenance providers, data service providers and aerodrome operators.

Performance Marker for regulation 119.190(1)

The organisation has identified and documented the relevant internal and external interfaces and the critical nature of such interfaces.

4.1.6 The organisation is responsible for managing and monitoring the interfaces to ensure the safe provision of their services and products. This will ensure the interfaces are not only managed effectively but that they also remain current and relevant. Formal agreements are an effective way to accomplish this as the interfaces and associated responsibilities can be clearly defined. Any changes in the interfaces and associated impacts should be communicated to the relevant organisations within an appropriate timeframe.

4.1.7 All safety issues or safety risks related to the interfaces should be documented and made accessible to relevant organisations for sharing and review. Refer to chapter 5.6 SMS Documentation. This will allow for the sharing of lessons learnt and the pooling of safety data, which will be valuable for all relevant organisations. Operational safety benefits may be achieved through an enhancement of safety reached by each organisation and as the result of shared ownership of safety risks and responsibility.

Note: Also refer to SMS for Aviation – A Practical Guide: SMS scaling for size and complexity (Booklet 7)

4.2 Implementation planning – gap analysis

4.2.1 An organisation needs to understand its current state from a regulatory compliance level and from a business level. This includes understanding the capabilities of existing programs, systems, processes and activities, as well as any shortcomings. The easiest way to start planning the SMS implementation is to conduct a gap analysis.

4.2.2 Various gap analysis tools have been developed to assist in identifying differences and to provide an organisation with a starting point to commence implementing SMS elements. Organisations may use these tools to conduct a gap analysis. The implementation planning tool at Appendix B of this AC is one such tool that will assist in conducting this analysis, plan for SMS implementation, and development of SMS exposition/manual content.

Note: Also refer to SMS for Aviation – A Practical Guide: SMS basics (Booklet 1) and SMS resources kit (Booklet 8) for further information on carrying out a gap analysis.

4.2.3 A gap analysis using the implementation planning tool at Appendix B of this AC will facilitate a systematic analysis between practices and systems that are already utilised within the organisation against the SMS regulatory requirements and a range of performance markers that are used to evaluate the SMS at the regulatory approval stage. The performance markers and references to the respective regulatory requirements have been included throughout this AC. Each marker is presented as a question in the SMS implementation planning tool, outlining all the required enablers of a functioning SMS and is evaluated as either:

- PRESENT (P): There is evidence that the capability outlined in the performance marker is clearly visible and is documented within the organisation's SMS documentation.
- SUITABLE (S): The capability outlined in the performance marker is suitable based on the size, nature, complexity of the organisation and the inherent risk in the activity, including consideration of the industry sector.
- OPERATING (O): There is evidence that the capability outlined in the performance marker is in use, and an output is being produced.
- EFFECTIVE (E): There is evidence that the capability outlined in the performance marker is effective and achieving the desired outcome.

4.2.4 At initial SMS implementation/regulatory approval stage, the minimum performance level sought will be for all markers to be at PRESENT and SUITABLE. While some organisations will have certain aspects of their operations at either OPERATING or possibly EFFECTIVE, these will ordinarily not be evaluated by CASA until a post-implementation check and thereafter.

4.2.5 Conversely, once an SMS is functioning and transition periods have expired, the evaluation focus will move from simply PRESENT and SUITABLE to also evaluating whether the SMS elements are in fact being used (OPERATING) and are achieving the desired outcome (EFFECTIVE).

4.2.6 Figure 2 details visually the process flow which will occur when a gap analysis is completed using the implementation planning tool located at Appendix B of this AC.

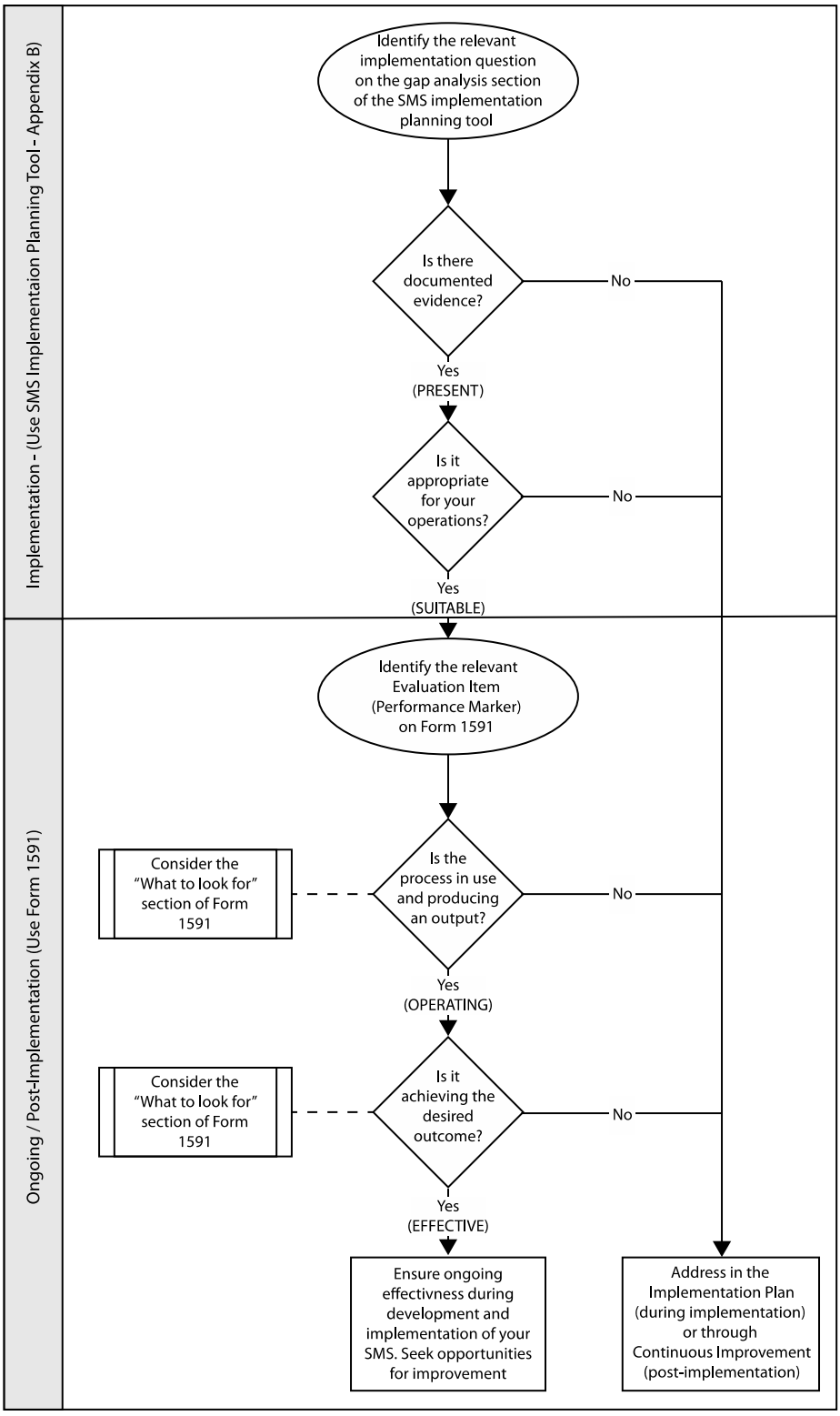

Figure 2: Gap analysis process diagram

4.2.7 A gap analysis, using a process similar to the suggestion above, should be conducted for every Performance Marker to ensure that SMS implementation covers the full scope of your operations.

4.3 Implementation planning – designing and developing your plan

4.3.1 Where gaps have been identified during the gap analysis, initiatives to address each gap will need to be included in the implementation plan which must be documented and agreed upon with CASA.

4.3.2 The implementation plan could take a variety of forms and can be stand-alone or integrated into other business plans. The implementation plan should consider the results of the gap analysis, as well as the 4-components and 12-elements of the SMS structure outlined at 3 SMS Structure of this AC. The implementation planning tool at Appendix B of this AC, when completed, is one form of implementation plan that is acceptable by CASA.

4.3.3 Regardless of size and/or complexity, most organisations will have some level of existing systems, programmes and resources that may just need to be formalised and documented. Once developed, there are no restrictions for organisations using the resources available through the SMS (e.g., reporting, data capture and analysis, risk mitigation or managing change) to assist or feed into other business areas, such as:

- security
- quality system
- finance
- environment.

5 Safety policy and objectives

Note: Also refer to SMS for Aviation – A Practical Guide: Safety Policy and Objectives (Booklet 2)

5.1 Management commitment

Performance Markers for regulation 119.190(2)(a)(i):

- The organisation must have a safety policy, signed by the Accountable Manager, which includes a commitment to continuous improvement; observes all applicable legal requirements and standards; and considers best practices.
- The safety policy must include a statement to provide appropriate resources and the organisation is managing resources by anticipating and addressing any shortfalls.
- The organisation must have policies in place for safety critical roles relating to all aspects of Fitness for Duty (e.g. Alcohol and Drugs Policy or Fatigue).

5.1.1 A safety policy is a visible endorsement of the Accountable Manager's philosophy for managing safety. It is the foundation on which the organisation's SMS is built and can be readily adjusted over time to reflect changes to the current operating environment.

5.1.2 The organisation's safety policy should be clear, concise and emphasise top-level support for the safe management of its people, products and services.

5.1.3 A safety policy communicates what the organisation will do to achieve the desired safety outcomes. Outcomes may be expressed in terms of short, medium and long-term outcomes. It serves as a reminder as to how we do business around here.

Performance Markers for regulation 119.190(2)(a)(i):

- The organisation must have a means in place for the communication of the safety policy.
- The Accountable Manager and the senior management team must promote a positive safety/just culture and demonstrate their commitment to the safety policy through active and visible participation in the safety management system.

5.1.4 It is the responsibility of management to communicate the safety policy throughout the organisation to ensure all personnel understand and work in accordance with the safety policy. Also refer to chapter 8.3 Safety communication.

Performance Markers for regulation 119.190(2)(a)(i):

- The safety policy must actively encourage safety reporting.
- A just culture policy and principles must be defined that clearly identifies acceptable and unacceptable behaviours to promote a just culture.

5.1.5 The safety policy should also refer to the safety reporting system to encourage the reporting of safety issues and inform personnel of the Just Culture policy applied in the case of safety events or safety issues that are reported. This can be part of the safety policy, a separate policy, or integrated into an appropriate part of the SMS.

5.1.6 The Just Culture policy is used to assess whether an error or rule breaking has occurred, taking into consideration the influence of system factors, so that the organisation can establish what corrective actions should be taken. When developing the policy, organisations can consider the involvement of personnel representatives to assist in the development of clearly defined protocols, which can aid in policy 'buy-in' and endorsement by employees. To ensure the fair treatment of persons involved, it is essential that those tasked with determining whether an error or rule breaking has occurred have the necessary technical expertise so that the context of the event may be fully considered.

Performance Marker for regulation 119.190(2)(a)(i)

Safety objectives must be established that are consistent with the safety policy and they are communicated throughout the organisation.

5.1.7 Safety objectives are brief, high-level statements of desired achievements. These should be either process or outcome based. They give direction to the organisation and should be consistent with the safety policy.

5.1.8 It is important to ensure the stated objectives are achievable and clearly define the limits within which the organisation will operate. They should be unambiguous, well-documented, readily accessible to all staff, and reviewed on a regular basis.

5.1.9 Objectives should demonstrate the company's commitment to:

- ensuring the safety policy is communicated, implemented, understood and maintained at all levels
- ensuring safety is a prime responsibility of managers at all levels
- continuous improvement of the level of safety performance
- promoting and maintaining a positive safety culture
- providing the resources required to deliver a safe product or service
- establishing and supporting standards for acceptable safety behaviour
- managing errors and violations in an objective, fair and accountable manner
- active encouragement of safety reporting and protection of data.

5.1.10 Safety performance indicators (SPIs) and safety performance targets (SPTs) are needed to monitor the achievement of these safety objectives and are further explained in Chapter 7.1 Safety performance monitoring and measurement of this AC.

5.1.11 The safety policy and safety objectives should be periodically reviewed to ensure they remain current.

Performance Marker for regulation 119.190(2)(a)(i)

Consideration of Australia's State Safety Programme (SSP).

5.1.12 A further element of management's commitment to, and responsibility for safety, is management's awareness of broader industry safety information, such as Australia's SSP, where this has relevance to the operator's operations. The overarching goal is for all operators to develop awareness of hazards across the broader aviation system, and

if these hazards have potential to influence their operations. CASA will review this performance marker in the context of the operator's SMS as a whole. Operators do not need to include specific statements such as "Australia's SSP has been considered in the development of this SMS."

5.1.13 Operators are recommended to consider the global and regional safety risks outlined in Chapter 3 of the National Aviation Safety Plan (NASP), and how these relate to their operations. When developing and maintaining their SMS, operators can outline that they will address these and other risks through their organisation's safety policy and objectives, and by management's commitment and responsibility for safety. Through individual operators SMS identifying, reviewing, and analysing their safety data, operators can manage current and emerging safety risks, as well as mitigate against those identified as high-risk category accident types. This improves their own safety performance and more broadly influences Australian aviation safety performance.

5.1.14 Operators are encouraged to be informed about Australia's SSP and its relevance to their operations, as well as developing and maintaining their SMS.

5.1.15 Australia’s SSP sets out how aviation safety in Australia is managed, with a focus on ensuring the effectiveness of Australia's aviation safety system (the SSP is supported by the NASP). The SSP provides a framework for the continuous improvement of aviation safety through clearly establishing how various elements of Australia’s aviation safety system work together, and includes Australia's aviation safety priorities, objectives, and targets.

Notes:

1. Further information on Australia's NASP can be found at https://www.infrastructure.gov.au/aviation/safety/ssp/index.aspx
2. Also refer to Section 7.1 - Safety performance monitoring and measurement of this AC.

5.2 Safety accountabilities and responsibilities

Performance Markers for regulation 119.190(2)(a)(ii)

- The organisation must appoint an Accountable Manager with full responsibility and accountability to ensure the SMS is properly implemented and performing effectively.
- The Accountable Manager must be fully aware of their SMS roles and responsibilities in respect of the safety policy, safety standards, and safety culture of the organisation.

5.2.1 The Accountable Manager is a key person who is fully responsible and accountable[3] for the SMS and who has the ultimate authority for the safe operation of the organisation.

5.2.2 Although responsibility for the day-to-day operation of the SMS can be delegated, the Accountable Manager cannot delegate accountability for the system or decisions regarding risk, specifically:

[3] As per Definitions in this document, the term accountability refers to obligations which cannot be delegated; the term responsibilities refers to functions and activities which may be delegated.

- setting acceptable safety risk limits and resourcing of necessary controls
- allocation of necessary resources for financing, acquisitions, training, and personnel
- ensuring safety policies and objectives are appropriate and communicated
- ensuring the SMS is properly implemented and performing to requirements
- recruiting a management team appropriate to the size and complexity of the organisation.

5.2.3 The Accountable Manager should have final authority:

- for the resolution of all safety matters
- over all activities covered under any certificate, authorisation or approval and the authority to stop operations or activities.

5.2.4 The Accountable Manager may further demonstrate their commitment to safety by leading regular safety meetings to actively review:

- safety objectives
- safety policy and safety objectives at regular intervals
- adequacy of financial and human resources provided to the SMS programme
- allocation of specific safety roles, responsibilities and accountabilities to the management team
- safety performance and the achievement of safety targets.

5.2.5 Organisations are responsible for the safety performance of external organisations where there is an SMS interface. The organisation may be held accountable for the safety performance of products or services provided by external organisations supporting its activities even if the external organisations are not required to have an SMS. The organisation's SMS must interface with the safety systems of any external organisations that contribute to the safe delivery of their product or services.

Performance Marker for regulation 119.190(2)(a)(ii)

Safety accountabilities, authorities, and responsibilities must be defined and documented throughout the organisation, and staff must understand their own responsibilities.

5.2.6 Senior management should create an organisational structure that is capable of providing adequate support to manage the SMS. Safety accountabilities, responsibilities and lines of communication for all levels of staff should be clearly described.

5.2.7 Staff at all levels should understand their safety accountabilities, authorities and responsibilities to support their processes, decisions and actions. These safety accountabilities, authorities and responsibilities should be defined and documented and made available throughout the organisation.

5.2.8 All employees should be involved in the consultation, establishment and operation of the SMS, e.g., employee representatives involvement and input into the development of policy. The SMS principles should permeate to all levels of the operation with safety as part of the everyday language at the organisation.

5.2.9 The organisation should aim to avoid conflicts of interest between staff members' safety responsibilities and other organisational responsibilities. SMS accountabilities and responsibilities should be allocated in a way that minimises any overlaps and/or gaps.

Safety governance

Performance Marker for regulation 119.190(2)(a)(iii)

The organisation must establish appropriate safety committee(s) that discuss and address safety risks and compliance issues and include the Accountable Manager and the heads of functional areas (where applicable).

5.2.10 Regardless of the size of the organisation, you should establish appropriate safety governance (committees or other documented meetings) that support the SMS functions across the organisation. This should include determining who should be involved in the safety governance and frequency of the meetings. How an operator gives effect to this will vary considerably between large complex operations, and smaller, less complex operations.

5.2.11 The highest-level safety committee, sometimes referred to as a safety review board (SRB), includes the Accountable Manager and senior employees or managers, with the safety manager participating in an advisory capacity. This committee is strategic and deals with high-level issues related to safety policies, resource allocation and organisational performance. It should monitor the:

- effectiveness of the SMS
- timely response in implementing necessary safety risk control actions
- safety performance against the organisation's safety policy and objectives
- overall effectiveness of safety risk mitigation strategies.

5.2.12 Once a strategic direction has been developed by the highest-level safety committee, implementation of safety initiatives should be coordinated throughout the organisation. This may be achieved by creating safety action groups (SAGs) or establishing lower-level safety committees if necessary. Where established, these groups/committees normally comprise managers and front-line personnel and are chaired by a designated manager. They should:

- monitor operational safety performance within their functional areas of the organisation
- ensure that appropriate safety management activities are carried out
- review available safety data
- identify the implementation of appropriate safety risk control strategies
- ensure employee feedback is provided
- assess the safety impact related to the introduction of operational changes or new technologies
- coordinate the implementation of any actions related to safety risk controls
- ensure that actions are taken promptly
- review achievement of safety training objectives
- review the effectiveness of specific safety risk controls.

Note: For less complex operations, this tiered-meeting structure could be combined into a single process.

5.2.13 Organisations should confirm not only that people are doing what they are supposed to be doing, but also that their collective efforts achieve, and have achieved, the organisation's safety objectives. Through regular review and evaluation, management can pursue continuous improvements in safety management and ensure that the SMS remains up-to-date, effective and relevant to the operation.

5.2.14 Outcomes from safety governance activities could include:

- changes to SMS objectives
- changes to safety indicators and/or targets
- improvements to SMS processes/procedures
- design of an implementation plan for improvement changes.

Note: Also refer to chapter 7.4 Continuous Improvement of the SMS.

5.3 Appointment of key safety personnel

Performance Marker for regulation 119.190(2)(a)(iii)

The organisation must have appointed a competent safety manager who is responsible for the implementation and maintenance of the SMS, with a direct reporting line to the Accountable Manager.

5.3.1 Appointment of a competent person or persons to fulfil the role of safety manager is essential to an effectively implemented and functioning SMS. The safety manager may be identified by different titles. For the purposes of this AC, the generic term *Safety Manage*r is used and refers to the individual authorised by CASA to fulfil the regulatory responsibilities of regulation 119.160 of CASR.

5.3.2 The Safety Manager should be independent from operational areas and report directly to the Accountable Manager. This independence gives the Safety Manager the ability to look across the operation from the safety perspective and make decisions free from potential conflicts of interest.

5.3.3 The Safety Manager is responsible for the day-to-day operation of the SMS and for ensuring the Accountable Manager is kept appropriately informed on safety matters. However, responsibility for managing safety is shared across the operation and it is not just the responsibility of the Safety Manager and their team (if in place).

5.3.4 The Safety Manager should possess sufficient safety and regulatory knowledge to ensure the organisation conducts its operation safely. They should have acquired, through formal training and/or practical experience, a sound understanding of safety management principles, relevant technical background to understand the systems that support their operations, and exposure to operational management experience. CASA recognises that experience and/or knowledge can be acquired in many different ways, and all relevant experience is valid.

5.3.5 The Safety Manager, irrespective of other duties, will have responsibility for, but not limited to:

- managing the SMS implementation plan
- maintaining SMS documentation and records
- performing/facilitating hazard identification and safety risk analysis
- planning and facilitating safety training
- ensuring that processes needed for the SMS are implemented, maintained and mature over time
- providing appropriate data so senior management can assess the performance of the SMS and the areas where improvement is required
- regularly evaluating and improving the SMS
- coordinating the promotion of operator safety requirements through induction and recurrent training
- providing timely safety advice and assistance on safety matters to managers, employees and contractors at all levels
- promoting safety awareness and a positive safety culture
- co-operating with government agencies on safety-related issues
- liaising with third party stakeholders on safety-related issues
- researching and sharing safety related information with other key safety personnel in the organisation
- monitoring and evaluating corrective and preventative actions
- coordinating incident and accident investigations
- managing a confidential reporting system
- monitoring the progress of safety reports and ensuring that hazards are addressed in a timely manner
- overseeing the management of risks
- identifying ongoing safety training requirements to support the SMS programme objectives
- overseeing the internal and external SMS audit programmes
- maintaining the Emergency Response Plan.

5.3.6 The Safety Manager may be held responsible for the satisfactory administration and facilitation of the SMS itself; they should not be held accountable for the safety performance of the organisation as this is the primary accountability of the Accountable Manager.

5.3.7 The competencies for a Safety Manager may include, but should not be limited to, the following:

- understanding safety management principles
- a level of operational experience related to the product or service provided by the organisation
- a technical understanding of the systems that support operations or the product/service provided
- interpersonal skills
- analytical and problem-solving skills
- project management skills
- oral and written communications skills, and
- an understanding of human factors.

5.3.8 Desirable personal traits for a Safety Manager include:

- fairness
- assertiveness
- impartiality
- trustfulness
- integrity
- communicative
- objectiveness.

5.3.9 Depending on the size, nature and complexity of an operation, nomination of a deputy Safety Manager may be appropriate. Ideally, they would hold similar qualifications, knowledge and experience to cover the Safety Manager role during any absence.

Performance Marker for regulation 119.190(2)(a)(iii)

The organisation must have allocated sufficient resources to manage the SMS including, but not limited to, access to competent personnel able to perform safety investigation, analysis, auditing, and promotion.

5.3.10 The number, type, skills, composition and appointment of key safety personnel will differ greatly depending on the size, nature and complexity of the operation. A large company may have a dedicated safety department, led by the Safety Manager, supported by a team of safety specialists.

5.3.11 As a minimum, a small company must have a Safety Manager to manage the requirements of the SMS and may identify a suitable person approved to act in the Safety Managers absence when required. For a small operation, this position can be filled on a part time basis, or possibly as an additional responsibility of an existing employee.

5.4 Coordination of the emergency response plan

Performance Marker for regulation 119.190(2)(a)(iv)

The organisation must develop and distribute an appropriate Emergency Response Plan (ERP) that defines the procedures, roles, responsibilities, and actions of the various organisations and key personnel.

5.4.1 Coordination of emergency response planning refers to planning for activities that take place within a limited period of time during an unplanned aviation operational emergency situation. An emergency response plan (ERP) is an integral part of the SMS to address aviation-related emergencies, crises or events. The ERP should address foreseeable emergencies as identified through the SMS and include mitigating actions, processes and controls to effectively manage aviation-related emergencies. The ERP should provide the framework to manage an orderly transition from normal to emergency status, and then return to normal operations.

5.4.2 The ERP should set out the responsibilities, roles and actions for the various agencies and personnel involved in dealing with emergencies. It may include checklists and contact details.

5.4.3 The overall objective of the ERP is to manage the risks associated with the accident/incident to ensure the safety of current operations and/or the orderly transition back to normal operations. Such a transition should include assignment of emergency responsibilities and delegation of authority. It includes the period of time required to re-establish normal operations following the emergency, which will vary depending on the size, nature and complexity of both the emergency and the organisation.

5.4.4 Most emergencies will require coordinated actions between different organisations, possibly with other service providers and with other external organisations, such as non-aviation-related emergency services. The ERP should be easily accessible to the appropriate key personnel, as well as to the coordinating external organisations.

5.4.5 An effective plan would anticipate circumstances, including non-aircraft related emergencies. The structure should consider:

- the purpose of the plan
- what situations would need to be controlled
- how to maintain command of the people involved
- how resources would be coordinated
- recovery and returning to normal
- exercising the plan regularly.

5.4.6 The ERP could be documented in a separate manual or incorporated into the organisation’s SMS Manual. The minimum elements that should be included in an ERP are:

- trigger events that will activate the ERP
- managing the media
- orderly and efficient transition from normal to emergency operations
- delegation of emergency authority and responsibilities
- external agency interface (these may be foreign governments and agencies)
- authorisation to nominated personnel for actions contained in the plan
- release of facilities and equipment
- passenger crew and family welfare, immediate and ongoing
- casualty and next-of-kin coordination
- accident investigation
- local or remote accident site
- preservation of evidence
- claims and insurance procedures
- aircraft wreckage removal
- safe continuation of normal operations (if possible)
- emergency response training.

Performance Marker for regulation 119.190(2)(a)(iv)

The organisation should periodically test the ERP for the adequacy of the plan and the results reviewed to improve its effectiveness.

5.4.7 The ERP should be regularly tested and reviewed. This review should examine whether the ERP objectives are being achieved, including interfaces between other service providers and other external organisations. It provides an opportunity to look at outcomes of ERP tests to identify areas for improvement. These reviews may be carried out as one of the functions of a safety committee.

5.5 SMS documentation

Performance Markers for regulation 119.190(2)(a)(v):

- The SMS documentation includes the policies and processes that describe the organisation's safety management system and is readily available to all relevant personnel.
- SMS documentation, including SMS related records, is regularly reviewed and updated with appropriate version control in place.

5.5.1 It is essential that the philosophy, processes and practices that define the SMS be documented and visibly communicated to the whole organisation. The size, nature and complexity of the operation will influence the documentation scale, as well as the number and type of records required.

5.5.2 This can be achieved as a separate SMS manual, or integrated within an existing exposition or other manual. It is important that all personnel know where to access the documentation and when it has been updated. The SMS should be a living document that is reviewed regularly and is constantly evolving to ensure that it remains current.

5.5.3 Depending upon the size, nature and complexity of the organisation, a typical SMS manual or an integrated exposition/manual suite may contain policies, processes and procedures, including:

- SMS documentation management procedures, including documentation control
- system description
- safety accountabilities and key safety personnel
- management review
- safety performance monitoring and measurement
- safety reporting
- safety records handling, storage, access and preservation
- hazard identification
- risk assessment
- safety investigation
- safety audit
- change management
- safety training and communication of safety information

- coordination of emergency response planning.

5.5.4 Safety records are any relevant input or output of the SMS. Examples of relevant safety records include:

- SMS implementation plans/gap analysis
- hazard/risk registers
- safety reports and investigations
- risk assessments and safety cases
- SMS reviews
- audit reports
- safety meeting minutes
- safety training records
- documentation of safety assurance processes (e.g. safety surveys, safety monitoring etc.).

6 Safety risk management process

Note: Also refer to SMS for Aviation – A Practical Guide: Safety Risk Management (Booklet 3).

6.1.1 The safety risk management process systematically identifies and manages hazards and associated risks that exist within the context of the organisation's activities. Understanding the system and its operating environment is essential for this process. Hazards may be identified throughout the operational life cycle from internal and external sources. Safety risk assessments and safety risk controls will need to be continuously reviewed to ensure they remain effective. Figure 3 below provides an overview of the hazard identification and safety risk management process for a service provider. As explained in the following sections, each step within the process will vary depending on the size, nature and complexity of your organisation.

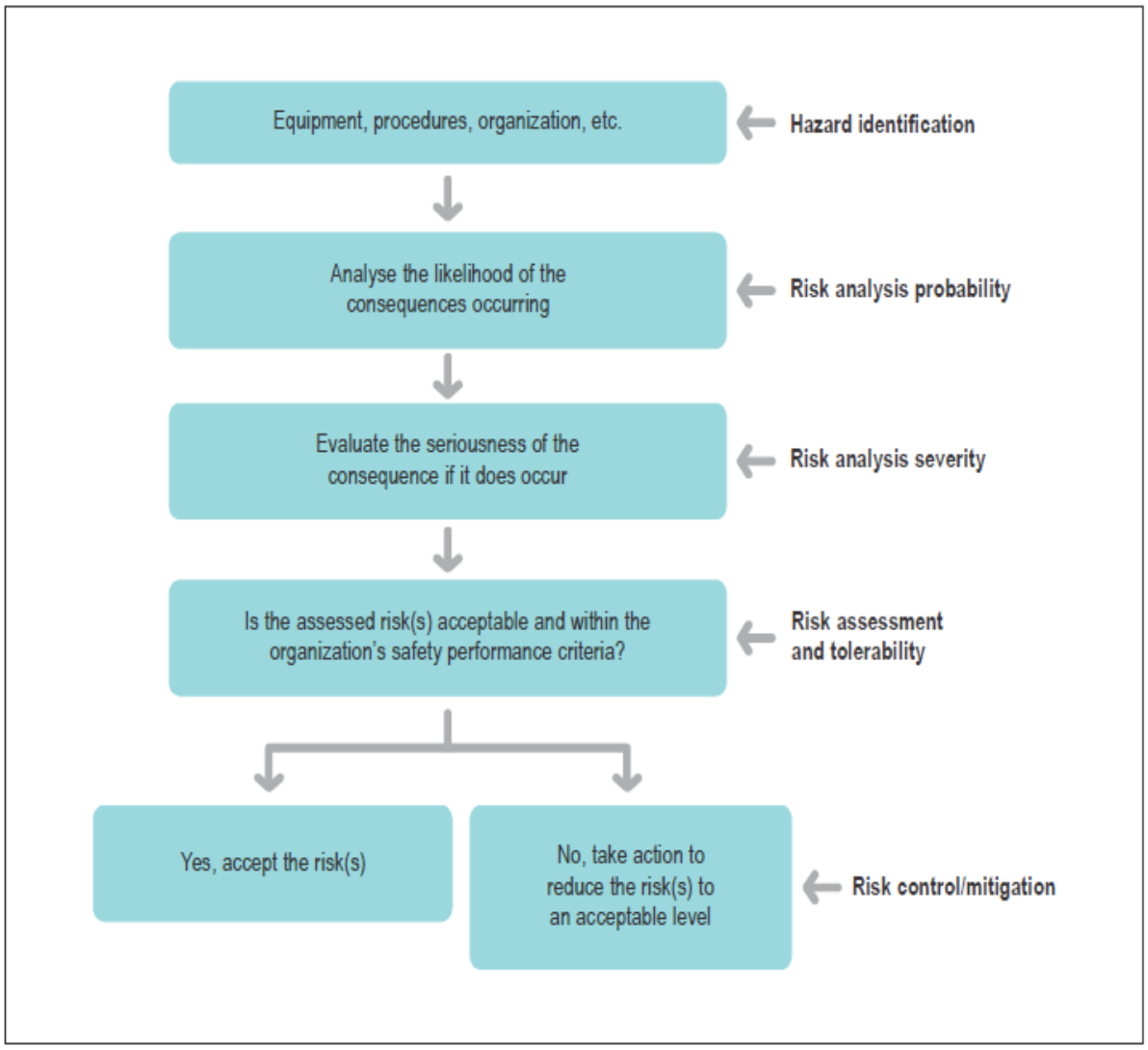

Figure 3: Hazard Identification and risk management process (Source: ICAO 9859 Edition 4 SMM 2018)

6.2 Hazard identification

Performance Markers for regulation 119.190(2)(b)(i):

- There is a process that defines how hazards are identified from multiple sources through reactive and proactive methods (internal and external).
- The hazard identification process identifies human performance related hazards.
- There is a process in place to analyse safety data and safety information to look for trends and gain useable management information.

6.2.1 The starting point for the safety risk management process should be a systematic and comprehensive hazard identification process. Identifying hazards is a continuous process as some hazards will be unknowingly introduced or remain undetected and only become visible when the right circumstances present.

6.2.2 The organisation should develop and maintain a formal process to identify hazards that could impact aviation safety in all areas of operation and activities. This includes equipment, facilities and systems. Any aviation safety-related hazard identified and controlled is beneficial for the safety of the operation. It is important to also consider hazards that may exist as a result of the SMS interfaces with external organisations.

6.2.3 Hazards should not be considered in isolation. They can present in ways where even apparently minor hazards can result in undesirable outcomes which may have catastrophic results.

6.2.4 Hazards can be identified from a range of sources including, but not limited to:

- brainstorming using experienced operational personnel
- development of risk scenarios
- monitoring of normal operations (e.g. LOSA/FDAP)
- safety surveys and audits
- feedback from training
- safety reports
- trend analysis
- investigations
- information exchange systems (e.g. similar organisations, regulators etc.).

Note: CASA proposes to publish an advisory circular on the establishment of a Flight Data Analysis Program (FDAP).

6.2.5 By communicating and consulting with relevant stakeholders at all levels, both internal and external, the organisation will establish the ideal framework to capture hazards involved in their daily tasks. Stakeholder involvement can assist with effective and accurate identification of new or changing hazards, besides providing solutions for practical and effective controls.

6.2.6 Proactive hazard identification methods analyse the performance of systems and functions for unidentified hazards and potential failures. They can include safety surveys, safety audits, and other monitoring activities (e.g. LOSA/FDAP). Organisations should include proactive hazard identification methods to ensure hazards are recognised and addressed before they result in an occurrence. Organisations should

also consider hazards that are not only generated outside of the organisation, but also those outside the direct control of the organisation, such as extreme weather, volcanic ash or wildlife. Organisations may also identify hazards through consideration of operations in other organisations or aviation sectors.

Performance Markers for regulation 119.190(2)(b)(i):

- There is a confidential reporting system to capture errors, hazards, and near misses that is simple to use and accessible to all staff.
- There is a confidential reporting system that provides appropriate feedback to the reporter and, where appropriate, to the rest of the organisation.
- Personnel express confidence and trust in the organisation's reporting policy.

6.2.7 One of the most useful tools in the SMS is a robust reporting capability endorsed by senior management through the safety policy. Valuable hazard reporting is made possible when employees are willing to report observations and errors because the operator guarantees an objective, fair, accountable and learned response.

6.2.8 To enable analysis and organisational learning, the organisation should maintain procedures for the internal and external reporting and recording of occurrences, hazards and other safety-related issues. The collection of timely, appropriate and accurate data will allow an organisation to assess and develop compatible responses to control potential new or reoccurring unsafe events.

6.2.9 An organisation's reporting system is also a method for gathering valuable safety information from its employees who are usually best placed to identify a range of hazards in an organisation.

6.2.10 An organisation's reporting system should encompass the following fundamental elements:

- procedures for reporting occurrences, hazards, or safety concerns
- methods for the collection, storage and distribution of data
- data retrieval and analysis
- identification of hot spots
- production of safety reports
- trend analysis to improve hazard identification
- expert ability to track corrective actions and risk reduction strategies
- provision of safety specific information for management review meetings
- efforts to make reporting secure and confidential.

6.2.11 Reporting into the system should be available to all relevant personnel (internal and external) and be user-friendly.

6.2.12 Over time, the database of reports enables the organisation to establish a taxonomy for classifying data into human, operational and organisational factors which will assist analysis.

6.2.13 Organisations are required to meet statutory reporting requirements under the *Transport Safety Investigation Act 2003*. Reportable matters are categorised as Immediately Reportable Matters (IRM) and Routine Reportable Matters (RRM).

6.2.14 IRM and RRM are required to be reported to the ATSB. As IRM and RRM are events relating to an operation, they need to be included in the organisation's reporting system.[4]

6.2.15 A major defect is something that may affect the continuing airworthiness of an aircraft and could result in a safety hazard to persons or property. Organisations are required to meet statutory reporting requirements under the *Civil Aviation Act 1988*. This information should be submitted through the Defect Reporting System (DRS) at CASA, which uses the information to monitor and correct unsafe conditions with aircraft or aircraft parts.

Note: Also refer to AC 20-06 – Defect Reporting.

Performance Marker for regulation 119.190(2)(b)(i)

Safety investigations are carried out by appropriately trained personnel to identify root causes (why it happened, not just what happened).

6.2.16 The primary objective of an investigation is to seek to understand the circumstances of an accident or incident (collectively known as occurrences) and take the relevant safety action to prevent a reoccurrence by improving safety performance.

6.2.17 Not all occurrences require an investigation to be conducted. The decision to conduct an investigation and its depth should depend on the actual or potential consequences of the occurrence. Occurrences considered to have a high-risk potential are more likely to be investigated and should be in greater depth than those with lower risk potential. Cumulative lower potential risk occurrences may contribute to the decision to investigate occurrences that otherwise may not be investigated. Organisations should use a structured decision-making approach with defined trigger points. This process should consider:

- responsibilities (e.g. Accountable Manager, Safety Manager, safety governance committee(s)) for deciding whether to investigate
- the severity or potential severity of the outcome
- regulatory or organisational requirements to carry out an investigation
- safety value to be gained
- opportunity for safety action to be taken
- risks associated with not investigating
- contribution to targeted safety programmes
- identified trends
- training benefit
- resource availability.

6.2.18 A competent safety investigator is vital to the outcome of an organisation's safety investigation. The organisation should identify training needs in relation to performing investigation activities relevant to the complexity and activities of the organisation.

[4] Transport Safety Investigation Regulations 2003, Part 2 - Aircraft Operations

Notes:

1. Also refer to chapter 8.2 Training and Education. The organisation's Safety Policy/SMS Manual should state that the purpose of internal investigations is to find systemic causes and implement corrective actions, not to apportion blame to individuals. Organisations should ensure that investigation processes are aligned with the Just Culture principles and the Safety Policy of the organisation.

2. Also refer to Just Culture in chapter 5.1 Management Commitment. The investigation should include:

- establishing timelines of key events, including the actions of the people involved
- reviewing any policies and procedures related to the activities
- reviewing any decisions made related to the event
- identifying any risk controls that were in place but should have prevented the event from occurring
- reviewing safety data for any previous or similar events.

6.2.19 The safety investigation should **not** focus on blame or punishment. It should focus on identified hazards, safety risks and the opportunities for improvement. The way the investigation is conducted will likely influence the safety impact, future safety reporting behaviours, future safety culture of the organisation, and the effectiveness of future safety initiatives. The results of the investigation should present clearly defined findings and recommendations that improve safety outcomes.

6.2.20 Resources (financial, human or other) should be allocated to investigations with the greatest perceived benefit in terms of potential for identifying systemic hazards and risks to the safety of flight.

6.2.21 Accountability for the management of internal safety investigations should be documented in the organisation's SMS specifically to determine:

- the scope of the investigation
- the composition of the investigation team, including specialist assistance (if required)
- that the investigation outcomes are recorded for follow-up trend analysis
- that there is a timeframe for completion.

6.2.22 The investigator should have the authority to:

- interview any manager or staff member
- access any relevant information source, unless otherwise prevented by legislation.

6.2.23 Where the ATSB conducts an investigation into an organisation event, the Safety Manager, or their delegate, should be the organisation's point of contact/coordinator for the investigation. This aims to keep the Safety Manager informed as the investigation progresses. This said, the ATSB conducting an investigation into an event, does not negate the responsibility for the organisation to undertake their own internal investigation as required under their SMS.

6.2.24 The extent of the investigation will depend on the actual and potential consequences of the occurrence and can be determined through an assessment. Reports that demonstrate a high-risk potential should be prioritised and investigated in greater depth than those with low risk potential.

6.2.25 The investigative process should be comprehensive and attempt to address all the contributing factor(s) and root cause(s) that lead to the event, rather than simply focusing on the event itself or the active failures that took place immediately prior to the

event. Active failures generally take place immediately prior to an event and have a direct impact on the safety of the system because of the immediacy of their adverse effects. However, they are not necessarily the only cause(s) of the event. Applying corrective action(s) to these issues may not address the contributing factors or root cause(s) of the problem to prevent recurrence. A thorough and detailed analysis is required to establish the organisational factor(s) and contributing factors or root cause(s) that lead to the event.

6.2.26 It is essential that the contribution of Human Factors is properly investigated when incidents and accidents occur. This is done so that the organisation can learn from occurrences to protect itself against the consequences of failing so as to take human limitations into consideration in the design and operation of aviation systems.

6.2.27 The Human Factors component of investigation should be based on a model or framework for systemic investigations considering human error, both at the individual and organisational levels. A number of human error models and frameworks (such as the SHELL model, Reason's 'Swiss cheese' accident causation model, CREAM, and STAMP) have been developed over the last two decades to aid understanding how humans err and how accidents/incidents occur within the larger context of the systems in which such accidents/incidents take place.

6.3 Safety risk assessment and mitigation

Performance Markers for regulation 119.190(2)(b)(ii):

- There is a process for the management of risk that includes the analysis and assessment of risk associated with identified hazards expressed in terms of likelihood and severity (or alternative methodology).
- There are criteria for evaluating the level of risk the organisation is willing to accept and risk assessments and ratings are appropriately justified.

6.3.1 The organisation must develop a safety risk assessment process and procedures which will allow a consistent and systematic approach for the assessment of safety risks. This should include a method that will help determine what safety risks are acceptable or unacceptable, as well as prioritise actions.

6.3.2 The safety risk assessment process should use all relevant and available safety information. Once safety risks have been assessed, the organisation should engage in an evidence-based decision-making process to determine what safety risk controls are needed.

6.3.3 The main elements of the risk management process, as illustrated in Figure 4 below, are as follows:

- Establish the context. This is the context in which the rest of the process will take place. Criteria against which risk will be evaluated should be established and the structure of the analysis defined.
- Communicate and consult. This should be aimed at internal and external stakeholders as appropriate at each stage of the risk management process and concerning the process as a whole.

- Identify risks. This should include where, when, why and how events could prevent, degrade, and/or delay the achievement of safety objectives. Sometimes referred to as a Hazard Identification process, this encompasses a number of methodologies in identifying potential threats and past failures to determine the extent of the risks associated. Part of this process may include the establishment of a hazard/risk log/register to ensure that hazards and the associated risks are tracked and treated as part of a formal process of prioritisation, documentation and assessment.
- Analyse risks. Determine consequences, the likelihood of the event, and the level of risk. Identify and evaluate existing controls (measures in place that control the hazard or reduce the likelihood of occurrence or consequence). This analysis should consider the range of potential consequences (both commercial and operational) and how these could occur. The determination may be the result of employing either qualitative, quantitative analysis techniques, or a combination of the two (semi-quantitative).
- Evaluate risks. Compare estimated levels of risk against the pre-established criteria of acceptability and consider the balance between potential benefits and adverse outcomes. This enables decisions to be made about the extent and nature of treatments required and about priorities.
- Treat/Mitigate risks. Develop and implement specific cost-effective strategies and action plans to increase potential benefits and reduce potential costs and losses.
- Monitor and review. It is necessary to monitor the effectiveness of all steps of the risk management process. This is important for continuous improvement. Risks and the effectiveness of treatment measures need to be monitored to ensure changing circumstances do not alter priorities.

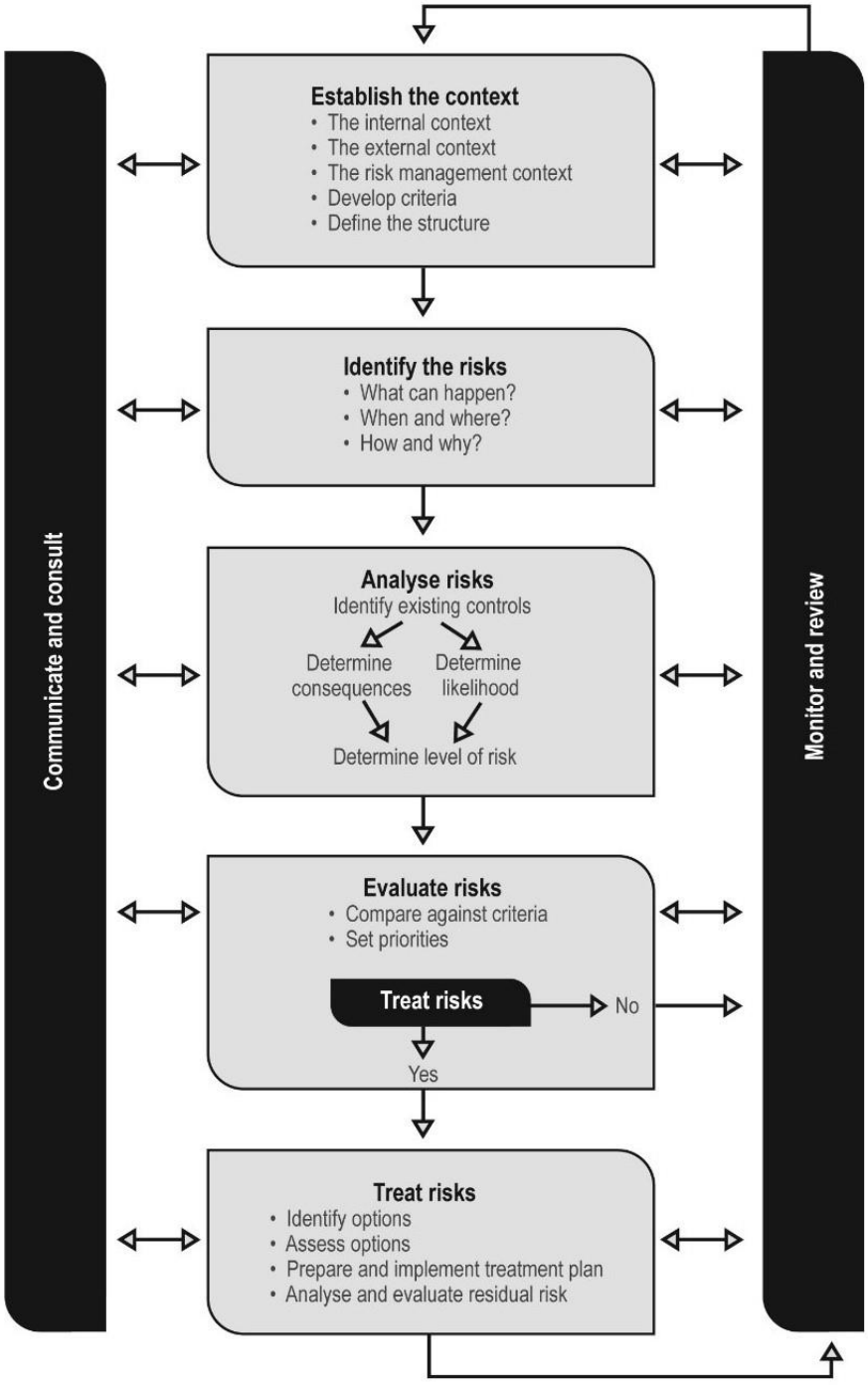

Figure 4: Risk Management Process — Overview
(Source: ISO 31000:2018)

6.3.4 A formal record of each stage of the risk management process should be initiated and maintained. Assumptions, methods, data sources, analyses, results and justifications for decisions should all be documented.

6.3.5 There are various methods for conducting risk analyses that organisations may choose to use. One common way breaks down the risk into two components: the severity of an outcome (or consequence), and the probability (or likelihood) of that outcome occurring.

Safety risk decision-making and acceptance is typically specified using a risk matrix. While a matrix is useful, discretion is also required. If used, the organisation should define and construct its risk matrix appropriately for their operation, including defining the risk probability and risk severity appropriate for the organisation. This is to ensure that each organisation's safety decision tools are relevant to its environment, recognising the diversity in this area. An example of a potential matrix is shown in Figure 5:

		Risk severity				
		A	B	C	D	E
Risk probablility		Catastrophic	Hazardous	Moderate	Minor	Negligible
5	Frequent	5A	5B	5C	5D	5E
4	Occasional	4A	4B	4C	4D	4E
3	Remote	3A	3B	3C	3D	3E
2	Improbable	2A	2B	2C	2D	2E
1	Extremely improbable	1A	1B	1C	1D	1E

Figure 5: Example of a safety risk assessment matrix

6.3.6 Safety risk assessments sometimes must use qualitative information (expert judgement) rather than quantitative data due to unavailability of data. Using the organisation's specific safety risk matrix allows them to express the safety risk(s) associated with the identified hazard in a quantitative format. This enables direct magnitude comparison between identified safety risks. A qualitative safety risk assessment criterion, such as frequent or improbable, may be defined by the organisation and assigned to each identified safety risk where quantitative data is not available.

6.3.7 Organisations that have operations in multiple locations with specific operating environments may find it more effective to establish local safety committees in each location to conduct safety risk assessments and safety risk control identification.

6.3.8 Organisations are required to determine which risks they consider acceptable and not acceptable and require further controls. To support decisions regarding an organisations risk acceptance, organisations should develop acceptability criteria. Organisations should link their risk acceptability criteria with both their own, specific risk matrix and their risk management processes. Risk acceptability can be generally linked to the residual level of risk determined through the organisation's specific risk assessment activities.

6.3.9 Decisions regarding risk acceptability must then be made against the organisation's acceptability criteria. The acceptability criteria should also define who within the organisation may accept each level of risk and the timeframes (for plans and action) at each risk level. In general, the higher the risk, the more senior the level of management attention required, and the sooner the risk needs to be addressed. The most extreme risks would be escalated to the Accountable Manager and would need to be addressed immediately.

6.3.10 The principle of managing risk to an acceptable level is as follows:

- Risk controls should be implemented when reasonably practicable to do so, i.e. risk should be reduced until the cost of further reducing the risk is grossly disproportionate to the benefit gained. This assessment may be quantitative or based on qualitative arguments.
- An organisation should only consider a risk acceptable when it can be demonstrated that not only have all risk controls been considered, but also that all reasonably practicable risk controls are implemented, and that the level of residual risk meets the organisation's acceptability criteria.
- A risk is considered unacceptable where all controls have not been considered, where all reasonably practicable controls have not been implemented, or where the level of residual risk does not meet the organisation's acceptability criteria.
- Where a risk is found to be unacceptable, and reasonably practicable controls cannot be implemented to drive the risk to an acceptable level, the activity should not be undertaken.
- Where a risk is considered acceptable, the organisation should continue to monitor and review the risk while the risk remains relevant to ensure ongoing acceptability.

6.3.11 The matters that must always be considered when assessing whether a risk is acceptable include:

- the likelihood of the risk concerned occurring
- the degree of harm that may result if the risk eventuated
- organisational knowledge, or expected knowledge, about the risk and any means of eliminating or minimising the risk
- availability and suitability of ways to eliminate or minimise risks
- cost of eliminating or minimising the risk.

Performance Markers for regulation 119.190 (2)(b)(ii):

- The organisation has a process in place to make decisions and apply appropriate and effective risk controls.
- Senior management have visibility of medium and high-risk hazards, as well as their mitigation and controls.

6.3.12 After safety risks have been assessed, safety risk mitigation, if necessary, must take place. This step involves designing and implementing safety risk controls. These may be additional or changed procedures, new supervisory controls, changes to training, additional or modified equipment, or any of a number of other elimination/mitigation alternatives. After the safety risk controls have been designed, but before the system is

placed online, an assessment must be made whether the controls introduce new hazards to the system.

Note: Also refer to chapter 7.2 The management of change.

6.3.13 How organisations prioritise their safety risk assessments and adopt safety risk controls should not only be documented, but also:

- assess and control highest safety risks
- allocate resources to highest safety risks
- effectively maintain and/or improve safety
- reach the stated and agreed safety objectives
- achieve the safety performance targets (SPTs)
- satisfy the requirements of any applicable regulations.

6.3.14 There are three generic strategies for safety risk mitigation:

- Avoidance. The operation or activity is cancelled because safety risks exceed the benefits of continuing the operation or activity.
- Reduction. The frequency of the operation or activity is reduced, or action is taken to reduce the magnitude of the consequences of the accepted risks.
- Segregation of exposure. Action is taken to isolate the effects of the consequences of the hazard, or to build in redundancy to protect against them.

6.3.15 In evaluating specific alternatives for safety risk mitigation, it must be noted that not all options have the same potential to reduce safety risks. The effectiveness of each specific alternative needs to be evaluated before a decision can be taken. It is important that the full range of possible control measures be considered and that trade-offs between measures also be considered to find an optimal solution. Each proposed safety risk mitigation option should be examined from such perspectives as:

- Effectiveness. Will it reduce or eliminate the safety risks of the consequences of the unsafe event or condition? To what extent do alternatives mitigate such safety risks?
- Cost/benefit. Do the perceived benefits of the mitigation outweigh the costs? Will the potential gains be proportional to the impact of the change required?
- Practicality. Is the mitigation practical and appropriate in terms of available technology, financial feasibility, time to implement, administrative feasibility, governing legislation and regulations, political will etc.?
- Acceptability to each stakeholder. How much buy-in (or resistance) from stakeholders can be expected? (Discussions with stakeholders during the safety risk assessment phase may indicate their preferred risk mitigation option.)
- Enforceability. If new rules (SOPs, regulations etc.) are implemented, are they enforceable?
- Durability. Will the mitigation withstand the test of time? Will it be of temporary benefit or will it have long-term utility?
- Residual safety risks. After the mitigation has been implemented, what will be the residual safety risks relative to the original hazard? What is the ability to mitigate any residual safety risks?

- Unintended consequences. Will there be any new hazards and related safety risks associated with the implementation of any mitigation alternative?

6.3.16 It is important to involve relevant stakeholders and subject matter experts in determining appropriate safety risk controls. Ensuring the right people are involved will maximise the practicality of the safety risk mitigations chosen. A determination of any unintended consequences, particularly the introduction of new hazards, should be made prior to the implementation of any safety risk controls.

6.3.17 It is important to determine why new defences are necessary, or why existing defences must be reinforced. The following questions may pertain to such determination:

- Are there controls that protect against the safety risks of the consequences of the hazards?
- Do controls function as intended?
- Are the controls practical for use under actual working conditions?
- Are staff involved aware of the safety risks of the consequences of the hazards, and the controls in place?
- Are additional safety risk mitigation/control measures required?

6.3.18 Once the mitigation has been accepted, the strategies developed and deployed must, as part of the safety assurance process, be fed back into the organisation's controls, upon which the mitigation strategies are based, to ensure integrity, efficiency and effectiveness of the controls under the new operational conditions.

6.3.19 The outputs of this process should be documented. This should include the hazard and any consequences, the safety risk assessment, and any safety risk control actions taken. These are typically captured in a risk register so they can be tracked and monitored.

7 Safety assurance

Note: Also refer to SMS for Aviation – A Practical Guide: Safety Assurance (Booklet 4).

7.1 Safety performance monitoring and measurement

7.1.1 Safety performance monitoring is conducted through the collection of safety data and safety information from a variety of sources. Data availability to support informed decision-making is one of the most important aspects of the SMS. Using this data for safety performance monitoring and measurement is an essential activity that generates the information necessary for safety risk decision-making.

7.1.2 The following activities can provide sources for monitoring and measuring safety performance:

- safety data analysis (measuring safety performance)
- safety surveys
- safety audits
- findings and recommendations from safety investigations
- operational data collection systems.

7.1.3 Continuous improvement and maintenance of an organisation's safety systems is an ongoing process, similar to the ongoing efforts to manage an organisation's finances. For more in-depth information on continuous improvement, refer to chapter 7.4 Continuous improvement of the SMS.

7.1.4 Monitoring operational processes will likely occur as a normal business process. Monitoring activities outlined in the SMS manual or an integrated exposition/manual suite supplement these activities and involve reviewing data that is collected from those operations. This may also include monitoring externally sourced services and products.

7.1.5 In large/complex organisations, monitoring may involve multiple levels of management, safety professionals, such as trained auditors/analysts, as well as line managers. Operational processes may need to be coordinated across adjacent work function boundaries, so effective monitoring may also need to be coordinated. For small operations, monitoring can be significantly simplified with the SMS tailored to the scale and complexity of the operation.

Performance Marker for regulation 119.190(2)(c)(i)

Safety Performance Indicators (SPIs) linked to the organisation's safety objectives have been defined, promulgated, and are being monitored and analysed for trends.

7.1.6 The safety performance achieved is a measure of the effectiveness of the SMS. This requires the organisation to do the following:

- Safety objectives should be established first to reflect the strategic achievements or desired outcomes related to safety concerns specific to the organisation's operational context (also refer to chapter 5.1 Management Commitment in this AC).
- Safety Performance Indicators (SPIs) are any data-based parameters used to monitor and assess performance towards an organisation's safety objectives.

– Safety Performance Targets (SPTs) are a defined level of performance set for each SPI.

7.1.7 The relationship between safety objectives, SPIs and SPTs is shown in Figure 6 below. An example of what this could look like for an organisation has also been shown in Figure 7 below. The following paragraphs provide detailed information on establishing SPIs and SPTs.

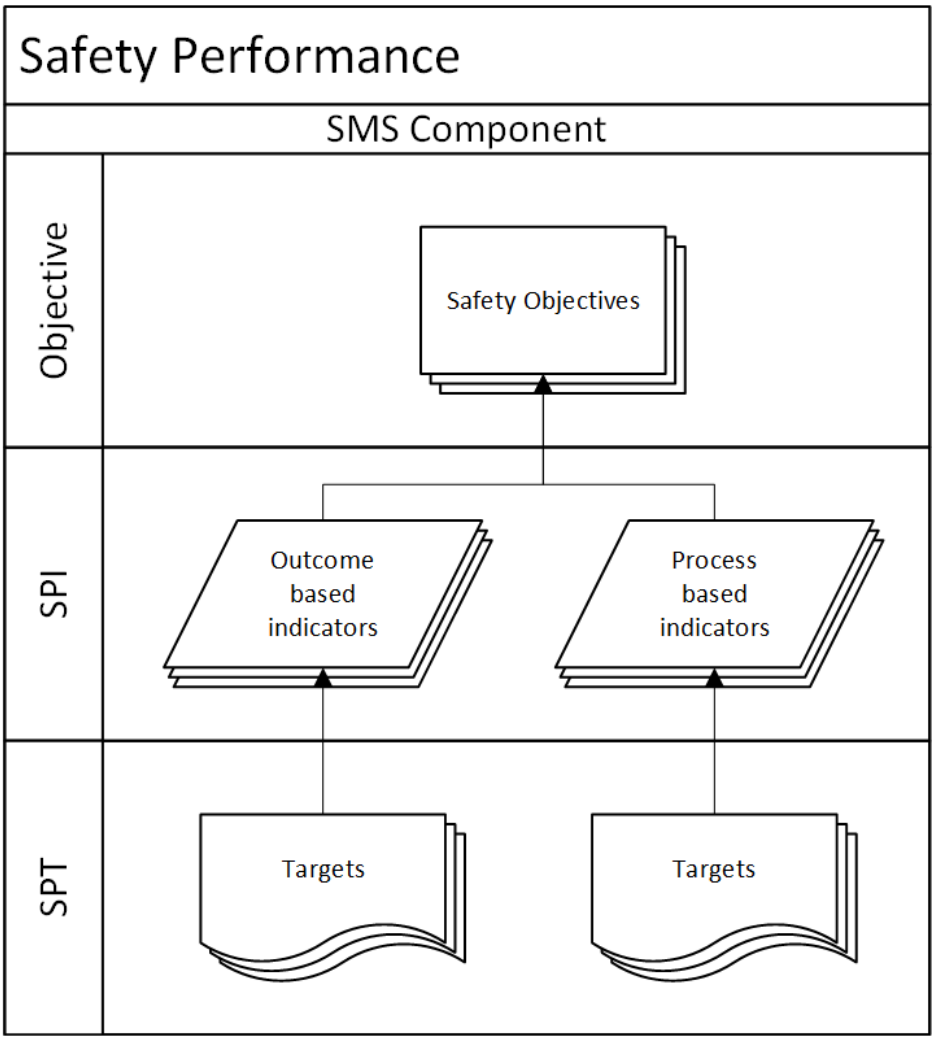

Figure 6: The relationship between safety objectives, SPIs and SPTs.

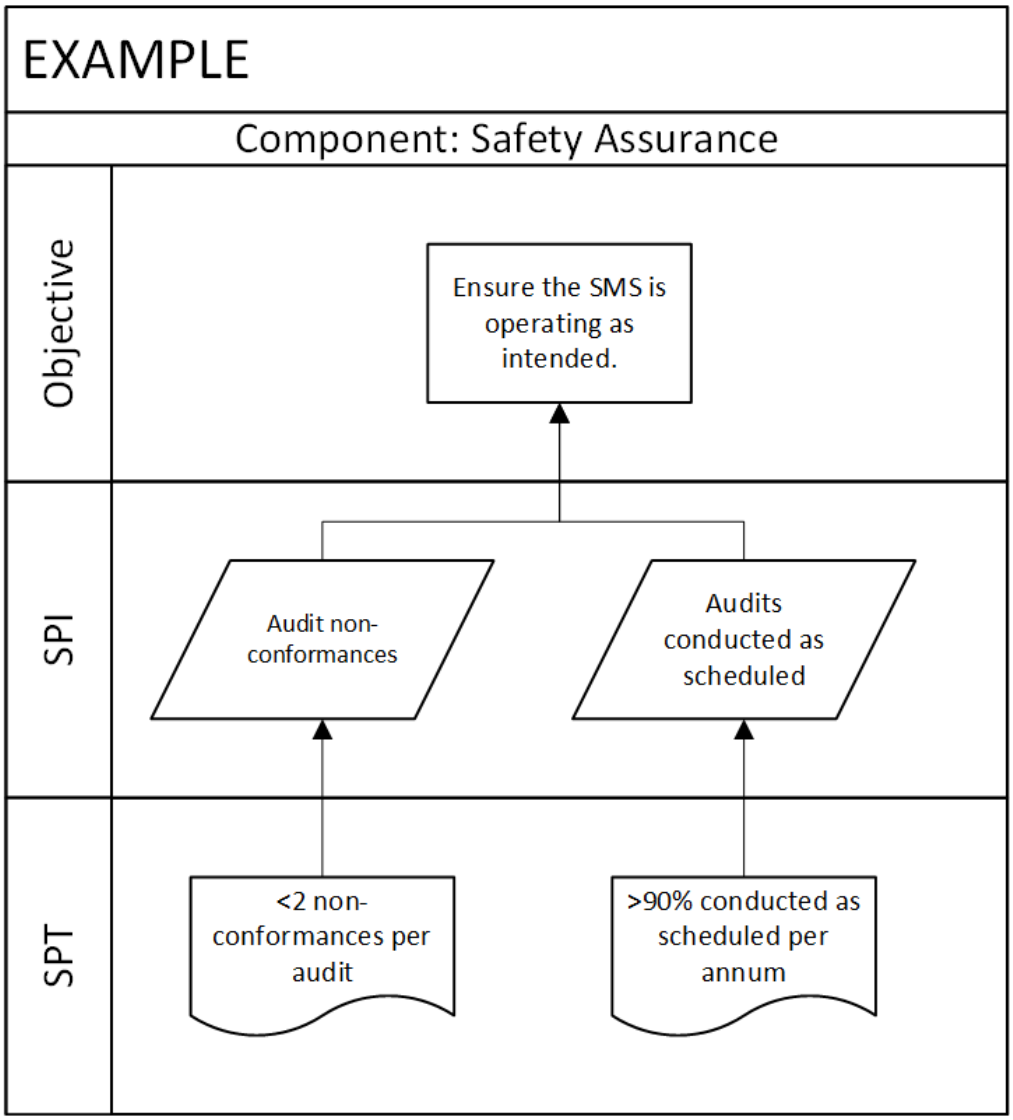

Figure 7: An example relationship between safety objectives, SPIs and SPTs.

7.1.8 The combination of setting an organisation's safety objectives in conjunction with developing the associated SPIs and SPTs enable an organisation to have SMART performance measures, specifically:

- Specific – Establish a specific objective, considering how to achieve it.
- Measurable – Consider methods for effectively measuring achievement.
- Achievable – Take into consideration whether the objective is achievable.
- Relevant – Ensure targets are realistic, relate to your objectives and encourage the achievement of your objectives.
- Timely – Set timeframes for achievement of objectives.

7.1.9 Management, personnel and third parties (as necessary) should agree on safety objectives and on the resources, activities and processes required to achieve them. Once safety objectives have been set, SPIs can be established. SPIs can be used to measure the performance of the SMS (processes) and the operational safety performance (outcomes). When establishing SPIs, organisations should consider:

- What should be measured. Determine the best SPIs that will show the organisation is on track to achieving its safety objectives, considering both processes and outcomes.
- Data availability. If data is not available, new data collection systems may need to be established.
- Data reliability. Is the data subjective, incomplete, or not fit for purpose?
- Common industry SPIs. Some organisations may find it beneficial to compare performance with other similar organisations.
- State SPIs: What state SPIs (from the NASP) may be relevant to the organisation.

7.1.10 Organisations should select a wide range of SPIs to enable effective assessment and monitoring of all Safety Management activities. To determine SMS effectiveness, an organisation should measure the outputs and the outcomes of processes, as well as analyse the information gathered from these activities. Examples of such methods may include:

- results from internal and external audits
- outputs from management reviews (safety governance)
- evaluation of SPIs and SPTs attained
- quality and integrity of hazard reporting
- quality and integrity occurrence reporting
- recurring events and associated errors or violations
- results of safety surveys
- outcomes from investigations
- whether known safety matters are being addressed in a timely and appropriate manner
- results from safety reviews
- customer feedback
- training and competency outcomes.

7.1.11 A common weakness in setting safety performance indicators is to only identify high-level outcomes that are easy to measure, such as counting accidents, and dismiss process-based indicators, such as attendance at safety meetings.

7.1.12 Target-setting is vital to the organisation’s safety performance. Although the ultimate objective is no accidents, there are more useful approaches to measuring safety, especially in a safety system, than only counting accidents. Sound SPT-setting concentrates on identifying systemic weaknesses that may identify accident or incident precursors and should consider:

- Undesirable behaviours. If organisations are too focused on achievement of the numbers as an indicator of success, they may not achieve the intended improvement in safety performance. Organisations need to, instead, understand the context around the SPI/SPT and ensure the focus remains on improving safety outcomes, not simply the numerical target.
- Operational targets. Too much focus on achieving operational targets (such as on time departures, reduction in overhead costs etc.) without a balance of SPTs can lead to achieving the operational targets, while not necessarily improving safety performance.

- Focus on quantity rather than quality. This can encourage personnel or departments to meet the target, but in doing so deliver a poor product or service.
- Cap innovation. Although not intended, once a target is met, this can lead to complacency and the idea that no further improvements are needed.
- Organisational conflict. Targets can create conflict between departments and organisations as they argue over who is responsible, rather than focusing on trying to work together.

7.1.13 The organisation should monitor and analyse the performance of established SPIs and SPTs to identify abnormal changes in safety performance and their relationship to the achievement of safety objectives. Safety performance reports should be disseminated to key internal and external stakeholders. This can then be used for improving systems and activities, allocating resources, and reassessing the organisation's SPIs and SPTs.

7.1.14 Safety data analysis uses the safety reporting data to uncover common issues or trends that might warrant further investigation. Collecting and analysing the data required for effective management and decision-making is an ongoing process. The results of data analysis may reveal that more and better data must be collected and analysed in support of the actions and decisions that the organisation needs to take.

Audit

Performance Markers for regulation 119.190(2)(c)(i):

- Risk mitigations and controls are being verified/audited to confirm they are working and effective.
- Safety assurance takes into account activities carried out by all directly contracted organisations.
- Responsibilities and accountability for ensuring compliance with safety regulations are defined, and applicable requirements are clearly identified in the organisation's manuals and procedures.
- There is an internal audit programme, including details of the schedule of audits and procedures for audits, reporting, follow up, and records.
- Responsibilities and accountabilities for the internal audit process are defined, and there is a person or group of persons with responsibilities for internal audits with direct access to the Accountable Manager.

7.1.15 Audits should be performed to assess the effectiveness of the SMS and to identify areas for potential improvement. Auditing has traditionally focused on compliance with regulations and conformance with policies and procedures. It is now recognised there is additional value in analysing the effectiveness of those policies and procedures, which is particularly important for SMS.

7.1.16 Procedures for auditing should describe responsibilities and expectations for frequency, planning, conducting, reporting and resolution of findings that result from audits. Auditors should not audit their own work but may audit that of others around them in the same department. Auditing procedures should also include external entities, such as contractors.

7.1.17 An organisation should have a documented auditing capability that includes:

- frequency of audits, considering:
  - level of risk exposure per department or area of activity
  - previous history
  - regulatory requirement.
- appropriate audit schedules
- allocation of sufficient resources
- audit scope, driven primarily by the safety significance of an operational area
- objectives to be achieved by auditing a particular area
- planned audit methodologies (e.g. desktop or onsite)
- the format of documentation to be used while conducting the audit and the delivery of results.

7.1.18 Auditors should be formally trained and competent in auditing methodologies. Auditors should approach the task in an unbiased manner, disclose any potential conflict of interest, and maintain discretion. Organisations may utilise external auditors; however, the organisation must ensure that auditors are competent.

Note: Also refer to chapter 8.2 Training and Education.

Performance Marker for regulation 119.190(2)(c)(i):

After an audit, there is appropriate analysis of causal factors and corrective/preventive actions are taken.

7.1.19 Organisations should monitor progress in closing previously identified non-compliances. These should be addressed through not only root-cause analysis, but also the development and implementation of corrective and preventive action plans. The results from analysis of cause(s) and contributing factors to any non-compliance should feed into the organisation's safety management processes.

Note: Also refer to chapter 6 Safety Risk Management.

7.1.20 Conducting the audit and following up on results should include the following steps:

- Planning the audit using a checklist to identify the functions to be audited helps ensure areas are not missed.
- When conducting the audit, focus on how and whether the current documented procedures and practices are being followed.
- It is essential that the written content in the audit report be accurate, and that findings be supported by robust evidence that can be easily understood by the reader.
- After presenting the report to the auditee, actions to address the findings need to be tracked in a transparent and systematic manner.

7.2 The management of change

Performance Markers for regulation 119.190(2)(c)(ii):

- The organisation has a process to identify whether changes have an impact on safety and to manage any identified risks in accordance with existing safety risk management processes.
- Human Factor (HF) issues have been considered as part of the change management process and, where appropriate, the organisation has applied the appropriate HF/human-centred design standards to the equipment and physical environment design.

7.2.1 Change may influence the effectiveness of existing safety risk controls. In addition, new hazards and related safety risks may be inadvertently introduced into an operation when change occurs. Safety risks associated with the identified hazards should also be assessed and controlled as defined in the organisation's existing risk management process.

7.2.2 Disciplined application of change management can maximise the effectiveness of the change, engage staff, and minimise the risks inherent in change. Regardless of the magnitude of change, large or small, there must always be a predictive consideration for safety implications.

7.2.3 The magnitude of a change, its effect on safety, and its potential impact on human performance should be assessed in any change management process. Small incremental changes often go unnoticed, but the cumulative effect can be considerable. Particular attention should be given to identifying unintended consequences that can emerge by accidently introducing new hazards into the system.

7.2.4 Change is most successful if all personnel affected by the change are engaged, involved and participate in the process.

7.2.5 The organisation should identify the changes likely to occur in the business which would have a noticeable impact on:

- resources – material and human
- management direction – processes, procedures, training
- management control.

7.2.6 Change is the catalyst for the organisation to seek out hazards and understand the risks they present. An organisation should establish a list of triggers that start the formal change process. Some examples of change that may trigger the formal change process include, but are not limited to:

- assessment of regulatory defined significant and non-significant changes
- organisational restructure
- new schedule(s)
- new port(s)
- new type(s) of operation
- addition of a new aircraft type
- introduction of new equipment and/or operational procedures

- change in key personnel
- restructure of operational department(s)
- acquisition of equipment
- significant personnel (critical personnel and/or large numbers)
- regulations
- competition
- customer base
- security
- financial status
- new operational procedures
- additional aircraft or equipment of the same or similar type.

7.2.7 By taking a systematic approach to implementing change, organisations can gain a much clearer picture of the objectives of change and how to achieve them safely as well as complying with the regulatory change provisions. The steps in the change process are:

- Step 1: Communicate and consult to define the change
- Step 2: Develop the case, identify who and what will affected
- Step 3: Consider impact on known hazards / risk and conduct risk assessment
- Step 4: Prepare the project plan
- Step 4b: Obtain regulatory approval (if required; significant change)
- Step 5: Implement the change
- Step 6: Ongoing monitoring and review.

7.2.8 Throughout all steps in the process, there must be ongoing communication and consultations with all those involved. Further information on this issue is at chapter 6.2.5 Hazard identification.

7.2.9 The outcome of the risk assessment conducted in Step 3 should determine the resources allocated to subsequent steps. Further information on this issue is at chapter 6.2 Safety risk assessment and mitigation.

Note: Also refer to chapter 6 Safety Risk Management process and AC 119-07 - Management of Change for Aviation Organisations.

7.2.10 A Safety Case is a document that provides substantial evidence the system to which it pertains meets its safety objectives. A Safety Case is not an additional or separate requirement to an SMS, but rather documented evidence that the SMS activities associated with the change have been appropriately managed to maintain operations/activities acceptably safe.

7.2.11 A Safety Case would provide specific documented evidence that shows the organisation not only identified and implemented the appropriate change management necessary to deliver new activity/equipment, but that the associated risk assessments were also conducted in support of implementation and ongoing activities associated with that change.

7.2.12 CASA utilises Safety Cases as transitional evidence to support a regulatory application, exemption or variation. The Safety Case will include the applicable change and risk management activities in addition to revised operating procedures/exposition that will

apply to the changed operations/activities. When accepted, these revisions should be incorporated into the relevant operating procedures/exposition. Activities must always be conducted in accordance with the relevant operating procedures/exposition rather than the Safety Case itself.

7.2.13 CASA may require an organisation to submit a Safety Case in the following circumstances:

- in support of an application for activities that do not fit within the current regulatory regime and/or are without existing precedent
- in support of an application for exemption/variation from current regulatory requirements
- when otherwise requested by CASA to support decisions/approvals requested.

7.2.14 Contents of a Safety Case should include:

- description of the planned change
  - what is the change to be made
- description of the reason for the change
  - why is the change being made
- description of the organisational context
  - what is the broader operational context of the organisation pertinent to the change
- description of all identified hazards associated with the change
  - consider hazards associated with the change process (transition hazards), as well as those associated with normal operations once the change has been implemented
- details of risk management activities associated with identified hazards
  - demonstrate that any risks associated with operations will remain acceptable during (transition) and following the planned change
- description of the controls necessary to ensure the risks are managed to an acceptable level
  - controls are any activity or process designed to mitigate a risk including equipment, process, procedures and training etc.

Note: Controls can be detailed in the risk management activities.

- project/change management plan outlining how the organisation plans to transition from current operations to the proposed future operations, taking identified hazards and risk management strategies into account.

7.2.15 The above listed information does not have to be reproduced in a specific Safety Case document. Wherever possible, a safety case submission should simply reference the applicable documentation necessary to cover the content details above. Provided the above points are covered, a Safety Case could simply be the Change Management, Risk Assessment, and revised procedures documentation provided to CASA. A Safety Case may also include any other evidence to support the submission, including training records, training materials etc.

7.3 Continuous improvement of the SMS

Performance Marker for regulation 119.190(2)(c)(iii)

The organisation is continuously monitoring and assessing its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.

7.3.1 Maintenance and continuous improvement of the SMS is supported by a number of safety assurance activities. It should be recognised that maintaining and continuously improving the SMS is an ongoing journey as the organisation itself and the operational environment will be constantly changing.

7.3.2 Continuous improvement of the safety system has two main aspects:

- maintenance of the safety system, which is aimed at ensuring practice meets the desired level of safety, even during changing operational context
- improvement of the safety system, which is aimed at enhancing current standards.

7.3.3 Many aspects of an organisation's SMS are designed to achieve continuous improvement by maintaining or improving the safety system. An SMS is an integrated system where outputs of one part of the system provide input into other parts of the system. Examples include:

- Audits: internal audits and audits carried out by other organisations.
- Assessments: safety surveys, assessments of safety culture and SMS evaluations.
- Monitoring occurrences: recurring safety events such as accidents, incidents, errors and rule-breaking situations.
- Safety governance: examine safety objectives achieved by the organisation, analyse SPIs and trends. It is important that senior management review the effectiveness of the SMS. This may be carried out as one of the functions of the highest-level safety committee.

Note: Also refer to chapter 5.2 Safety accountabilities and responsibilities.

8 Safety promotion

Note: Also refer to SMS for Aviation – A Practical Guide: Safety Promotion (Booklet 5)

8.1 General

8.1.1 Safety promotion is a vitally important enabler, setting the tone for the organisation, and helping to develop, build and sustain a robust safety culture. Safety promotion also helps foster improved safety performance by communicating not only lessons learnt, but also broader safety information. It also bolsters the safety culture within the organisation by distributing and standardising safety processes and procedures.

8.1.2 Safety Promotion comprised two elements: safety training, and safety communication. Both are vital to the ongoing success of an SMS. All staff at all levels need to be trained and competent to perform their roles as established in the SMS. Besides this, strong lines of communication are required at all stages of SMS implementation and maintenance.

8.2 Training and education

8.2.1 Aviation organisations need trained and competent personnel. However, it is not a case of one size fits all; therefore, training programmes should fit the needs and complexity of the organisation. The level of safety training each employee receives depends on their involvement in the SMS. It should also be clearly understood that competency is not proven simply by issuing a certificate. By contemporary definition, it includes proof that knowledge, skills, attitudes and behaviours have been analysed and/or practiced.

8.2.2 SMS training and education may be integrated into an existing training management system.

8.2.3 Providing appropriate training to all staff, regardless of their level or role in the organisation, provides them a more in-depth understanding of the SMS and helps actively involve them in an organisation’s safety goals. Wherever possible, it is also important to include third-party contractors/service providers.

8.2.4 Third-party contractors can add to the organisation’s SMS by reporting any hazards or involved incidents through the hazard reporting system. This also shows management’s commitment to an effective SMS. The quality and effectiveness of training significantly influences the attitude and professionalism that employees are expected to demonstrate every day.

Performance Markers for regulation 119.190(2)(d)(i):

- There is a training programme for SMS in place that includes initial and recurrent training. The training covers individual safety duties (roles, responsibilities, and accountabilities) and how the organisation's SMS operates.
- There is a process in place to measure the effectiveness of training and to take appropriate action to improve subsequent training.
- Training includes human and organisational factors, including just culture and non-technical skills with the intent of reducing human error.

8.2.5 Prior to implementing an SMS, and in conjunction with the gap-analysis conducted, the safety training required by the organisation should be identified through a training needs analysis (TNA). This should consider the safety training requirements for management, operational safety-critical personnel, administrative non safety-critical/ personnel, as well as those indirectly involved in the organisation's activities.

8.2.6 A TNA can save time and money not only by ensuring the right things are being taught to the right people, but also by using the best training methods in the most efficient order. A TNA should consider:

- roles within the organisation that require safety training
- knowledge and competencies required for those roles
- gap analysis of existing knowledge compared to those roles
- training required to achieve and maintain desired level of knowledge and competency.

8.2.7 The results of the training needs analysis will also help reduce unnecessary or superfluous training so that time and money is invested where it counts.

8.2.8 It is possible for training to be facilitated in-house; however, some organisations might prefer to contract external trainers for their SMS training needs. Regardless, it is still valuable to understand what process these external providers should follow and what is required.

8.2.9 Once a TNA has been conducted, organisations should use the results to develop a training plan and associated documents, which should include:

- a listing of the personnel (staff and third-party personnel) who require SMS training
- the timing and type of each staff member's specific safety training course(s)
- safety induction course(s) for staff not previously exposed to an SMS
- SMS induction training for all third-party service providers
- recurrent safety course(s) for all operational safety critical personnel
- a means of determining when each staff member is due to undergo a specific safety training course
- a method of determining the training provided to each staff member
- a means of determining the effectiveness of the safety training provided (e.g. feedback questionnaire, course evaluations and competency assessments).

8.2.10 A register of SMS training and education should also be established and maintained. This includes individual training records so it is possible to track who has been trained,

the training courses taken, what courses staff have yet to complete, and when they are due for refreshers. In some organisations, this may be part of an established training and/or records system, while, in others, this may be a previously unrealised need.

8.2.11 SMS training records should form part of the individual's employment history with the details incorporated into the operator's document management system.

8.2.12 All staff should receive an appropriate induction course relevant to their roles and responsibilities. Issues that should be covered include:

- the organisation's safety philosophy, policy and the principles and processes of the organisation's SMS
- corporate approach to safety culture and expected behaviours
- integrated nature of safety management into other operator's systems
- corporate safety targets and objectives
- roles and responsibilities of staff in relation to safety
- the individual's role in safety management
- HF elements supporting SMS
- how SMS principles apply to their area of operation
- lines of communication for safety matters
- corporate safety record, including areas of systemic weakness
- how to identify reportable matters, hazardous events and potential hazards, and how and when to report on them
- requirements for ongoing internal assessment of organisational safety performance (e.g. employee surveys, safety audits and assessments)
- feedback and communication methods for disseminating safety information
- safety awards programmes (if applicable)
- safety promotion and information dissemination.

8.2.13 Without real and constant commitment from management to the SMS, its effectiveness will be compromised. It is essential that the management team understand:

- the principles of the SMS
- risk management process
- the responsibilities and accountabilities for safety of each member of management
- their legal liabilities.

8.2.14 A number of safety-related tasks require specially trained personnel. It is important these staff receive adequate training in the special methods and techniques involved. Depending on the depth of training required and the level of existing expertise in safety management within the organisation, it may be necessary to obtain assistance from external specialists to achieve these outcomes. These tasks include:

- investigating safety events
- monitoring safety performance
- conducting risk assessments
- managing safety databases
- performing safety audits
- developing safety training programmes.

8.2.15 Training does not always have to be delivered face-to-face as there are other options. However, for small organisations, face-to-face training could be an advantage as it is often easier to organise and deliver as people are on site, rosters may not be as complex, therefore making logistics easier.

8.2.16 Larger organisations may wish to reduce face-to-face training costs and may consider:

- engaging an intranet/on-line learning system
- providing online training via video conferencing
- using simulators (e.g. driving simulators, task-trainers etc.)
- self-paced workbooks or learning modules
- maintaining additional knowledge based educational materials or a safety library
- making external publications available on the premises.

8.2.17 Training could also consider practical methods for all employees to remain current with new techniques, technologies, system improvements and regulatory changes.

8.2.18 Table 2 outlines a basic safety training plan which covers some suggested syllabus content and assessment tailoring for safety training. It applies to management personnel, operational safety-critical personnel, non-operational safety-critical support personnel, and safety specialists. Safety training should be designed to align with the size and complexity of the organisation and its operations.

Table 2: Example Safety Training Plan

Role and type of training	Sample syllabus content	Assessment
Non-operational safety critical personnel (with indirect, minimal or no contact with operational personnel). Online eLearning training as part of: • induction training (within 2 months of starting) • refresher training every 2 years.	Safety philosophy, safety policies and safety standards including: • approach to ‘safety culture’ • not apportioning blame • difference between acceptable and unacceptable safety behaviours • internal safety investigation policy and procedures • high-level overview of the SMS framework and rationale for it • organisational roles and responsibilities of personnel in relation to safety • procedures for hazard and safety reporting • organisational safety management programs (e.g., reporting systems, internal audit program etc.) • requirement for ongoing internal assessment of organisational safety performance (e.g., employee surveys, safety audits and assessments) • lines of communication for safety matters • feedback and communication methods for disseminating safety information • safety awards programs (if applicable) • safety promotion and information	Knowledge and awareness assessment.

Role and type of training	Sample syllabus content	Assessment
	dissemination • emergency response plans	
Operational safety-critical personnel. Modules tailored to specific roles i.e., flight crew, cabin crew etc, Full modular training as part of: • induction training (prior to commencing any safety-critical activities) • refresher training every 2 years. Hybrid delivery method used for induction training using online eLearning supplementing classroom training. Refresher training delivered via online eLearning.	Safety philosophy, safety policies and safety standards including: • approach to 'safety culture' • not apportioning blame • difference between acceptable and unacceptable safety behaviours • internal safety investigation policy and procedures • high-level overview of the SMS framework and rationale for it • importance of complying with the safety policy and with the standard operating procedures that form part of the SMS • organisational roles and responsibilities of personnel in relation to safety • organisational safety record, including areas of systemic weakness • procedures for hazard and safety reporting • organisational safety management programs (e.g., reporting system, internal audit program etc.) • requirements for ongoing internal assessment of organisational safety performance (e.g., employee surveys, safety audits and assessments) • lines of communication for safety matters • feedback and communication methods for disseminating safety information • safety awards programs (if applicable) • safety promotion and information dissemination • procedures for reportable matters (immediate and routinely) • specific safety initiatives, such as: threat and error management (TEM), crew resource management (CRM), approach and landing accident reduction (ALAR), maintenance error decision aid (MEDA), and line operations safety audit (LOSA) • seasonal safety hazards and procedures (weather-related operations etc.) • emergency procedures and response • current and recent safety situations • safety promotion, communication and information dissemination.	Knowledge and awareness assessment. Plus, a skills and practical application assessment tailored to role.
Management personnel. Online eLearning training as part of:	Safety philosophy, safety policies and safety standards including: • approach to 'safety culture' • not apportioning blame • difference between acceptable and	Knowledge and awareness assessment.

Role and type of training	Sample syllabus content	Assessment
• induction training (within 2 months of starting) • refresher training every 2 years.	unacceptable safety behaviours • internal safety investigation policy and procedures • high-level overview of the SMS framework and rationale for it • the manager's role in shaping the safety and reporting culture, including a 'just culture' • manager's responsibilities and accountabilities for safety • the safety risk management processes • procedures for hazard and safety reporting • manager's legal liabilities under CASA and WHS legislation • requirements for ongoing internal assessment of organisational safety performance (e.g., employee surveys, safety audits and assessments) • lines of communication for safety matters • feedback and communication methods for disseminating safety information • safety awards programs (if applicable) • safety committee's risk assessment and root cause analysis • safety promotion and communication and information dissemination	
Safety officer/safety personnel. Hybrid modular training as part of: • induction training (within 2 months of starting) • refresher training every 2 years. Hybrid delivery method used for induction training using online eLearning supplementing classroom training. Refresher training delivered via online eLearning.	Safety philosophy, safety policies and safety standards including: • approach to 'safety culture' • not apportioning blame • difference between acceptable and unacceptable safety behaviours • internal safety investigation policy and procedures • high-level overview of the SMS framework and rationale for it • procedures for hazard and safety reporting • monitoring safety performance • conducting risk assessments • current and recent safety situations • seasonal safety hazards and procedures (weather-related operations etc.) • managing the safety information system (database) • performing safety audits • understanding the role of human performance in accident causation and prevention • procedures for reportable matters (immediate and routinely) • investigation of reportable matters and hazardous events • crisis management and emergency response planning	Knowledge and awareness assessment. Plus, a skills and practical application assessment tailored to role.

Role and type of training	Sample syllabus content	Assessment
	• feedback and communication methods for disseminating safety information • safety awards programs (if applicable) • safety promotion and information dissemination.	

8.2.19 Training content needs to address how operations are carried out at the organisation as part of its SMS. It does not need to address high-level theory, but it should be tied into the needs of staff at various levels depending on their roles and engagement with the system. Additionally, it should include human factors and organisational topics, including just culture and non-technical skills aimed at reducing human error. Depending on the nature of the task, the complexity of safety management training required will vary, for example:

- initial and recurrent safety management awareness training for all staff
- training aimed at management's safety responsibilities
- specific training for operational staff (e.g. flight crew, operations staff, airside staff, Licensed Aircraft Maintenance Engineers (LAMEs)/ Aircraft Maintenance Engineers (AMEs), Air Traffic Controllers etc.)
- targeted training for safety specialists (e.g. the SM, Safety Representatives, and Safety Data Analysts).

8.2.20 Training should always be provided with an intended purpose or outcome; without this, valuable resources may be lost chasing an objective that may not be affected. Just as Safety Objectives must have associated indicators, which in turn should have associated targets; so too should training have some way of assessing achievements against the desired outcomes, ultimately measuring the effectiveness of the training.

Performance Markers for regulation 119.190(2)(d)(i):

- There is a process that evaluates the individual's competence and takes appropriate remedial action when necessary.
- The competence of trainers is defined and assessed; appropriate remedial action is taken when necessary.

8.2.21 Measuring the effectiveness of a training programme can be conducted in various ways. This can be a relatively simple process – participant feedback – or it may require more time and resources to gather information using a quantitative method. Four possible levels of evaluation, ranging from simple to more complex, include:

- What participants thought of the training (Level 1 reaction)
- What participants learnt (Level 2 learning)
- How the learning applies to operational tasks (Level 3 transfer)
- Measurable benefits for the organisation (Level 4 results).

8.2.22 Organisations may start with Level 1 and, as the system matures and considering available time and resources, move through Levels 2, 3, and 4 in that order. Details on how evaluation for each Level can be conducted are as follows:

- **Level 1 training evaluation:** Participants complete brief surveys at the end of their training course, providing feedback on whether the training was useful and relevant, and whether the content was interesting and practical.
- **Level 2 training evaluation:** This involves assessing the individual learning or knowledge uptake from the training content delivered. These can be designed to be as simple as a knowledge assessment quiz or exam completed at the end of training to evaluate a pass or fail. This assessment can be more complex and have participants complete specific attitude and knowledge questionnaires before and after training to measure the impact of the training. The results of the pre-training survey give a baseline for comparison with the after-training survey and is ideally completed six months after the training. This information can highlight broad operational problems or issues and can identify training needs.
- **Level 3 training evaluation:** This approach takes the process one step further, measuring the change in participants' on-the-job behaviour as a result of attending the training program. This level of evaluation attempts to answer the question, 'How well are participants applying the desired skills, knowledge, or attitudes in their operational environments?' Arguably, this is the most accurate method of measuring the effectiveness of the program. However, this type of measurement is complex. It is challenging to predict when changes in behaviour will occur, and how long they are likely to last. As with any evaluation, it is also difficult to establish a direct link between training and results. These results can be assessed by having trained observers assess the work performance of operational staff against a set of relevant behavioural markers. Level three evaluation is more effective in strict non-threatening conditions, under which employees are not penalised if shortcomings are observed, provided these are errors, and not deliberate violations. Trained observers conduct anonymous, confidential and non-punitive assessments of the performance of groups of employees.
- **Level 4 training evaluation:** This level identifies tangible organisational benefits that come from a training programme. Level 4 is the most important evaluation as it determines whether a program has achieved material results and demonstrates how valuable the program is to the business, identifying benefits such as improved safety, increased productivity or quality, decreased operating costs, and higher return on investment.

8.2.23 The most effective approach is to use several separate levels of programme evaluation. All operators should be able to use Level 1 (participant questionnaires) and Level 2 (attitude and knowledge evaluations) with minimal difficulty and cost. While significantly more effort and resources are required for Level 3 and Level 4 evaluations, they can result in substantial added benefits for an organisation.

8.3 Safety communication

8.3.1 Safety communication provides a mechanism through which lessons learnt from safety event investigations and other safety-related activities are made available to all affected

staff. It is valuable for communicating good-to-know safety information to build a robust safety culture. It also provides a means of not only encouraging the development of a positive safety culture, but also ensuring that once it is established, it is developed and maintained.

8.3.2 Maintaining two-way communication – that is, ensuring staff are fully informed about the organisation's SMS, then capturing and acting upon feedback where appropriate – is vital to the success of an SMS. If staff report safety issues, but do not receive timely feedback or see no evidence that reporting is making a difference, it is highly likely they will stop reporting. At a minimum, safety communication should:

- ensure all staff are fully aware of the SMS and the SMS processes
- convey safety-critical information clearly
- explain why particular actions are taken
- explain why safety procedures are introduced or changed
- provide timely feedback to those who make safety reports.

Performance Marker for regulation 119.190(2)(d)(ii):

- There is a process to determine what safety critical information needs to be communicated and how it is communicated throughout the organisation to all personnel, as relevant. This includes contracted organisations and personnel where appropriate.

8.3.3 An ongoing programme of safety promotion and communication should include lessons learnt. Safety promotion is linked closely to safety training and the dissemination of safety information. It refers to those activities that the organisation carries out to ensure that employees understand:

- why SMS processes are in place
- what safety management means
- why particular safety actions are taken
- the benefits of the SMS and the importance of safety vigilance.

8.3.4 Safety communication activities are the primary means by which safety issues are communicated within the organisation. These issues may be addressed through staff training programmes or less formal mechanisms to:

- address the rationale behind current or the introduction of new procedures
- ensure the main focus is what, from a safety perspective, is going on within the organisation.

8.3.5 Employees should be encouraged to submit suggestions for promotional campaigns. Safety topics can be selected for promotional campaigns based on their potential to control and reduce losses, such as:

- the experience of past events or near misses
- potential hazards
- hazards identified by analysis of data collection systems
- observations from routine internal safety audit
- experiences of external entities.

8.3.6 Employees are a critical audience; therefore, the dissemination of information needs to be conducted competently and be tailored to the employee cohort. Otherwise, it will not be effective. All methods of dissemination (spoken, written, posters, videos, slide presentations, social media platforms etc.) require resources, planning, talent, skill and experience to be effective.

8.3.7 Once a decision is made to disseminate safety information, a number of important factors should be considered, including:

- Audience. The message needs to be expressed in terms and vernacular that reflect the knowledge and culture of the audience.
- Response/Reaction. What is expected to be accomplished?
- Media. Consider which form(s) of media are the most effective. Which methods do people pay attention to and how do they like to receive information? Most importantly, which method(s) have the greatest penetration and credibility? For example, print, web, multimedia etc.
- Presentation style. This may involve the use of humour, graphics, photography and other attention-getting techniques.

8.3.8 The organisational safety communication programme should be based on several different communication methods for reasons of flexibility and cost. The delivery method (the channel) must be appropriate to the needs of both sender and receiver. Typical methods available are:

- Spoken word. Perhaps the most effective method, especially if supplemented with a visual presentation. However, it is also the most expensive method, consuming time and effort to assemble the audience, aids and equipment.
- Written word. The most popular method because of speed and economy, the printed safety promotion material also competes for attention with considerable amounts of other printed material.
- Videos. While offering advantages of dynamic imagery and sound to reinforce particular safety messages efficiently, videos also have two main limitations: expense of production, and the need for special equipment for viewing.
- Electronic media. Use of the intranet and internet offers significant potential for improvement in the communication of safety, as even small companies can establish and maintain a website to disseminate safety information. This may also include an electronic newsletter (e.g. e-Newsletter), or a podcast to distribute key safety messages in a timely manner.
- Internal safety communication. This can include:
    - safety bulletins and notices
    - safety magazines, newsletters, or posters
    - videos or short electronically recorded messages
    - regular safety related meetings
    - briefings or toolbox talks
    - safety seminars and workshops
    - refresher safety training
    - e-mails or memos
    - social media

- an intranet safety page.

8.3.9 Depending on the size of the organisation, some forms of communicating safety information will be more relevant than others. External safety communication can include:

- meetings, workshops and networking
- websites, online forums and e-mail distribution lists
- magazines, posters, electronic videos and other publications.

8.3.10 In some circumstances, there is a legal duty to pass on information, or to coordinate activities with others. Some communication rules are basic to all organisations, whether large or small, simple or complex.

8.3.11 To be effective, communication must be two-way. It must go up, as well as down your organisational structure to ensure all personnel understand the organisation's risk management activities. Managers must get their safety message across, and employees, who are at the coal face, must have their safety concerns heard and acted upon. In essence, the feedback loop must be closed.

8.3.12 Communication should focus on raising awareness of potential hazards and risk issues. Regular discussion about the reasons for incidents and near-misses will foster a culture that encourages learning and ongoing reporting.

8.3.13 Effective safety communication is vital in motivating employees, so that they understand and act upon safety messages. Propaganda or orders that merely tell people to avoid making errors, or to take more care – the 'bumper sticker' approach to safety – are not usually effective. Communication must be robust and relevant to both management and employees alike.

8.3.14 Safety topics for safety promotion campaigns at an organisation should be selected and based on:

- past events or near-misses
- identified hazards/potential hazards, especially those reported by employees, thus reinforcing the value of reporting
- observations from routine internal safety audits
- relevant ATSB reports
- safety issues common to other relevant industries.

8.3.15 The individual or department responsible for safety communication must present the message clearly, with the necessary detail, and they must have credibility. Talking about safety but not walking the talk will not help establish credibility and will reduce the effectiveness of the message.

8.3.16 Besides asking questions if some aspect is not clear, the person(s) receiving the message must be prepared and decide to listen. The aim is for the content of the message to resonate and connect, on some level, with the receiver's already-held beliefs.

8.3.17 When planning and developing safety communication, it is important to ask the what, who, why, where, when and how questions as a guide.

- What messages are you communicating? E.G. "At Bush Aviation and Training, we’re committed to safety", or" Report all incidents"
- Who is your audience? Pilots, Engineers, Cabin crew, or Ground handling staff? What you are saying needs to be appropriate to your audience, expressed in plain English, and using terms relevant to the receiver’s knowledge and culture.
- Why are we doing this? What do we hope to accomplish?
- Where and when should we be doing this? What are the best venues or sites for this information, and how frequently should these messages be communicated?
- How will we communicate these safety messages? What is the best format to use to inform employees and raise awareness? A regular e-newsletter because employees work in several regional sites? A poster in the lunchroom/hangar/ operations room? Videos? Podcasts? An online safety library or a centrally located safety library? A toolbox talk, or safety briefing, face-to-face?

8.3.18 It is no use communicating a key message targeting, for example, ground handling staff via an intranet if the majority do not have access to a computer.

8.3.19 Effective communication uses both verbal and visual elements (words and pictures), working together to attract attention and highlight the message(s).

8.3.20 Usually, less is more, especially in an era when most people are all bombarded by information. Make communication simple, direct, inclusive and relevant to the target audience.

Appendix A

Additional information resources

A.1 Safety Management Systems

A.1.1 International Civil Aviation Organization (ICAO) documents; fees may apply http://store1.icao.int/:

- ICAO Doc 9859 AN/460 Safety Management Manual (SMM). International Civil Aviation Organisation. Fourth Edition, 2018: http://www.icao.int/anb/safetymanagement/Documents.html
- ICAO SMS Training Material. International Civil Aviation Organisation: http://www.icao.int/anb/safetymanagement/training.html

A.1.2 State, other regulatory authority, and expert body:

- UK CAA CAP 795, 2015 - Safety Management Systems (SMS) Guidance for Organisations
- Transport Canada, Aviation Regulations (CARs) Part I Subpart 7 - Safety Management System Requirements
- Transport Canada, AC 107-001, 2008-01-01 - Guidance on Safety Management Systems Development
- National Standard of Canada, CAN/CSA-ISO 9000-00 - Quality Management Systems-Fundamentals and Vocabulary
- UAE GCAA CAR Part X: Safety Management System Requirements, 2020
- Safety Management International Collaboration Group (SM ICG); https://www.skybrary.aero/index.php/Safety_Management_International_Collaboration_Group_(SM_ICG)

  Specifically:
  - 10 Things You Should Know About SMS; https://www.skybrary.aero/index.php/10_Things_You_Should_Know_About_SMS
  - The Senior Managers Role in SMS; https://www.skybrary.aero/index.php/The_Senior_Manager%27s_Role_in_SMS
  - The Frontline Managers Role in SMS; https://www.skybrary.aero/index.php/The_Frontline_Manager%E2%80%99s_Role_in_SMS
  - Safety management System Evaluation Tool; https://www.skybrary.aero/index.php/SM_ICG_SMS_Evaluation_Tool
  - Safety Management Systems for Small Organizations; https://www.skybrary.aero/index.php/SMS_for_Small_Organizations

A.1.3 Other references:

- US Joint Helicopter Safety Implementation Team, Safety Management System Toolkit, 2009
- Alan Waring, United Kingdom, 1996 - Safety Management Systems
- James Reason, United Kingdom, Ashgate, 1997 - Managing the Risks of Organisational Accident

- James Reason, United Kingdom 1987 - Managing the Risks of Organisational Accidents
- Shell Aircraft Aviation Safety Management Guidelines, January 2000
- Peter M. Senge, New York, Doubleday, 1990 - The Fifth Discipline
- R. Curtis Graeber and Mike Moodi, Flight Safety Foundation, IFA/IASS, South Africa, 1998 - Understanding Flight Crew Adherence to Procedures: The Procedural Event Analysis Tool (PEAT)
- James R. Evans and William M. Lindsay, U.S.A., South-Western College Publishing, 1999 - The Management and Control of Quality

A.2 Human factors and non-technical skills

A.2.1 International Civil Aviation Organization (ICAO) documents; fees may apply http://store1.icao.int/:

- ICAO (1998). Doc 9683, Human Factors Training Manual, DOC – 9683, International Civil Aviation Organisation: http://www.icao.int
- ICAO. (2002). Doc 9803 AN/761. Line Operations Safety Audit (LOSA). Montreal: ICAO
- ICAO (2021). Doc 10151, Manual on human performance for regulators. Montreal: ICAO

A.2.2 State, other regulatory authority, and expert body:

- CASA. Safety behaviours and human factors for pilots 2nd edition resource kit; https://www.casa.gov.au/safety-management/publication/safety-behaviours-human-factors-pilots-2nd-edition
- CASA. Safety behaviours and human factors for engineers resource kit; https://www.casa.gov.au/safety-management/human-factors/safety-behaviours-human-factors-engineers-resource-kit
- UK CAA (2002). CAP 719 Fundamental Human Factors Concepts: http://www.caa.co.uk
- UK CAA (2002). CAP 720 Flight Crew Training: Cockpit Resource Management (CRM) and Line-Oriented Flight Training (LOFT), 1 August: http://www.caa.co.uk
- UK CAA (2016). CAP 737 Flight-crew human factors handbook: http://www.caa.co.uk

A.2.3 Other references:

- Edkins, G.D. (2002). A review of the benefits of aviation human factors training. Human Factors and Aerospace Safety, 2(3). 201-216
- GIHRE (2001). Enhancing Performance in High Risk Environments: recommendations for the use of Behavioural Markers. July: http://www.siaa.asn.au
- Helmreich, R.L. (2000). On error management: Lessons from aviation. British Medical Journal, 320, 781–785
- Helmreich, R.L., Klinect, J.R., & Wilhelm, J.A. (2003). Managing threat and error: Data from line operations. In G. Edkins & P. Pfister (Eds.), Innovation and Consolidation in aviation. Aldershot, UK: Ashgate

- Helmreich, R.L., Merritt, A.C., Sherman, P.J., Gregorich, S.E., & Wiener, E.L. (1993). The Flight Management Attitudes Questionnaire (FMAQ) (NASA/UT/FAA Tech.Rep.No.93-4). Austin, TX: University of Texas Human Factors Research Project
- NOTECHS: Non-technical skill evaluation in JAR-FCL: http://www.nlr.nl/id~4646/l~en.pdf
- O'Connor, P., Flin, R., & Fletcher, G. (2002). Techniques used to evaluate Crew Resource Management training: A literature review. Human Factors and Aerospace Safety, 2(3). 217-233
- Salas, E., Wilson, K.A., Burke, C.S., & Wightman, D.C. (2006). Does Crew Resource Management training work? An update, an extension, and some critical needs. Human Factors, 48(2), 392-412
- Simpson, P; Owens, C. & Edkins, G. (2002). Cabin crew expected safety behaviours. Human Factors and Aerospace Safety, 3(3). 153-167

Appendix B

SMS Implementation Planning Tool

B.1 SMS Implementation Planning Tool

B.1.1 Background

B.1.2 This SMS implementation planning tool is designed for Australian air operator certificate (AOC) holders, and relevant aerial work certificate (AWC) holders that are required to implement a Safety Management System (SMS) under the provisions of Subpart 119.F of CASR, Division 138.B.6 of CASR, and the deferred SMS transition requirements of CASA EX73/24. This tool is designed to assist AOC and AWC holders prepare to develop and implement an SMS in accordance with the legislation related to SMS. The implementation planning tool is designed for the certificate holder to:

- Conduct a gap analysis between practices and systems that are already utilised within the organisation against the SMS regulatory requirements.
- Develop their SMS implementation plan.
- Identify personnel, resources and tasks required for SMS implementation.
- Create a timeline for each SMS implementation process.

B.1.3 A carefully considered SMS implementation plan will assist certificate holders develop an SMS framework that CASA will evaluate in alignment with the implementation questions contained in this implementation plan.

B.1.4 When working through this implementation planning tool, certificate holders are encouraged to consider that an SMS is not simply the development of exposition content to satisfy regulatory compliance requirements. The SMS exposition content is the foundation and framework policy document for the organisation's SMS; it explains who is responsible for safety management, describes what safety management processes exist, how safety management processes function in the organisation, and when safety management processes take place.

B.1.5 The implementation plan is the first step on the path to developing the exposition. A fully developed SMS can take a number of years to mature into a fully functional organisational safety system that incorporates personnel, management, culture (safety and just culture), technology, processes, and procedures. Therefore, CASA takes a staged SMS evaluation process. The evaluation of proposed exposition SMS content is focused on determining if SMS components are both PRESENT and SUITABLE, and scaled for the size, nature, and complexity of the organisation. Then at later dates, post-implementation, the SMS will be evaluated if it is OPERATING (SMS elements are being used) and EFFECTIVE (SMS achieving desired outcomes).

B.1.6 Instructions

B.1.7 An SMS implementation plan provides a description of people, resources, tasks, and processes required, and an indicative timeline of the tasks and responsibilities for your organisation's SMS implementation. The SMS implementation plan and achieving SMS implementation must be developed with the commitment of the organisation's Accountable Manager, (e.g., Chief Executive Officer, Chairperson of board, partner, or the proprietor) in collaboration with other organisation managers or key personnel responsible for the organisation to deliver its services.

B.1.8 It is fundamental that the implementation plan should consider the organisation's SMS design to meet the specific needs of the organisation in terms of size, complexity, and operating environment, without placing unnecessary burden on the organisation. There is no 'one size fits all' method for SMS implementation, and SMS implementation should be aligned with the organisation's unique operational context.

B.1.9 Description of organisation

B.1.10 A starting point for the SMS implementation plan is a description of the organisation, key personnel, type of aviation operations, and operating environment (Refer to Form B1). When developing the implementation plan, consider how the SMS will integrate into the organisation when taking into account the organisation's services, people, processes, facilities, equipment, and external[6] or internal [7]interfaces, and how these can affect the organisation's aviation safety.

B.1.11 Based on the organisation description, the certificate holder should develop SMS policy, processes, and procedures that establish its own SMS requirements that are scaled to suit the size, nature, and complexity the organisation and its operations.

B.1.12 Implementation plan - gap analysis

B.1.13 Once the organisation's description is completed, conduct a gap analysis utilising the gap analysis tool contained in this Appendix. A gap analysis is used to identify the gap/s between current organisational processes and those required for SMS compliance. The gap analysis is useful to identify existing systems, processes, or practices, and how these can be formally integrated into the SMS, and to identify any missing SMS elements. It is important to consider, that for an organisation with no existing SMS, that many of the regulatory required SMS components and elements may not exist. This should not be viewed in a negative sense, but with the view of the organisation adopting a structured approach in SMS implementation, which will assist in reaching regulatory compliance when SMS exposition content is evaluated by CASA. Importantly, as the SMS matures, the achievement of measurable safety performance, and the positive flow-on effects into other business areas, such as reliability, quality and reputation should be evident.

B.1.14 When performing the SMS gap analysis and implementation planning, it is important to maintain focus that while the SMS must be appropriate for the organisation's size, and the nature and complexity of its operations, the regulatory requirements are that the SMS components and elements comprising an SMS are the same regardless of the size of the organisation[8]. By following this SMS implementation planning tool methodically, will assist in implementation of an SMS that will be reviewed against the regulatory requirements.

[6] External interfaces: An organisation or entity the certificate holder utilises to provide support/services to the organisation's aviation activities, e.g., external maintenance providers, contracted training and checking, flight examiners, fuel suppliers, aviation ground services, airport operator, air traffic control provider.
[7] Internal interfaces: An internal business unit that supports the certificate holder's aviation activities, e.g., maintenance department, accounting department, scheduling and dispatch section, operations (rostering).
[8] See Subpart 119.F and Division 138.B.6 of CASR.

B.1.15 Structured implementation planning allows for prioritising the different SMS components and elements over time and will deliver a far more effective SMS. The work for the implementation of various SMS elements can be structured into step-by-step phases. Implementation work does not have to be conducted in a linear sequence, with numerous tasks for SMS implementation being able to be overlapped and performed concurrently. Additionally, while communication is a discrete element of an SMS, to be effective in the implementation of any new system, good organisational wide communication throughout implementation is often essential.

B.1.16 Please complete the following form as an overview of your organisation's SMS.

Form B1: Safety Management System (SMS) Implementation Plan

Safety Management System (SMS) Implementation Plan					
Operator name (as appears on AOC)					
Operator ARN		AOC Number			
CASR Parts Operating Under (all that apply)					
Part 119		Part 121		Part 133	
Part 135		Part 138		Part 142	
Organisation description					
Existing systems/procedures identified to support safety management					
Identified external and internal interfaces					
Identified organisational (internal) and operational (external) hazards **Note:** Consider the organisation's top 3-5 risks and provide sample of external/internal hazards.					
Implementation planning timeline (18-months) **Note:** List number of phases for SMS implementation tasks and dates related to each phase.					

Table 4: SMS Implementation Plan Timeline Example

SMS Implementation Plan Timeline				
SMS Components and Elements	**Regulations**	**Phase 1**	**Phase 2**	**Phase 3**
1. Safety Policy and Objectives	119.190(2)(a)			
1.1 Management commitment	119.190(2)(a)(i)	xx/xx/20xx		
1.2 Safety accountabilities and responsibilities	119.190(2)(a)(ii)	xx/xx/20xx		
1.3 Appointment of key safety personnel	119.190(2)(a)(iii)	xx/xx/20xx	xx/xx/20xx	
1.4 Coordination of emergency response plan	119.190(2)(a)(iv)		xx/xx/20xx	
1.5 SMS Documentation	119.190(2)(a)(v)		xx/xx/20xx	
2. Safety Risk Management	**119.190(2)(b)**			
2.1 Hazard identification	119.190(2)(b)(i)	xx/xx/20xx	xx/xx/20xx	xx/xx/20xx
2.2 Safety risk assessment and mitigation	119.190(2)(b)(ii)	xx/xx/20xx	xx/xx/20xx	xx/xx/20xx
3. Safety Assurance	**119.190(2)(c)**			
3.1 Safety performance monitoring and measurement	119.190(2)(c)(i)			xx/xx/20xx
3.2 The management of change	119.190(2)(c)(ii)	xx/xx/20xx		
3.3 Continuous improvement of the safety management system	119.190(2)(c)(iii)			xx/xx/20xx
4. Safety Promotion	**119.190(2)(d)**			
4.1 Safety training and education	119.190(2)(d)(i)	xx/xx/20xx		

SMS Implementation Plan Timeline				
4.2 Safety communication	119.190(2)(d)(ii)		xx/xx/20xx	
Flight Data Analysis Program: Air transport operators in aeroplanes with MTOW greater than 27,000kg; or rotorcraft with MTOW greater than 7,000kg or maximum operational passenger seat configuration of more than 9 seats	CASR 119.195			

Table 5a: Safety Policy and Objectives - Management Commitment

Gap Analysis

1.0 Safety Policy and Objectives

1.1 Management Commitment (continued)

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
	119.190(1) 138.140 142.260 142.265	Does the organization have a safety management system that is appropriate for the size, the nature and complexity of its operations?			AC 119-01 Safety management systems for air transport operations: Sections 3, 4
	119.190(2)(a) 138.145(a) 142.265(2)(b)	Does the safety management system include a safety policy signed by the accountable manager containing:			AC 119-01 Safety management systems for air transport operations: Section 5.1 SMS 1 – SMS FOR AVIATION – A Practical Guide: Safety Management System Basics SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
1.1.1	119.190(2)(a)(i) 138.145(a)(i) 142.265(2)(b)(i)	Management's commitment to and the responsibility for safety, including a commitment to continuous improvement, observing all applicable legal requirements and standards, and including best practices?			
1.1.2		A statement to provide appropriate resources and affirm that the organisation is managing resources by anticipating and addressing shortfalls?			
1.1.3		Policies for safety critical roles relating to all aspects of Fitness for Duty (e.g., Alcohol and Drugs Policy, Fatigue policy)?			
1.1.4		Is the safety policy visible and communicated to all personnel and other relevant entities?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required”

Planning, Tasks, Processes required:

Table 5b: Safety Policy and Objectives - Management Commitment

Gap Analysis

1.0 Safety Policy and Objectives

1.1 Management Commitment (continued)

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
1.1.5	119.190(2)(a)(i) 138.145(a)(i) 142.265(2)(b)(i)	Does the Accountable Manager and senior management promote a positive safety culture / just culture and visibly demonstrate commitment to the safety policy through active participation in the safety management system?			AC 119-01 Safety management systems for air transport operations: Section 5.1 SMS 1 – SMS FOR AVIATION – A Practical Guide: Safety Management System Basics SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives
1.1.6		Does the safety policy actively encourage safety reporting?			
1.1.7		Is there a just culture policy and principles that clearly identifies acceptable and unacceptable behaviours to promote a just culture?			

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
1.1.8		Does the safety policy contain safety objectives that are suitable for the size and complexity of the organisation and are the safety objectives communicated throughout the organisation?			
1.1.9		Does the safety policy consider State Safety Program (SSP) objectives?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 6: Safety Policy and Objectives - Safety Accountabilities and Responsibilities

Gap Analysis

1.0 Safety Policy and Objectives

1.2 Safety Accountabilities and Responsibilities

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
1.2.1	119.130(1)(b) 119.160(2)(b) 119.190(2)(a)(ii) 138.145(a)(ii) 142.180(1) 142.265(2((b)(ii)	Is an Accountable Manager appointed with full responsibility and accountability to ensure the SMS is properly implemented and performing effectively?			AC 119-01 Safety management systems for air transport operations: Section 5.2 SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives
1.2.2		Is the Accountable Manager fully aware of their SMS roles and responsibilities in respect of the safety policy, safety standards, and safety culture of the organisation?			
1.2.3		Are safety accountabilities, authorities, and responsibilities throughout the organisation defined and documented for staff to understand their own responsibilities?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 7: Safety Policy and Objectives - Appointment of Key Personnel

Gap Analysis

1.0 Safety Policy and Objectives

1.3 Appointment of Key Personnel

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
1.3.1	119.190(2)(a)(iii) 138.145(a)(iii) 142.265(2)(b)(iii)	Has a competent Safety Manager who is responsible for the implementation and maintenance of the SMS been appointed with a direct reporting line to the Accountable Manager?			AC 119-01 Safety management systems for air transport operations: Section 5.3 SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives
1.3.2		Has the organisation allocated sufficient resources to manage the SMS including, but not limited to, competent staff for safety investigation, analysis, auditing, and safety promotion?			
1.3.3		Has the organisation established appropriate safety committee(s) that discuss and address safety risks and compliance issues and include(s) the Accountable Manager and other heads of functional areas?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 8: Safety Policy and Objectives - Coordination of Emergency Response Planning

Gap Analysis

1.0 Safety Policy and Objectives

1.4 Coordination of Emergency Response Planning

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
1.4.1	119.190(2)(a)(iv) 138.145(a)(iv) 142.265(2)(b)(vii)	Has an appropriate emergency response plan (ERP) been developed and distributed that defines procedures, roles, responsibilities, and actions of key personnel and various organisations?			AC 119-01 Safety management systems for air transport operations: Section 5.4 SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives
1.4.2		Is the ERP periodically tested for adequacy, and the results reviewed to improve its effectiveness?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 9: SMS Documentation

Gap Analysis

1.0 Safety Policy and Objectives

1.5 SMS Documentation

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
1.5.1	119.190(2)(a)(v) 138.145(a)(v) 142.265(2)(b)(viii)	Does the SMS documentation include policies and processes that describe the organisation's safety management system and processes, and is the documentation readily available to all relevant personnel?			AC 119-01 Section 5.5 SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives
1.5.2		Is SMS documentation, including SMS related records regularly reviewed and updated with appropriate version control in place?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 10: Safety Risk Management - Hazard Identification

Gap Analysis

2.0 Safety Risk Management

2.1 Hazard Identification

Reference	Legislation reference	Implementation Question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
	119.190(2)(b) 138.145(b) 142.265(2)(c)	Does the safety management system include a safety risk management process that includes the following?			AC 119-01 Safety management systems for air transport operations: Section 6.2 SMS 3 – SMS FOR AVIATION – A Practical Guide: Safety Risk Management
2.1.1	119.190(2)(b)(i) 138.145(b)(i) 142.265(2)(c)(i)	Is there are confidential reporting system to capture errors, hazards, and near misses that is simple to use and accessible to all staff?			
2.1.2		Is there are confidential reporting system that provides appropriate feedback to the reporter and, where appropriate, to the rest of the organisation?			
2.1.3		Do personnel express confidence and trust in the organisation’s reporting system?			

Reference	Legislation reference	Implementation Question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
2.1.4		Is there a process that defines how hazards are identified from multiple sources through reactive and proactive methods (internal and external)?			
2.1.5		Does the hazard identification process identify human performance related hazards?			
2.1.6		Is there a process in place to analyse safety data and safety information to look for trends and gain useable management information?			
2.1.7		Are safety investigations carried out by appropriately trained personnel to identify root causes (why it happened, not just what happened)?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 11: Safety Risk Management - Safety Risk Assessment and Mitigation

Gap Analysis

2.0 Safety Risk Management

2.2 Safety Risk Assessment and Mitigation

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
2.2.1	119.190(2)(b)(ii) 138.145(b)(ii) 142.265(2)(c)(ii)	Is there a process for the management of risk that includes the analysis and assessment of risk associated with identified hazards expressed in terms of likelihood and severity (or alternative methodology)?			AC 119-01 Safety management systems for air transport operations: Section 6.3 SMS 3 – SMS FOR AVIATION – A Practical Guide: Safety Risk Management
2.2.2		Is there a criteria for evaluating the level of risk the organisation is willing to accept and risk assessments and ratings are appropriately justified?			
2.2.3		Does the organisation have a process in place to make decisions and apply appropriate and effective risk controls?			
2.2.4		Does senior management have visibility of medium and high-risk hazards, as well as their mitigation and controls?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 12: Safety Assurance - Safety Performance Monitoring and Measurement

Gap Analysis

3.0 Safety Assurance

3.1 Safety Performance Monitoring and Measurement

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance Material Reference
			Yes/No		
	119.190(2)(c) 138.145(c) 142.265((2)(d)	Does the safety management system include a safety assurance system that includes the following?			AC 119-01 Safety management systems for air transport operations: Section 7.1 SMS 4 – SMS FOR AVIATION – A Practical Guide: Safety Assurance
3.1.1	119.190(2)(c)(i) 138.145(c)(i) 142.265(2)(d)	Are safety performance indicators (SPIs) linked to the organisation's safety objectives, defined, promulgated, monitored, and analysed for trends?			
3.1.2		Are risk mitigations and controls constantly verified/audited to confirm they are working and effective?			
3.1.3		Does safety assurance take into account activities carried out by all directly contracted organisations? (External interfaces)			

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance Material Reference
3.1.4		Are responsibilities and accountability for ensuring compliance with safety regulations defined, and applicable requirements clearly identified in organisation manuals and procedures?			
3.1.5		Is there an internal audit program that includes details of the schedule of audits, procedures for audits, reporting, follow-up, and record management?			
3.1.6		Are responsibilities and accountabilities for the internal audit process defined, and does the person, or group of persons with responsibilities for internal audits have direct access to the accountable manager?			
3.1.7		After an audit, is there appropriate analysis of causal factors, and corrective/preventive actions taken?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Table 13: Safety Assurance - Management of Change

Gap Analysis

3.0 Safety Assurance

3.2 Management of Change

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
3.2.1	119.190(2)(c)(ii) 138.145(c)(ii) 142.265(2)(d)(i)(C)	Does the organisation have a process to identify whether changes have an impact on safety, and to manage any identified risks in accordance with existing risk management processes?			AC 119-01 Safety management systems for air transport operations: Section 7.2 SMS 4 – SMS FOR AVIATION – A Practical Guide: Safety Assurance
3.2.2		Are Human Factor (HF) issues considered as part of the change management process and, where appropriate, does the organisation apply appropriate HF / human-centered design standards to equipment and physical environment design?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 14: Safety Assurance - Continuous Improvement of the SMS

Gap Analysis

3.0 Safety Assurance

3.3 Continuous Improvement of the SMS

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
3.3.1	119.190(2)(c)(iii) 138.145(c)(iii) 142.265(2)(d)(i)(D)	Does the organisation continuously monitor and assess its SMS processes to maintain or continuously improve the overall effectiveness of the SMS?			AC 119-01 Safety management systems for air transport operations: Section 7.3 SMS 4 – SMS FOR AVIATION – A Practical Guide: Safety Assurance

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 15: Safety Promotion - Training and Education

Gap Analysis

4.0 Safety Promotion

4.1 Training and Education

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
	119.190(2)(d) 138.145(d) 142.265(2)(e)	Does the safety management system include a safety training and promotion system that includes the following?			AC 119-01 Safety management systems for air transport operations: Section 8.2 SMS 5 – SMS FOR AVIATION – A Practical Guide: Safety Promotion
4.1.1	119.190(2)(d)(i) 138.145(d)(i) 142.265(2)(e)(i)	Is there a training programme for SMS in place, which includes initial and recurrent training? Does the training cover individual safety duties (i.e., roles, responsibilities, and accountabilities) and how the organisation's SMS operates?			
4.1.2		Is there a process in place to measure the effectiveness of training and to take appropriate action to improve subsequent training?			
4.1.3		Does training include human and organisational factors, including just culture and non-technical skills with the intent of reducing human error?			

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
4.1.4		Is there a process that evaluates an individual's competence and takes appropriate remedial action when necessary?			
4.1.5		Is the competence of trainers defined and assessed, and appropriate remedial action taken when necessary?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 16: Safety Promotion - Safety Communication

Gap Analysis

4.0 Safety Promotion

4.2 Safety Communication

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
4.2.1	119.190(2)(d)(ii) 138.145(d)(ii) 142.265(2)(e)(ii)	Is there a process to determine what safety-critical information needs to be communicated and how it is communicated throughout the organisation to all relevant personnel, including contracted organisations and personnel where appropriate?			AC 119-01 Safety management systems for air transport operations: Section 8.3 SMS 5 – SMS FOR AVIATION – A Practical Guide: Safety Promotion AC 119-01 Safety management systems for air transport operations: Section 4.1 SMS 2 – SMS FOR AVIATION – A Practical Guide: Safety Policy and Objectives SMS 7 – SMS FOR

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
					AVIATION – A Practical Guide: SMS scaling for size and complexity

5.0 SMS – Interface Management

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
5.1	119.190(2)(d)	Does the organisation identify and document the relevant internal and external interfaces and the critical nature of such interfaces? (Note: an internal interface may be an internal business unit, and external interface may be a contracted organisation).			AC 119-01 Safety management systems for air transport operations: Section 8.3 SMS 5 – SMS FOR AVIATION – A Practical Guide: Safety Promotion AC 119-01 Safety management systems for air transport operations: Section 4.1 SMS 2 – SMS FOR AVIATION – A

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
					Practical Guide: Safety Policy and Objectives SMS 7 – SMS FOR AVIATION – A Practical Guide: SMS scaling for size and complexity

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 17: Flight Data Analysis Program (FDAP)

Gap Analysis

6.0 Flight Data Analysis Program (FDAP)

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
6.1	119.195(3)(b)(i),(ii) 142.265(4)(b)	Is the flight data analysis program managed within the organisation, or provided by another appropriate person?			AC 119-04 Flight Data Analysis Programmes (FDAP) for air transport operations
6.2	119.195(3)(a) 142.265(4)(a)	Does the flight data analysis program regularly record and analyse operational flight data of individual and aggregated operations for the purpose of improving the safety of flight operations?			
6.3	119.195(3)(c)(i)(ii)(iii) 142.265(4)(c)(i)	Does the flight data analysis program ensure that the identity of an identified person who is the source of data is protected from disclosure to anyone other than those whose duties are relevant to such operations?			
6.4	119.195(3)(d) 142.265(4)(c)(ii)	Does the flight data analysis program ensure that no punitive action in relation to the data is taken by the organisation against an identified person?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Table 18: Implementation Plan

Gap Analysis

7.0 Implementation Plan

Reference	Legislation reference	Implementation question	An existing procedure, policy, process is present	Manual reference or document	Guidance material reference
			Yes/No		
7.1		Is there an SMS implementation plan to target resource allocation?			AC 119-01 Sections 2, 3, 4 SMS for Aviation - a practical Guide: Book 1 SMS basics SMS for Aviation - a practical guide: Book 8 SMS resource kit.
7.2		Has a gap analysis been undertaken to identify existing and missing SMS elements?			
		Are priorities for SMS implementation based on identified risks?			

Implementation Planning

Accountable Manager:

Phase:

Responsible person(s):

Target Phase Completion Date:

Resources required:

Planning, Tasks, Processes required:

Appendix C

Deferred provisions - Safety Management Systems (SMS) continued deferral or early-adopter process

C.1 Background

C.1.1 Flight operations regulations (FOR) SMS transition options

C.1.2 The requirement for some Australian air transport operators and aerial work operators to implement an SMS has been deferred since 2 December 2021, initially via exemption instrument CASA EX87/21 and contemporarily via exemption instrument CASA EX73.24. Refer to AC 1-03 for more details on this deferral. CASA has not yet announced implementation dates for this deferral.

C.1.3 Your organisation has two options available to you regarding your SMS transition and implementation, which are explained in this Appendix.

C.2 Option A - Continue deferral

C.2.1 You can continue to defer the requirement to have a key person Safety Manager and comply with the SMS and, if applicable to you, the FDAP regulatory requirements until CASA writes to relevant operators, and provides public notice, of the dates by which this deferral will end.

C.2.2 If you already have an SMS that has not been reviewed by CASA, you may elect to use your SMS for purposes other than compliance with civil aviation legislation.

For example, if you provide services under contract to another party and that contract requires your use of an SMS, then this would be permitted[10].

C.2.3 If you desire to commence Scheduled Air Transport Operations, you must exit using the deferral and request CASA approval of this change, which will include assessing your proposed key person Safety Manager and your SMS (and if applicable FDAP) exposition content before commencing such operations[11]. If you require advice from CASA about how to request this approval, please email for.transition.support@casa.gov.au.

C.3 Option B - SMS early adopter process

C.3.1 The SMS early adopter process involves a CASA review of your SMS exposition content and a key person assessment of the individual you are nominating as safety manager. If you elect to proceed with the SMS early adopter process, you will be required to implement the SMS and the key person prior to some of your industry counterparts. Once the SMS and the key person have been approved for implementation, you will not be able to access any future changes to the SMS deferral provided by CASA EX73/24 should they occur.

C.3.2 If you elect to proceed with the early adopter process, you will be required to provide further information as outlined in sections C4 and C5 of this Appendix.

[10] Refer to section 8(3) and 18(3) of CASA EX73/24 - Flight Operations Regulations - SMS, HFP&NTS and T&C Systems - Supplementary Exemptions and Directions Instrument 2024.
[11] Refer to section 7(1) of CASA EX73/24 - Flight Operations Regulations - SMS, HFP&NTS and T&C Systems - Supplementary Exemptions and Directions Instrument 2024.

C.4 SMS early adopter submission process (air transport operators - Parts 119, 121, 133, 135 of CASR)

C.4.1 Follow these steps to submit your SMS exposition content for review and nomination of your Part 119 safety manager.

A. Review relevant CASR regulations:

(i) 119.070 - Conditions for issue of AOC - key personnel requirements.
(ii) 119.080 - Conditions of an AOC - key personnel requirements.
(iii) 119.155 and 119.160 - Safety manager experience and responsibilities.
(iv) regulation 119.190 - Safety management system requirements.
(v) 119.205 - Contents of exposition - organisation structure and key personnel.

B. **SMS exposition content:** Prepare your SMS exposition content for submission including version number and revision date.

C. **Self-assessment**: Download and complete the Transitional Operator - Safety Management Systems Self-Assessment Worksheet (ensure all sections of the worksheet are complete, with the relevant SMS manual references.

D. **Submission form**: Download and complete the FOR Transition - Safety Management Systems Submission Form. Ensure all questions related to your key personnel - safety manager nominee are completed and form signed by CEO or their authorised agent.

E. **Safety manager nominee**: Provide qualifications and experience documentation in support of your safety manager nomination:

(i) Completion of key personnel familiarisation training in accordance with regulation 119.120 of CASR.
(ii) Resume showing safety management experience.
(iii) Any course completion certificates, university degree certificates for any safety, risk, or human factors related courses or qualifications.

F. **Submission**: Submit your self-assessment worksheet, submission form, safety manager nominee documents, and latest revision of your SMS exposition content to the email address in the FOR Transition - Safety Management Systems Submission Form. Use the following format in the email subject line:

Operator name -- ARN ###### -- SMS and safety manager submission (e.g., Sample Aviation Pty Ltd - ARN 123456 - SMS and safety manager submission).

C.4.2 Upon receiving your submission, CASA will contact you with the next steps, including any additional information required, and arrange for assessment of your key personnel safety manager nominee.

C.5 SMS early adopter submission process (aerial work operators - Part 138)

C.5.1 To determine if your organisation is required to implement an SMS under Part 138 of CASR, refer to regulation 138.140 of CASR to establish if your aerial work activities or aircraft would require implementation of an SMS to meet the requirements of regulation 138.145 of CASR. If you require an SMS under regulation 138.140 of CASR you are also required to nominate a safety manager that meets the requirements of Division 138.B.4 of CASR.

C.5.2 Follow these steps to submit your SMS manual content for review and nomination of your Part 138 safety manager.

A. **Review relevant regulations**:
   (i) regulation 138.040 - Issue of aerial work certificate - key personnel requirements.
   (ii) regulation 138.050 - Conditions of aerial work certificates - key personnel requirements.
   (iii) regulation 138.110 and 138.115 - Safety manager experience and responsibilities.
   (iv) regulation 138.140 - operators who are required to have a safety management system - determine if an SMS required for your Part 138 operations. If YES, continue:
   (v) regulation 138.145 - Safety management system requirements.
   (vi) regulation 138.155 - Contents of operations manual - organisation structure and key personnel.

B. **SMS manual content**: Prepare your SMS manual content for submission including version number and revision date

C. **Self-assessment**: Download and complete the Transitional Operator – safety management systems self-assessment worksheet (ensure all sections of the worksheet are complete, with the relevant SMS manual references.

D. **Submission form**: Download and complete the Transitional Operator - Safety Management System submission form. Ensure all questions related to your key personnel - safety manager nominee are completed.

E. **Safety manager nominee**: Provide qualifications and experience documentation in support of your safety manager nomination:
   (i) Completion of key personnel familiarisation training in accordance with regulation 138.080 of CASR.
   (ii) Resume showing safety management experience.
   (iii) Any course completion certificates, university degree certificates for any safety, risk, or human factors related courses or qualifications.

F. **Submission**: Submit your self-assessment worksheet, submission form, safety manager nominee documents, and the latest revision of your SMS manual

content to the email address in the FOR Transition - Safety Management Systems Submission Form. Use the following format in the email subject line:

Operator name -- ARN ###### -- SMS and safety manager submission (For example, Sample Aviation Pty Ltd - ARN 123456 - SMS and safety manager submission).

C.5.3 Upon receiving your submission, CASA will contact you with the next steps, including any additional information required, and arrange for assessment of your key personnel safety manager nominee.