

Advisory Circular

SAFETY MANAGEMENT SYSTEM (SMS)

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GENERAL

Advisory Circulars (ACs) are issued by the Director-General of Civil Aviation Authority of Singapore (DGCA) from time to time to provide practical guidance or certainty in respect of the statutory requirements for aviation safety. ACs contain information about standards, practices and procedures acceptable to CAAS. An AC may be used, in accordance with section 11 of the Air Navigation Act 1966 (ANA), to show that compliance with a statutory requirement has been achieved. The revision number of the AC is indicated in parenthesis in the suffix of the AC number.

PURPOSE

This AC provides guidance on the key concepts and components for effective implementation of an SMS, as required under CAAS' regulations. This AC complements other guidance material issued by CAAS on safety management-related subjects.

APPLICABILITY

This AC applies to all holders of Singapore Air Operator Certificate (AOC), holders of Aerial Work Certificate, holders of Complex General Aviation Certificate, SAR-145 Approved Maintenance Organisations (except SAR-145, Subpart D organisations), Aviation Training Organisations (ATOs) approved by CAAS that are exposed to safety risks during the provision of their services, the Air Navigation Services Provider in Singapore, the operator of certified aerodromes in Singapore, and the Aeronautical Meteorological Service Provider.

CANCELLATION

This AC supersedes AC 1-3(8) dated 20 January 2020. This revision updates the guidance for implementation of an SMS.

EFFECTIVE DATE

This AC is effective on 20 April 2026.

REFERENCES

- ICAO Annex 19 – Safety Management
- ICAO Safety Management Manual (Doc 9859)
- ICAO Safety Intelligence Manual (Doc 10159)

1. INTRODUCTION

- 1.1 ICAO Annex 19 – *Safety Management* defines SMS as “a systematic approach to managing safety, including the necessary organisational structures, accountability, responsibilities, policies and procedures”. ICAO Doc 9859 – *Safety Management Manual* further elaborates that the SMS should assist the service provider to continuously improve safety through identifying hazards, collecting and analysing safety data and safety information and continuous assessment of safety risks. ICAO Doc 10159 – *Safety Intelligence Manual* provides guidance on the systematic process of collecting, analysing and interpreting safety data and safety information to support data-driven decision-making. This will enable the service provider to proactively contain or mitigate risks before they result in aviation accidents and incidents¹.
- 1.2 The SMS of a service provider should be applicable to its activities that are related to the safe operation of aircraft. The scope of an SMS may indirectly include other organisational activities that support operational or product development, such as finance, human resources and legal. The implementation of an SMS should take into account interfaces with key stakeholders, industry partners and corporate activities such as finance, human resources and legal.
- 1.3 A glossary of terms used in this AC may be found in **Appendix A**.

2. SMS REQUIREMENTS

- 2.1 As required under Singapore’s legislations and regulations, the following service providers are required to implement an SMS that is acceptable to CAAS:
- a. Singapore AOC holder;
 - b. SAR-145 Approved Maintenance Organisation (except SAR-145, Subpart D organisation);
 - c. Aviation Training Organisation (ATO) approved by CAAS that is exposed to safety risks during the provision of their services;
 - d. Air Navigation Service Provider in Singapore;
 - e. Operator of certified aerodromes in Singapore;
 - f. Singapore Complex General Aviation Certificate holder;
 - g. Singapore Aerial Work Certificate holder; and
 - h. Aeronautical Meteorological Service Provider.
- 2.2 The list of relevant requirements and guidance material is shown below:

¹ More information on the SMS fundamentals of safety management and safety intelligence can be found in ICAO Doc 9859 – *Safety Management Manual* and Doc 10159 – *Safety Intelligence Manual*.

SERVICE PROVIDER	SMS REQUIREMENTS FOUND IN	GUIDANCE MATERIAL
Air operator holding an AOC	ANR-119 ANR-121 ANR-135	AC 1-3 AC 119-2-2 AC 119-2-4
Approved maintenance organisation (AMO)	SAR-145	AC 1-3 AC 145-11
Aviation training organisation (ATO)	SASP Part 10	AC 1-3
Aeronautical meteorological service provider	MOS - 174	AC 1-3 ATS Safety Publications
Air navigation services (ANS) provider	MOS – 170	AC 1-3 ATS Safety Publications ATS Information Circulars
Aerodrome operator	ANR-139	AC 1-3
Aerial work operator	ANR-137	AC 1-3
Complex general aviation	ANR-125	AC 1-3

2.3 The SMS framework comprises four components and the associated elements as reflected in the table below. Details of each element are explained in subsequent paragraphs. To implement an SMS, an organisation needs to translate these components and elements into how it manages safety that commensurate with the size and complexity of its operations.

COMPONENT	ELEMENT
1. Safety policy and objectives	1.1 Management commitment
	1.2 Safety accountability and responsibilities
	1.3 Appointment of key safety personnel
	1.4 Coordination of emergency response planning
	1.5 SMS documentation
2. Safety risk management	2.1 Hazard identification
	2.2 Safety risk assessment and mitigation
3. Safety assurance	3.1 Safety performance monitoring and measurement
	3.2 The management of change
	3.3 Continuous improvement of the SMS
4. Safety promotion	4.1 Training and education
	4.2 Safety communication

3. SMS FRAMEWORK – (COMPONENT 1) SAFETY POLICY, OBJECTIVES AND RESOURCES

- 3.1 The Safety Policy and Objectives set out the commitment and high-level directions for safety management and safety performance improvement. They also encompass processes on emergency response planning and SMS documentation.

Element 1.1 Management commitment

Management's commitment to safety should be formally expressed in a safety policy statement, which captures the service provider's philosophy on safety management, and its key safety objectives. The safety policy should be endorsed by the Accountable Executive and supported by senior management through the safety committee.

- 3.2 Safety objectives should be established taking into account the service provider's safety policy and safety priorities. The safety objectives would form the basis for the setting of safety performance indicators (SPIs) and safety performance targets (SPTs) which are further elaborated in subsequent paragraphs.
- 3.3 The service provider should document a formal review process for its safety policy and objectives to ensure they remain relevant and appropriate to the organisation's operations and safety priorities. This review process should specify the frequency of reviews, responsible personnel, and criteria for determining when updates are necessary.

Element 1.2 Safety accountability and responsibilities

- 3.4 The service provider is to appoint an Accountable Executive to hold overall accountability for the implementation and maintenance of the SMS and the organisation's overall safety performance. Depending on the structure, size and complexity of the service provider, the Accountable Executive may be the chairperson of the board of directors, the chief executive, a member of the senior management, or the proprietor. The Accountable Executive should be responsible for the:
- a. provision and allocation of adequate resources including financial, manpower and training for the effective implementation of SMS;
 - b. promotion of a positive safety culture;
 - c. establishment and communication of the organisation's safety policy and safety objectives;
 - d. monitoring, review and improvement of safety objectives and performance;
 - e. ensuring the SMS is properly implemented and performing to requirements; and
 - f. continuous improvement of the SMS.

Information about these responsibilities should be disseminated throughout the

organisation.

- 3.5 Further, the service provider should clearly define, document and communicate throughout the organisation the accountability and responsibilities of the management and personnel (including relevant departmental and/or unit managers, and line managers) with respect to safety-related functions or duties. This could include being responsible for safety performance, ensuring appropriate mitigating measures and corrective actions are taken to address reported hazards and errors, as well as responding to accidents and incidents. The organisation's structure should clearly reflect these defined safety accountabilities and responsibilities.
- 3.6 The service provider should establish a process to identify and manage interfaces between its SMS and the SMS or safety-related systems of external organisations. Where products or services are provided or supported by an external organisation, such as a contractor or subcontractor, the service provider should ensure that the external organisation meets the service provider's safety requirements. Policies and procedures should be established to clearly define the safety accountability and authority flow between the service provider and the external organisation.

Element 1.3 Appointment of key safety personnel

- 3.7 The service provider is to appoint a qualified individual to the role of a Safety Manager within its organisation structure. The Safety Manager is responsible for:
- a. advising the Accountable Executive and line managers on safety management matters;
 - b. managing the implementation of SMS on behalf of the Accountable Executive;
 - c. performing or facilitating hazard identification, and safety risk analysis;
 - d. monitoring safety risk control and corrective actions and evaluating their results;
 - e. providing periodic reports on the service provider's safety performance;
 - f. maintaining aviation safety-related records and documentation;
 - g. planning and facilitating personnel training related to aviation safety;
 - h. monitoring safety concerns in the aviation industry and their perceived impact on the service provider's operations; and
 - i. coordinating and communicating (on behalf of the Accountable Executive) with CAAS and other aviation authorities as necessary on issues relating to safety.
- 3.8 The roles and responsibilities of the Safety Manager should be clearly defined, as well as the procedures and processes for the Safety Manager to communicate with the Accountable Executive and line managers on SMS matters. The qualifications and competencies required for the role of the Safety Manager should be reviewed periodically to ensure they remain appropriate for the organisation's operations and complexity.

- 3.9 A service provider should establish its highest level safety committee, which can be referred to as the Safety Review Board (SRB), with terms of reference. This highest-level safety committee is to provide strategic directions for safety policies and oversees the organisational safety performance. The committee's strategic role includes addressing safety policies, safety objectives, resource allocation and safety performance of the organisation.

Element 1.4 Coordination of emergency response planning

- 3.10 A service provider should establish processes to identify, implement and participate in Emergency Response Plans (ERPs) as part of its safety risk management process to address aviation related emergencies, crises or events.
- 3.11 An ERP addresses aviation-related emergency scenarios identified through the service provider's SMS. Such scenarios may include accidents, serious incidents, or any events that could affect the safety of aviation operations. The ERP ensures corresponding actions are taken including mitigating actions, processes and safety risk controls to ensure safe continuation of the service provider's operations and the return to normal operations as soon as possible, including defining the period of time required to re-establish normal operations following the emergency. The service provider's ERPs should also be coordinated with external stakeholders such that it ensures that the external stakeholders' interfaces are factored into the respective ERPs.
- 3.12 Where appropriate, an ERP should:
- a. identify foreseeable emergencies, including where there is a possibility of its aviation operations or activities being compromised by emergencies such as a public health emergency or pandemic;
 - b. establish the emergency authority, and respective roles and responsibilities of units and personnel involved;
 - c. identify actions to be taken by responsible personnel during an emergency, including those of external organisations; and
 - d. establish detailed coordination procedures for internal coordination between different units, external coordination with other service providers, and coordination with non-aviation related emergency services (e.g. police, civil defence, medical services, etc.).
- 3.13 Relevant parts of the ERPs should be easily accessible to appropriate key personnel and coordinating external organisations, and should be regularly tested through exercises and reviewed to maintain its relevance.

Element 1.5 SMS documentation

- 3.14 A service provider should establish and maintain a SMS Manual that describes the scope, components and elements in its SMS, and their associated policies, procedures, and practices. The SMS Manual should describe how these elements link to the service provider's safety policy and objectives. Depending on the complexity of the service provider's operations, the SMS Manual may be

a stand-alone document or integrated as a section within existing manuals, with appropriate cross-referencing to relevant documents as necessary.

- 3.15 The SMS Manual is the primary safety communication tool that helps personnel understand how the organisation's SMS functions and facilitates communication with key safety stakeholders regarding regulatory acceptance, safety assessment, and SMS performance monitoring. The SMS Manual should be written in a way that can be easily understood by all personnel. The SMS Manual should be used to help personnel understand how the service provider's SMS functions and how safety policies and objectives are met. It should include a description of the scope of the service provider's SMS and describe the relationship between policies, processes, procedures and practices and how they link to safety policy and objectives. Clear documentation and communication of safety policies, safety management roles and responsibilities, processes and methodologies, and day-to-day safety management activities will help organisational personnel, partner organisations and CAAS in understanding how the organisation's SMS functions, and how the safety policy and objectives will be met. These include:
- a. safety policy and safety objectives;
 - b. reference to any applicable regulatory SMS requirements;
 - c. system description;
 - d. safety accountabilities and key safety personnel;
 - e. voluntary and mandatory safety reporting system processes and procedures;
 - f. hazard identification and safety risk assessment processes and procedures;
 - g. safety investigation procedures;
 - h. procedures for establishing and monitoring safety performance indicators;
 - i. SMS training processes and procedures and communication;
 - j. safety communication processes and procedures;
 - k. internal audit procedures;
 - l. management of change procedures;
 - m. SMS documentation management procedures; and
 - n. where applicable, coordination of emergency response planning.
- 3.16 The service provider should establish a review process to ensure that the SMS Manual is kept up to date and maintained as a controlled document.
- 3.17 The service provider should ensure that its SMS documentation includes the compilation, maintenance and proper storage of records that substantiate the existence and ongoing operation of its SMS. These records should be outputs of SMS processes and procedures, such as safety risk management activities and safety assurance activities. The records, including but not limited to the following, should be maintained in accordance with the appropriate retention

periods:

- a. SMS implementation plan and supporting gap analysis (during implementation process);
- b. occurrence (accident and incident) reports and investigations;
- c. hazards register and hazard/safety reports;
- d. safety performance indicators (SPIs) and related charts;
- e. records of completed safety risk assessments;
- f. SMS internal review or audit records;
- g. internal audit records;
- h. SMS/safety training records
- i. records of safety promotion activities;
- j. SMS/safety committee meeting minutes; and
- k. gap analysis to support SMS implementation plan.

4. SMS FRAMEWORK – (COMPONENT 2) SAFETY RISK MANAGEMENT

- 4.1 A service provider is to establish a safety risk management process which includes systematically identifying safety hazards, conducting of safety risk assessment and, where necessary, subsequent undertaking of safety mitigation measures. **Appendix B** provides an example of a safety risk management flowchart.

Element 2.1 Hazard identification

- 4.2 A service provider should develop and maintain processes to identify and document hazards that could affect aviation safety, and the responsibilities of the relevant personnel involved in hazard identification. This may be done through analysis of existing processes or various safety data and information sources such as mandatory reports, voluntary and confidential safety reports, audits and investigations.
- 4.3 Where appropriate and relevant, a service provider should implement policies, processes or initiatives that encourage the contribution, reporting or sharing of safety data and information from its personnel and relevant stakeholders, for hazards identification.
- 4.4 Hazards should not be confused with outcomes. For example, a runway incursion is an outcome, not a hazard. On the other hand, “unclear aerodrome signage” is a hazard that could lead to an outcome of runway incursion, which could result in adverse consequences.
- 4.5 Hazards may be sourced and identified from internal and external sources to the service provider. The following aspects should be considered when performing hazard identification:

Method

- a. design factors, such as equipment and task design
- b. procedures and operating practices, such as documentation and checklists
- c. organisational procedures;
- d. safety systems interfaces

Machine

- e. operational data monitoring systems such as flight data monitoring or equipment health monitoring.

Man

- f. human factors, such as medical conditions, human performance limitations, and human-machine interface
- g. communications with persons, such as language proficiency and terminology

Organisation

- h. organisational factors, such as company policies for recruitment, training, remuneration and allocation of resources
- i. Outcomes of State Safety Oversight audits and service provider internal audits
- j. Internal and external investigations
- k. Voluntary and mandatory safety reports

Environment

- l. operational environment factors, such as ambient noise and vibration, temperature, lighting, protective equipment and clothing

Regulatory requirements

- m. regulatory compliance factors, such as the applicability of regulations and the certification of equipment, personnel and procedures

Element 2.2 Safety risk assessment and mitigation

- 4.6 A service provider should develop a safety risk assessment model and procedures to enable a consistent and systematic approach for safety risk assessment. The process should ensure risk assessments are performed only by trained personnel; clearly define acceptable and unacceptable levels of safety risk, and include an approval process for safety risk assessments and mitigations performed.
- 4.7 A typical safety risk assessment model combines the likelihood and severity assessments of an identified hazard to produce a safety risk index score. Tables 1 to 4 show an example of the risk assessment matrices that may be used to determine the overall safety risk. A service provider may customise the sample model or develop its own safety risk assessment model that suits its context.

Table 1: Safety Risk Probability Table

<i>Likelihood</i>	<i>Description</i>	<i>Value</i>
Frequent	Likely to occur many times (has occurred frequently)	5
Occasional	Likely to occur sometimes (has occurred infrequently)	4
Remote	Unlikely, but possible (has occurred rarely)	3
Improbable	Very unlikely to occur (not known to have occurred)	2
Extremely improbable	Almost inconceivable that the event will occur	1

Note: Likelihood may also be defined quantitatively e.g. number of events within a time period.

Table 2: Example Safety Risk Severity Table

<i>Severity</i>	<i>Description</i>	<i>Value</i>
Catastrophic	<ul style="list-style-type: none"> Results in loss of life or destruction of equipment 	A
Hazardous	<ul style="list-style-type: none"> A large reduction in safety margins as a result of increased physical distress or a workload such that operational personnel cannot be relied upon to perform their tasks accurately or completely Results in serious injury to persons or major equipment damage 	B
Major	<ul style="list-style-type: none"> A reduction in safety margins, a reduction in the ability of operational personnel to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency Results in injury to persons or failure of significant operational processes or systems 	C
Minor	<ul style="list-style-type: none"> Affects normal operating procedures or performance 	D
Negligible	<ul style="list-style-type: none"> No significant impact to operational safety 	E

Table 3: Example Safety Risk Matrix

<i>Safety Risk</i>	<i>Severity</i>				
	Catastrophic A	Hazardous B	Major C	Minor D	Negligible E
Frequent (5)	5A	5B	5C	5D	5E
Occasional (4)	4A	4B	4C	4D	4E
Remote (3)	3A	3B	3C	3D	3E
Improbable (2)	2A	2B	2C	2D	2E
Extremely improbable (1)	1A	1B	1C	1D	1E

Table 4: Example of Safety Risk Tolerability

Safety Risk Index Range	Tolerability	Recommended Action
5A, 5B, 5C, 4A, 4B, 3A	Intolerable	Take immediate action to mitigate the risk or stop the activity. Perform priority safety risk mitigation to ensure additional or enhanced preventative controls are in place to bring down the safety risk index to tolerable.
5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D, 2A, 2B, 2C, 1A	Tolerable	Can be tolerated based on the safety risk mitigation. It may require management decision to accept the risk..
3E, 2D, 2E, 1B, 1C, 1D, 1E	Acceptable	Acceptable as is. No further safety risk mitigation required.

4.8 Based on the risk assessment, the service provider should take appropriate mitigation measures (also known as safety risk controls) to eliminate or reduce the level of risks associated with hazards to the defined acceptable level. Typical risk mitigation measures include:

- a. cancelling the operation or activity because the safety risk of continuing the activity exceeds tolerability;
- b. reducing the frequency of the operation or activity to reduce the likelihood of the consequences; and
- c. taking action to isolate the effects of the consequences of the safety risk or build in redundancy.

4.9 The identified hazards and mitigation measures should be documented in the hazard register. A hazard register should be developed to document the identified hazards and their consequences, safety risk assessments performed (including who performed them and approval details), safety risk control actions taken, current risk levels and their acceptability status, and ongoing monitoring requirements. The hazard register becomes a repository of the service provider’s known hazards and provides a source for safety trend analyses and material for safety training and safety communication.

5. SMS FRAMEWORK – (COMPONENT 3) SAFETY ASSURANCE

5.1 Safety assurance consists of processes and activities undertaken by a service provider to determine whether its SMS is operating according to its expectations or specifications. This requires, but is not limited to, the use of internal audits and the monitoring of safety performance indicators (SPIs).

Element 3.1 Safety performance measurement and monitoring

5.2 A service provider should establish an internal audit programme to ensure regulatory compliance and proper implementation of its SMS and safety-related

operations and processes to meet its desired level of safety performance. The audits should provide the Accountable Executive and its SRB with feedback on the status of the service provider's:

- a. compliance with regulations;
- b. compliance with policies, processes and procedures;
- c. the effectiveness of its safety risk controls;
- d. the effectiveness of its corrective actions; and
- e. the effectiveness of its SMS implementation.

5.3 In addition, a service provider should establish SPIs relevant to its operations to measure and monitor its safety performance, and validate the effectiveness of its safety risk control measures. Where appropriate, safety performance targets (SPTs) and safety triggers should also be set for these SPIs to drive safety improvements. A service provider should be able to demonstrate how the SPIs together with SPTs and safety triggers support the service provider in achieving its safety objectives and management's decision-making on its SMS implementation. This could include developing new safety risk control measures to address deteriorating safety performance, or initiatives to achieve better safety performance.

5.4 Lagging SPIs refer to indicators that measure events that have occurred and are "outcome-based", e.g. number of wildlife strikes, or rate of runway incursion.

5.5 Leading SPIs refer to indicators that measure processes and inputs implemented to improve or maintain safety and are "activity- or process-based", e.g. number of inspections conducted, or number of safety promotion activities conducted.

5.6 Safety performance targets (SPTs) are desired achievements that the service provider sets with respect to its SPIs. An SPT may be set based on a reasonable level of safety improvement such as:

- a. 5% improvement from past 12-months average, or to achieve a certain level of safety performance;
- b. not more than 3 hours of unplanned downtime, or more than 50% of staff attended safety promotion activities.

5.7 The SPTs should also be appropriately designed and set to avoid unintended outcomes of focusing on "numbers" that do not demonstrate safety performance is being met e.g. setting a target number of safety reports.

5.8 Safety triggers are established levels or criteria values that initiate or trigger a service provider to evaluate or take safety actions to address its safety performance. Such triggers are usually set based on out-of-limits or threshold figures which if exceeded, would be deemed as unacceptable safety performance.

Element 3.2 Management of change

- 5.9 The addition of new organisation structures, processes, procedures or equipment, or significant changes thereto, may affect existing safety risk controls or introduce new hazards into the operating environment. To manage these changes, and to minimise any adverse impact they may have on aviation safety, a service provider is to establish a change management process to identify whether changes which may affect the level of safety risk associated with its aviation products or services and to identify and manage any identified risks that may arise from those changes.

Element 3.3 Continual improvement of the SMS

- 5.10 The service provider should continually strengthen its SMS beyond the initial establishment. The SMS should be kept relevant and fit-for-purpose for the service provider's operational context that may evolve over time. The service provider should demonstrate active implementation of its SMS with tangible and meaningful safety performance improvements. The service provider should demonstrate active implementation of its SMS with tangible and meaningful safety performance improvements. As such, the service provider should implement processes to continually monitor and review the effectiveness of its SMS and where appropriate, identify areas for improvements. This may be done through activities such as internal audits, assessments, management reviews and evaluation of SPIs and SPTs.

Safety data collection and processing system

- 5.11 Safety performance management is central to the functioning of a service provider's SMS. The service provider should establish a safety data collection and processing system (SDCPS) and related processes to capture, store, aggregate and enable the analysis of safety data and safety information to support its safety performance management activities. The service provider should establish processes to use safety data and safety information in the SDCPS to verify the service provider's safety performance with respect to the established SPIs and SPTs, and develop safety intelligence through systematic analysis to identify trends, patterns and emerging safety issues that support their safety objectives and enable data-driven decision-making.
- 5.12 The SDCPS typically contains safety data and safety information such as:
- a. Mandatory safety reporting;
 - b. Accident and incident investigation;
 - c. Voluntary safety reporting system;
 - d. Self-disclosure reporting system;
 - e. Result of inspections, audits or surveys; and
 - f. The service provider's known hazards
- 5.13 The service provider should also consider the skills necessary to analyse the safety information and decide whether this analytical role, with appropriate training, should be an extension of an existing position or whether it would be more efficient to establish a new position, outsource the role, or use a hybrid of

these approaches.

- 5.14 The service provider should establish policies and procedures for the protection of safety data and safety information, including provisions for de-identification and aggregation of reports to enable meaningful safety analyses while protecting the identity of reporters and specific operational details.

6. SMS FRAMEWORK – (COMPONENT 4) SAFETY PROMOTION

- 6.1 Safety promotion encourages a positive safety culture through training, education, effective communication and information sharing.

Element 4.1 Training and education

- 6.2 A service provider should develop and implement a safety training programme for personnel at different levels and relevant functions in the organisation, including operational personnel, managers/supervisors, senior management and the Accountable Executive. The scope of safety training should be appropriate to an individual's involvement in the organisation's operations and SMS to ensure that he/she is trained and competent to perform the relevant SMS functions or duties.
- 6.3 The safety training programme may be part of a larger training programme for the service provider's personnel. The safety training programme includes both initial and recurrent safety training for the service provider's personnel to maintain their safety competencies. The scope of recurrent safety training focuses typically on changes to the SMS policies, processes, and procedures, and highlight any specific safety issues relevant to the service provider or lessons learned from past safety occurrences.
- 6.4 A service provider should also conduct a formal training needs analysis to ensure that there is a clear understanding of the operation, the safety duties of the personnel and the available training.

Element 4.2 Safety communication

- 6.5 A service provider should develop and maintain means of safety communication to disseminate safety-related information within and, where necessary, outside its organisation. Such information should be structured into safety communication processes and channels to ensure it has a comprehensive safety communication approach. The safety-related information should include its safety objectives, SPIs, SMS processes, safety-critical issues and safety lessons including those learned from investigations and case histories. The effectiveness of such means of communication should also be reviewed periodically to ensure that the relevant stakeholders have received and understood the information.

7. SMS INTEGRATION AND INTERFACES

- 7.1 An SMS may be integrated with other management systems such as a quality management system, and human factor / human performance (HF / HP) and

error management systems for better coordination and optimising of resources. Where appropriate, common platforms may be established to integrate the processes across different management systems, and minimise duplication or complication of work and resources. Examples of such integration includes having a single hazard or risk register, and establishing a common safety/quality committee.

- 7.2 A service provider's SMS could be affected by both internal (e.g. internal corporate departments such as marketing, finance etc.) and external interfaces (e.g. with other organisations). A service provider should identify and manage these interfaces as part of its safety risk management processes, and develop collaborative risk control strategy to address any identified issues.
- 7.3 A service provider's SMS should also interface, where relevant, with the Singapore State Safety Programme (SSP) which is safety management at the State-level. Such interfaces could include providing or sharing safety data and information for the monitoring of safety performance and identification of aviation hazards and risks; and conducting joint projects or initiatives to mitigate these hazards and risks.

8. CONTACT INFORMATION

- 8.1 Should you have any queries relating to this AC, please contact CAAS at CAAS_Safety_Policy@caas.gov.sg.

APPENDIX A: EXPLANATION OF TERMS USED

Accountable Executive. A single, identifiable person having responsibility for the effective and efficient performance of the service provider's SMS.

Contractor. An organisation holding a CAAS approval and engaged by another organisation to perform work that is within the scope approved by CAAS.

Defences. Specific mitigating actions, preventive controls or recovery measures put in place to prevent the realisation of a hazard or its escalation into an undesirable consequence.

Error. An action or inaction by an operational person that leads to deviations from organisational or the operational person's intentions or expectations.

Hazard. A condition or an object with the potential to cause or contribute to an aircraft incident or accident.

Risk mitigation. The process of incorporating defences or preventive controls to lower the severity and/or likelihood of a hazard's projected consequence.

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 acceptable level.

Safety data. A defined set of facts or values collected for reference, processing or analysis which could be used to maintain or improve safety.

Safety information. Safety data processed, organised or analysed in a given context to support safety management and the development of safety intelligence.

Safety intelligence. The outcome of the systematic and structured process of collecting, analysing and interpreting safety data and safety information which is then disseminated with the objective of supporting data-driven decision-making.

Safety Management System. A systematic approach to managing safety, including the necessary organisational structures, accountability, responsibilities, policies and procedures.

Safety performance. A service provider's measurable effect on safety achievement.

Safety performance indicator. A metric used to measure and monitor a service provider's safety performance, including the progress towards achieving a safety objective.

Safety performance target. The service provider's planned or intended target for a safety performance indicator over a given period.

Safety risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Safety trigger. A trigger is an established level or criteria value that serves to trigger (start) an evaluation, decision, adjustment or remedial action related to the particular indicator.

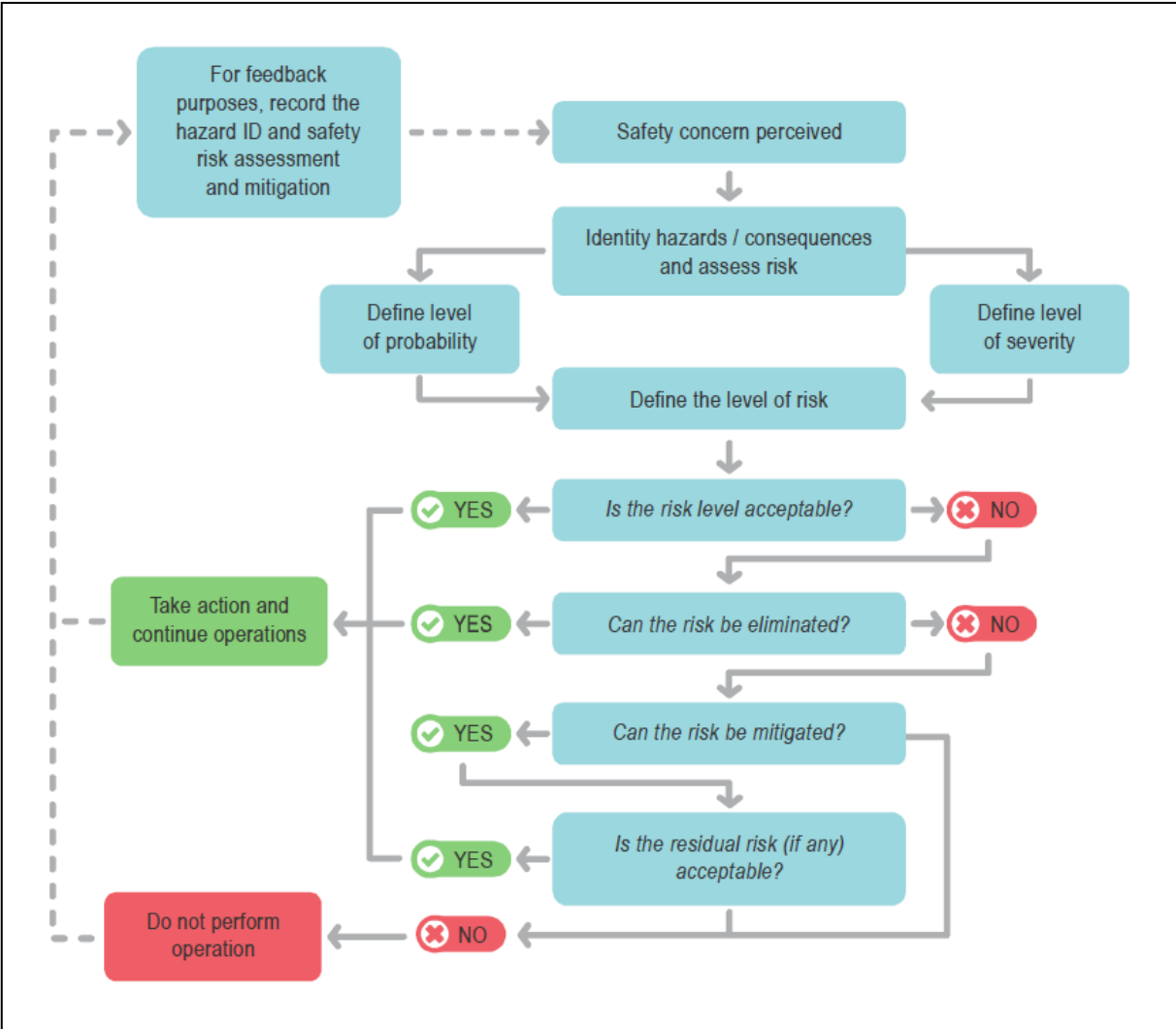
Serious injury. An injury which is sustained by a person in an accident and which:

- a. requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received;
- b. results in a fracture of any bone (except simple fractures of fingers, toes or nose);
- c. involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage;
- d. involves injury to any internal organ;
- e. involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f. involves verified exposure to infectious substances or injurious radiation.

State safety programme. An integrated set of laws, regulations, policies, objectives, processes, procedures and activities aimed at managing safety, at the State level.

Subcontractor. A third party organisation that is engaged by a CAAS-approved organisation to carry out the work under the responsibility of the CAAS-approved organisation.

APPENDIX B: SAMPLE RISK MANAGEMENT PROCESS FLOWCHART



Source: ICAO Document 9859, Safety Management Manual, Fourth Edition, 2018