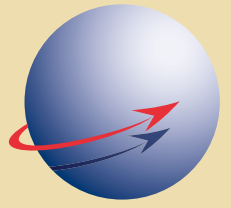


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civil air navigation services organisation



CANSO Standard of Excellence in Safety Management Systems

Safety is the aviation industry's number one priority. Air traffic management (ATM) faces many challenges including increasing traffic demand; the implementation of new technology; new entrants to airspace such as unmanned aircraft; and increasing automation – and the ATM industry must address these while maintaining and improving safety.

The CANSO Safety Standing Committee (SSC) oversees CANSO's Safety Programme and aims to continually improve safety performance in ATM operations; further enhance safety management and culture among CANSO Members; and provide global leadership on safety management issues. CANSO's Safety Programme helps air navigation service providers (ANSPs) improve safety by offering guidance on safety management systems, best practices and benchmarking. Find out more at canso.org/safety.

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The CANSO Standard has been developed through the contributions of CANSO Members.

Executive Summary

In 2009, the Civil Air Navigation Services Organisation (CANSO) published the first edition of the *CANSO Standard of Excellence in Safety Management Systems* (SoE in SMS). The SoE in SMS drew on the experiences of CANSO Members to develop a framework that would help air navigation service providers (ANSPs) continually improve their efforts to manage safety.

Since its first publication, the SoE in SMS has been revised to:

1. Align with the International Civil Aviation Organization's (ICAO's) Annex on Safety Management (Annex 19)
2. Address feedback received from ANSPs and other industry bodies
3. Incorporate the latest developments in safety management thinking and practice

The SoE in SMS details a pathway that ANSPs can follow to build an SMS that is compatible with (and even exceeds) current international regulatory requirements as laid out in ICAO's Annex 19. It also gives ANSPs the flexibility to build SMSs that fit their size and operational complexity.

The SoE in SMS supports a clear message expressed in the *Global Aviation Safety Plan* (GASP) and the *ICAO Safety Management Manual*: achieving the highest level of SMS maturity is a long-term process that must proceed in a deliberate, step-by-step manner.

The SoE in SMS is built on an SMS model that consists of a system enabler (safety culture) and a framework of five components addressing 16 elements. The structure of that model is presented below:



1

Context

1.1 ANSPs play a vital role in the aviation industry. That role requires that they minimise the risk of collision between aircraft and between aircraft and the ground while providing efficient services. For all ANSPs—regardless of whether they are operated by a state or by a commercial organisation—safety must come first when delivering air traffic management (ATM) services.

1.2 ANSP management must ensure that risks to operational service delivery are minimised. This requires a formal and proactive approach to identifying hazards, analysing risks and implementing appropriate control measures. This approach requires organisational structures, policies, practices and culture to be in place.

1.3 The need for a framework within which ANSPs can manage safety has been recognised at an international level and in a growing number of domestic regulations. ICAO Annex 19 is intended to provide general statements against which compliance can be tested; it does not provide a pathway that ANSPs can use to drive a culture of continual improvement.

1.4 The coming years will present many challenges for aviation in general and for ANSPs in particular. These challenges will include increased traffic demands, prevalence of unmanned aircraft, environmental issues and security considerations. ANSP management must address these challenges while maintaining (and, wherever possible, improving on) current safety levels. To accomplish this, ANSP management must continually try to improve the ways they identify risks and manage safety.

1.5 Although international harmonisation efforts are underway, ANSPs operate for the most part in isolation. In addition, they use different technologies from one another and often rely on secondary organisations to provide integral services such as communication links via land lines or satellite. This makes learning from each other more difficult and makes integrating safety management activities more complex yet all the more important.

1.6 Across the industry, ANSPs are at different stages of SMS development. Some have very mature SMSs that are fully integrated into their operations; others are just starting to build formalised safety management practices and a culture that prioritises safety.

1.7 While guidance material covering the implementation of an SMS is available, ensuring compliance with existing or proposed regulations is often challenging. There are two main reasons for this: 1) guidance material and regulations may vary across ANSPs, and 2) lessons learned are not always shared among ANSPs.

1.8 The SoE in SMS is an excellent way for CANSO to communicate best practices to ANSP management and safety managers.

2

Status of the CANSO SoE in SMS

2.1 The SoE in SMS promoted by CANSO, as the industry body for ANSPs, does not supersede either domestic or international regulations on safety management.

2.2 The SoE in SMS is intended as a help for ANSPs to achieve the relevant ICAO Annex 19 standards and recommended practices. (See section 11 below.) However, the SoE in SMS goes beyond Annex 19 and includes several additional study areas. The SoE in SMS is intended to lead the industry in developing best practices in safety management.

2.3 The SoE in SMS draws on the experiences of CANSO Members and aims to complement existing standards rather than mirror any particular standard.

2.4 This SoE in SMS provides a pathway for ANSPs to move beyond simply complying with regulations and instead focus on continuous improvement.

2.5 CANSO recommends that Members use the SoE in SMS as guidance.

3

Objectives

3.1 The purpose of this SoE in SMS is to:

- Encourage improvement within the industry
- Transfer learning across the industry
- Help Members demonstrate alignment with the SMS aspects of ICAO Annex 19 (see section 11)
- Allow each Member to build an SMS that fits the size and complexity of its operation
- Provide a path for continuous improvement beyond the requirements set by international and domestic regulators

- Reflect and share industry best practices
- Provide a means for ANSP management, and safety managers in particular, to directly and deliberately plan for safety at a corporate, group and project level, thereby ensuring that risks to operational service delivery are minimised

3.2 The SoE in SMS complements and supports the intent of both ICAO Annex 19 and the Global Aviation Safety Plan (GASP), which is to develop harmonised, consistent and coherent safety management processes that support the evolution of modern ATM. The SoE in SMS provides the means by which ANSPs can work toward this common objective.

4

Utility and Benefits

4.1 The SoE in SMS is a planning tool. It emphasises the phased, step-by-step implementation of an SMS. It enables ANSP management, and safety managers in particular, to prioritise their safety efforts and to initially focus on the fundamental elements of their SMSs (elements that deliver immediate safety benefits), while planning to implement the more sophisticated elements in the future.

4.2 Safety culture is the enabler; it integrates the various other SMS elements into a coherent system. The SoE in SMS provides a framework through which an organisation can improve its safety culture.

4.3 The SoE in SMS allows for better measurement and communication. It aims to enable ANSP management, and safety managers in particular, to measure and understand SMS maturity in their organisation. It also allows each SMS to be measured against an industry standard.

4.4 The SoE in SMS promotes safer and more effective processes across the Flight Information Regions. All ANSPs must interact with other service providers; consistent language and approaches make these interactions more effective.

4.5 ANSPs can use the SoE in SMS as a self-assessment tool or pre-audit checklist to ensure that all aspects of their SMS are developed.

4.6 The SoE in SMS aims to contribute to increased cost-effectiveness by enabling ANSPs to develop standardised training courses, safety promotion campaigns and mentoring programmes.

4.7 The SoE in SMS is an industry-led effort that is focused on continual performance improvement rather than regulatory compliance. Significant efforts have been to cover all main elements of Annex 19 and as such, an ANSP answering positively to those elements can feel confident to pass a compliance check.

5 Outline of the CANSO SoE in SMS

5.1 Maintenance of the SoE in SMS

5.1.1 The SoE in SMS is updated from time to time to reflect evolving safety management thinking and practice.

5.1.2 As previously referenced, the SoE in SMS goes beyond the ICAO Annex 19 requirements. Elements that are required by Annex 19 are highlighted in section 11 and Appendix A below.

5.1.3 The SoE in SMS consists of a system enabler (safety culture) and a framework of five components addressing 16 elements (discussed further in sections 5-7, and detailed in Appendix A). The structure is presented below:



5.1.4 ANSPs need to integrate all elements of risk management to increase their resistance to unsafe acts and conditions.

5.1.5 Some ANSPs may wish to expand their SMS beyond the elements presented in the SoE in SMS.

5.2 Safety Culture

5.2.1 Effective safety management requires a genuine commitment to safety from everyone in the organisation. Culture has a strong impact on organisations.

5.2.2 The organisation must develop a positive and proactive safety culture in order for an SMS to be successful.

5.2.3 Safety culture is described in this document as a system enabler because it has the most significant influence on how SMS elements are integrated and evolve within the organisation.

5.3 Safety Policy and Objectives

5.3.1 The Safety Policy and Objectives component of the SoE in SMS consists of elements that address:

- Safety policy
- Organisational and individual safety responsibilities
- Compliance with international obligations
- Coordination of emergency response plan
- Safety management documentation

5.3.2 Organisational and Individual Safety Responsibilities embrace two of ICAO's Annex 19 SMS elements: Safety Accountabilities and the Appointment of Key Safety Personnel.

5.4 Safety Risk Management

5.4.1 Each ANSP must develop and implement a risk management process which revolves around identifying hazards, assessing risks and implementing mitigations.

5.5 Safety Achievement

5.5.1 Each ANSP must conduct activities with the goal of achieving and improving safety. The elements covered by Safety Achievement include:

- Safety Interfaces
- Safety by Design
- Fatigue-related Risk Management

5.6 Safety Assurance

5.6.1 The SoE in SMS recommends that ANSPs use a variety of review and reporting mechanisms. These will help an ANSP understand how it is performing, whether all safety requirements are effective and how any deficiencies may be overcome. Safety Assurance elements include:

- Safety Performance Monitoring and Measurement
- Management of Change
- Continual Improvement of the SMS
- Safety Reporting, Investigation and Improvement
- Operational Safety Surveys and SMS Audits

5.7 Safety Promotion

5.7.1 Each ANSP must promote safety within its organisation. The SoE in SMS therefore embraces the need for training, education and safety communication.

6 SMS Maturity Pathway

6.1 The SoE in SMS emphasises a phased, step-by-step approach to implementing an SMS (see below), from the most basic informal arrangements to an optimised system.

6.2 The tables in Appendix A provide the details of the SoE in SMS at each level of maturity. Each of the elements is addressed with descriptions for the five SMS levels.

6.3 Each element, including the system enabler element (safety culture), has descriptors of requirements for each level of system maturity. The descriptors and their definitions are:

6.3.1 **Level A - Informal Arrangements:** SMS processes and/or requirements have not been agreed at the organisation level; they are either not routinely undertaken or depend on the individual assigned to the task.

6.3.2 **Level B – Defined:** SMS processes and/or requirements are defined but not yet fully implemented, documented or consistently applied.

6.3.3 **Level C – Managed:** SMS processes and/or requirements are formally documented and consistently applied.

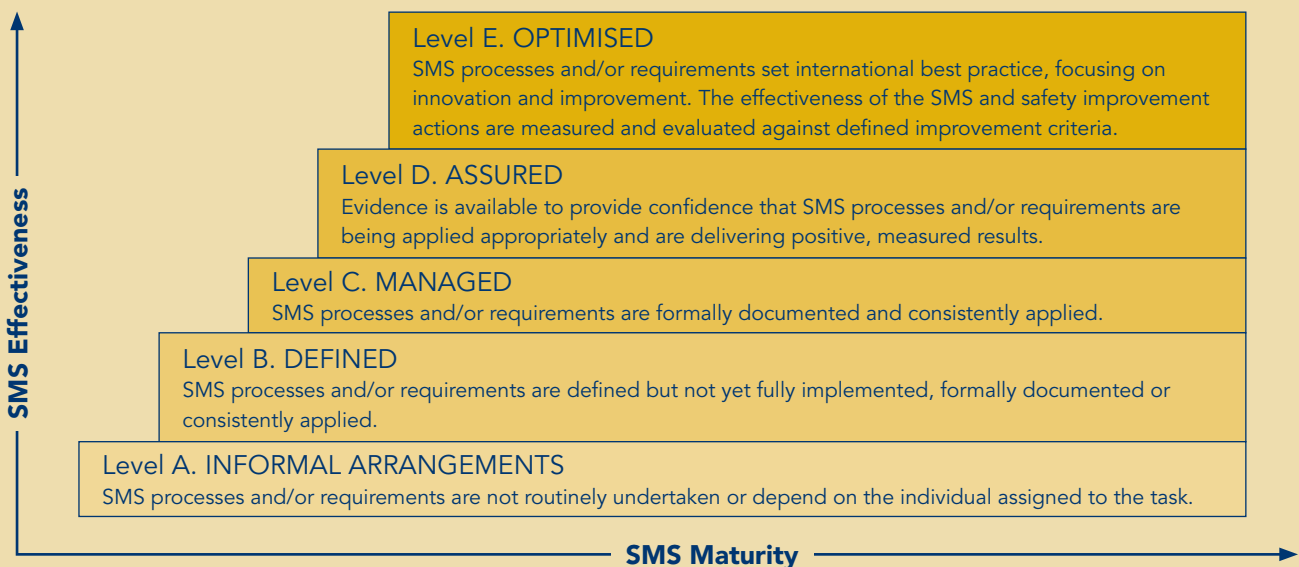
6.3.4 **Level D – Assured:** Evidence is available to provide confidence that SMS processes and/or requirements are being applied appropriately and are delivering positive, measured results.

6.3.5 **Level E – Optimised:** SMS processes and/or requirements set international best practice, focusing on innovation and improvement. The effectiveness of the SMS and safety improvement actions are measured and evaluated against defined improvement criteria.

6.4 In some cases, the requirements build in a consecutive manner to deliver improved system effectiveness. In other cases, differing approaches are promoted for adoption as the system matures.

7 A Phased Approach to SMS Implementation

7.1 The SoE in SMS provides a means for ANSP management, and safety managers in particular, to develop a phased plan for SMS implementation and improvement. This approach is based on the experience of CANSO Members. It draws on information included in the *ICAO Safety Management Manual* (Doc 9859) and promoted in ICAO courses on SMS implementation.



7.2 The phased approach:

- Supports the clear message expressed in the ICAO GASP that achieving the highest level of SMS maturity is a long-term process that must proceed in a deliberate, step-by-step manner
- Acknowledges the need to effectively manage the workload associated with developing and implementing an SMS
- Recognises that some elements deliver more immediate safety benefits to organisations than others
- Recognises that it may be easier to implement some elements once a base of understanding has developed within an organisation

7.3 The phased approach provides a framework to plan and document the organisation’s safety management goals and who is accountable for achieving those goals. The phased approach should proceed in a direct and deliberate manner. During the first phase, an organisation should develop an implementation plan containing clear deliverables and milestones.

7.4 During the second and third phases of implementation, the organisation should build on the embedded SMS framework and focus on improving its ability to measure and analyse its safety performance. This will allow the organisation to measure the gap between its current performance and its goal.

7.5 In the final phase, the organisation should implement the more sophisticated aspects of an SMS. These include measuring and critically evaluating safety performance improvement, drawing on lessons from other organisations and furthering the organisation’s commitment to continuous improvement.

7.6 The table below presents how a four-phase implementation plan may look:

Phase	Group	Element
1	Safety Policy and Objectives	Safety Policy
		Organisational and Individual Safety Responsibilities
2	Safety Assurance	Safety Reporting, Investigation and Improvement
	Safety Promotion	Training and Education
	Safety Culture	Development of a Positive and Proactive Safety Culture (Appendix A, sub-element 1.1 and 1.2)
	Safety Policy and Objectives	SMS Documentation
		Coordination of Emergency Response Plan
Safety Promotion	Safety Communication	
3	Safety Risk Management	Risk Management Process
	Safety Assurance	Management of Change
		Safety Performance Monitoring and Measurement
		Continuous improvement of the SMS
	Safety Achievement	Safety Interfaces
Safety Policy	Timely Compliance with International Obligations	
4	Safety Assurance	Operational Safety Surveys and SMS Audits
	Safety Culture	Safety Culture (Appendix A, sub-element 1.2)
	Safety Achievement	Safety by Design
		Fatigue-related Risk Management

7.7 When an organisation uses the phased implementation approach, there may be instances when that organisation is simultaneously at various levels in the maturity pathway. For example, the organisation may have reached Level E, "Optimised," for an element such as Safety Policy, but may only have reached Level A, "Informal Arrangements," for an element such as Fatigue-related Risk Management. The organisation's overall level is only as high as its lowest level.

8 **Evolution of the Standard**

8.1 As safety concepts evolve over time, ANSP best practices also continue to change and shift. Level E, Optimised, reflects an aspirational level which an ANSP is unlikely to achieve in every study area.

In 2017, CANSO, working in collaboration with EUROCONTROL, agreed to change the descriptors in Level E to recognise that new best practices are always being developed. The Level E descriptions that were listed as global best practices in 2015 are in many cases now common practice across the industry.

In future, every year CANSO and EUROCONTROL will collect best practice submissions for each element, and publish those best practices as specific Evolution Guides.

9 **References**

Global Aviation Safety Plan, International Civil Aviation Organization

ICAO Annex 19: Safety Management, International Civil Aviation Organization (2013)

ICAO Safety Management Manual (Doc 9859), International Civil Aviation Organization (3rd Edition May 2013)

10**Terms and Definitions**

See table below.

Term	Definition
CANSO Standard of Excellence	The CANSO Standard of Excellence in SMS is defined as a measure of quality that represents the ATM industry's view on the desired level of maturity and effectiveness which should be reached by all ANSPs in this area of air navigation services.
Risk Management	A systematic, explicit and comprehensive analytical approach for managing safety risk at all levels and throughout an operation or the lifecycle of a system in ATM.
Safety Audit	The testing of a process, product, people, organisation or system to ensure that it complies with the safety requirements in domestic and international regulations.
Just Culture	An atmosphere of trust in which people are encouraged to provide essential safety-related information, but in which they are also clear about where the line must be drawn between acceptable and unacceptable behaviour.
Safety Culture	The enduring value, priority and commitment placed on safety by every individual and every group at every level of the organisation. Safety culture reflects the individual, group and organisational attitudes, norms and behaviours related to the safe provision of air navigation services.
Safety Management Function	A business unit within an organisation that is dedicated to overseeing safety and safety management.
Safety Management System	An organised approach to managing safety, including the necessary organisational structures, accountabilities, policies and procedures.
SMS Audit	The testing of processes, products and people to ensure that they comply with the standards and requirements documented in the organisation's SMS.
Operational Safety Surveys	A survey of potential safety issues identified and carried out by operational staff.

11

Compliance Mapping to ICAO Annex 19: Safety Management

Framework for Safety Management Systems (Appendix)

ICAO Annex 19 Ref	Element	Requirement	CANSO Standard of Excellence in SMS Link
1	Safety Policy and Objective		
1.1		The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:	Compliance with International Obligations Objective 6.1
		a) reflect organisational commitment regarding safety	Safety Policy Objective 2.1
		b) include a clear statement of intent about the provision of necessary resources for the implementation of safety policy	Safety Policy Objective 2.1
		c) include safety reporting procedures	Safety Policy Objective 2.2, Safety Reporting, Investigation and Improvement Objective 11.1
		d) clearly indicate which types of behaviours are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply	Safety Policy Objective 2.2
		e) be signed by the accountable executive of the organisation	Safety Policy Objective 2.1
		f) be communicated, with visible endorsement, throughout the organisation,	Safety Policy Objective 2.2
		g) be periodically reviewed to ensure it remains relevant and appropriate to the service provider	Safety Policy Objective 2.1, SMS Documentation, Continuous Improvement of the SMS
1.2	Safety Accountabilities	The service provider shall:	
		a) identify the accountable executive who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS	Organisational and Individual Safety Responsibilities Objective 3.2

ICAO Annex 19 Ref	Element	Requirement	CANSO Standard of Excellence in SMS Link
1.2	Safety Accountabilities	The service provider shall:	
		a) identify the accountable executive who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organisation, for the implementation and maintenance of the SMS	Organisational and Individual Safety Responsibilities Objective 3.2
		b) clearly defines lines of safety accountability throughout the organisation, including direct accountability for safety on the part of senior management	Organisational and Individual Safety Responsibilities Objective 3.1
		c) identify accountabilities for all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS	Organisational and Individual Safety Responsibilities Objective 3.1 and Objective 3.3, Safety Interfaces
		d) document and communicate safety responsibilities, accountabilities and authorities through the organisation	Organisational and Individual Safety Responsibilities (maturity level descriptors in Objective 3.1,3.2 and 3.3 reflect this requirement), Safety Communication, SMS Documentation
		e) define the levels of management with authority to make decisions regarding safety risk tolerability	Safety Risk Management Objective 7.2 and Management of Change 14.1
1.3	Appointment of Key Safety Personnel	The service provider shall appoint a safety manager who is responsible for the implementation and maintenance of an effective SMS	Organisational and Individual Safety Responsibilities Objective 3.2
1.4	Coordination of Emergency Response Plan	The service provider shall ensure that an emergency response plan is properly coordinated with the emergency response plans of those organisations it must interface with during the provision of its products or services	Coordination of Emergency Response Plan Objective 4.1

ICAO Annex 19 Ref	Element	Requirement	CANSO Standard of Excellence in SMS Link
1.5	Safety Accountabilities	1.5.1 The service shall develop an SMS implementation plan that defines the organisation's approach to the management of safety in a manner that meets the organisation's safety objectives	SMS Documentation Objective 5.1 and Continuous Improvement of the SMS Objective 15.1
		1.5.2 The service provider shall maintain SMS documentation that describes: a) Safety policy and objectives b) SMS requirements c) SMS processes and procedures d) Accountabilities, responsibilities and authorities for SMS processes and procedures e) SMS outputs	SMS Documentation Objective 5.2
		1.5.3 The service provider shall develop and maintain an SMS manual as part of its SMS documentation	SMS Documentation Objective 5.1, 5.2 and 5.3
		a) document and communicate safety responsibilities, accountabilities and authorities through the organisation	Organisational and individual safety responsibilities (maturity level descriptors in Objective 3.1 and 3.2 reflect this requirement), Safety Communication, SMS Documentation
2	Safety Risk Management		
2.1	Hazard Identification	2.1.1 The service provider shall develop and maintain a process that ensures that hazards associated with its aviation products or services are identified.	Safety Risk Management Objective 7.1 and the Management of Change 14.1
		2.1.2 Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.	
2.2	Safety Risk Assessment and Mitigation	The service provider shall develop and maintain a process that ensures analysis, assessment and control of the safety risks associated with identified hazards.	Safety Risk Management Objective 7.2

ICAO Annex 19 Ref	Element	Requirement	CANSO Standard of Excellence in SMS Link
3	Safety Assurance		
3.1	Safety Performance Monitoring and Measurement	3.1.1 The service provider shall develop and maintain the means to verify the safety performance of the organisation and to validate the effectiveness of risk controls	Safety Risk Management Objective 7.1 and the Management of Change 14.1
		3.1.2 The service provider's safety performance shall be verified in reference to the safety performance indicators and safety performance targets of the SMS	Safety Performance Monitoring and Measurement Objectives 13.1 and 13.2
3.2	Management of Change	The service provider shall develop and maintain a process to identify changes which may affect the level of safety risk associated with its aviation products or services and to identify and manage the safety risks that may arise from those changes.	Management of Change Objective 14.1
3.3	Continuous Improvement of the SMS	The service provider shall monitor and assess the effectiveness of its SMS processes to enable continuous improvement of the SMS	Continuous Improvement of the SMS Objective 15.2, Operational Safety Surveys and SMS Audits Objective 12.1
4	Safety Promotion		
4.1	Training and Education	4.1 The service provider shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform their SMS duties	Training and Education Objectives 16.1 and 16.2
		The scope of the safety training programme shall be appropriate to each individual's involvement in the SMS	Training and Education Objectives 16.1 and 16.2
4.2	Safety Communication	The service provider shall develop and maintain a formal means for safety communication that: <ul style="list-style-type: none"> a. ensures that personnel are aware of the SMS to a degree commensurate with their positions b. conveys safety-critical information c. explains why particular safety actions are taken d. explains why safety procedures are introduced or changed. 	Safety Communication Objectives 17.1 and 17.2

Appendix A - Enablers and Elements: Safety Objectives and Maturity Level Descriptors

Notes in relation to ICAO Annex 19:

- The alignment of CANSO SMS Elements to the SMS elements in ICAO Annex 19 is highlighted in the body of the Appendix with a white box.
- The CANSO Standard of Excellence goes beyond the coverage required by Annex 19, as a number of the CANSO elements do not directly reference Annex 19.

1. Development of a Positive and Proactive Safety Culture

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
General SMS principles applicable to each study area	<p>The organisation is aware of the need for SMS, but no specific formal implementation actions are in place or planned. The processes for managing safety are ad hoc and/or inconsistent with the organisation's safety obligations.</p> <p>Implementation of safety management depends on the performance and efforts of individuals. Processes are unpredictable and managed reactively.</p>	<p>The SMS framework, implementation and activities are not yet mature, but are based on defined plans. A gap analysis has been performed against this CANSO SoE, and an implementation plan is underway.</p>	<p>The SMS standard processes are in use across the organisation and are producing consistent results.</p> <p>The results are being measured using qualitative techniques.</p> <p>Processes are defined, and performance is managed.</p>	<p>The SMS framework is effective in achieving the overall safety policy and objectives of the organisation. SMS processes are quantitatively managed.</p> <p>Quantitative safety objectives are based on customer, end user and organisational needs.</p>	<p>SMS processes set international best practice, focusing on innovation and improvement. The organisation recognises that planning for safety is a continual process.</p> <p>Safety processes/systems are firmly embedded within the organisation.</p> <p>The effectiveness of the SMS and safety improvement actions is measured and evaluated against defined improvement criteria.</p>
General principles for SMS framework implementation	<p>The SMS framework is immature or non-existent in the organisation.</p>	<p>An SMS implementation plan is underway though not yet completed in some major aspects. The SMS may not yet meet the required regulatory standard.</p>	<p>The SMS implementation plan is largely complete.</p>	<p>The SMS framework is complete, functioning and effective in achieving the overall safety policy and objectives of the organisation.</p>	<p>The SMS framework is regularly reviewed and enhanced to achieve excellence in ATM safety management. Through ongoing planning, the organisation ensures that safety management activities are integrated and it drives priorities for operational safety improvement.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
General principles for performance monitoring	The organisation is not measuring or monitoring its safety performance.	The organisation has a plan to capture information on its safety performance.	The organisation is using a controlled process to collect safety reports and is responding to safety issues identified through individual incident investigations.	The organisation is quantitatively measuring safety performance. It has identified its key safety risks and has developed plans for improvement.	The organisation is managing its key safety risks in conjunction with external stakeholders and can demonstrate improved safety performance.
<p>1.1 A positive and proactive, flexible and informed safety culture that supports management-led reporting and learning. (Safety culture - the shared beliefs, assumptions and values regarding safety.)</p>	<p>Employees believe that safety goals will be achieved by complying with rules and regulations. This view is reinforced by management.</p> <p>No mechanisms exist through which safety issues can be communicated to staff.</p> <p>There are no avenues for differing functions to collaborate or share information or collaborate about safety issues.</p>	<p>Employees are aware of their safety roles and responsibilities within their work team.</p> <p>Management recognises that it must commit to improving safety performance.</p> <p>The organisation is developing systems and processes to support employees' ability to share safety lessons learned with other teams or groups.</p>	<p>The organisation trains employees to fulfil their safety management responsibilities. The value of safety in the organisation recognised and promoted.</p> <p>Management's approach to safety demonstrates a genuine commitment to addressing safety issues.</p>	<p>The value of safety in the organisation is promoted both internally and externally (e.g. airlines, passengers, general public).</p> <p>Management systems recognise the need to prepare people for changes that may affect safety.</p> <p>The organisation actively seeks and uses lessons learned (external and internal) to improve its safety standards and processes.</p> <p>The Safety Management System (SMS) encourages employees to challenge procedures, practices and people to improve safety performance. Safety concerns and other safety information are shared with other organisations.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>1.2 A just and open climate for reporting and investigating occurrences</p> <p>NB: A thorough reporting and investigation process must begin with notification, data gathering, reconstruction, analysis, safety recommendation and implementation of remedial actions, resulting in final reporting, exchange of lessons learned and effective monitoring.</p>	<p>Management believes there are no issues with the existing reporting and investigation culture and therefore does not see the need for any activity or dialogue with the staff in this area.</p>	<p>Management and employees have discussed developing a Just Culture to encourage reporting.</p>	<p>The organisation has established policies and procedures to support Just Culture principles.</p> <p>Employees comply with safety data sharing and publication policies.</p> <p>All levels of the organisation understand and accept the difference between acceptable and unacceptable behaviours.</p> <p>Within legal limits, the organisation's safety data are sufficiently protected from external interference.</p> <p>All levels of the organisation systematically apply Just Culture reporting and investigation principles and processes.</p>	<p>The organisation measures the acceptance of Just Culture principles.</p> <p>The organisation follows a clear and published policy that addresses the interface with the judiciary on Just Culture matters.</p> <p>Lessons from within the organisation and across different industry sectors are used to enhance the organisation's approach to Just Culture.</p> <p>There is evidence that the application of Just Culture is unaffected by changes in the organisation.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>1.3 Regular assessment of safety culture and an improvement programme.</p>	<p>The organisation does not see the need to have a safety culture assessment mechanism in place.</p>	<p>The organisation is aware of the need for an improvement plan and periodic assessments of safety culture.</p>	<p>The organisation assesses its safety culture and disseminates the results throughout the organisation.</p> <p>The organisation assesses its safety culture at least once every five years.</p>	<p>The organisation has developed a plan to address gaps and deficiencies that were identified during the safety culture assessment.</p> <p>Indicators are used to gauge whether the gaps and deficiencies are effectively addressed.</p>	<p>Management has approved a continuous improvement plan for safety culture.</p> <p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

2. Safety Policy (ICAO Reference 1.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>2.1 The safety policy of the organisation presents the organisation's commitment to both safety and its resourcing. The priority of safety within the organisation is also articulated.</p>	<p>The need for a safety policy has been recognised but one does not exist.</p>	<p>The organisation has drafted a safety policy.</p> <p>The draft safety policy is available for review within the organisation.</p> <p>The safety policy reflects the priority of safety in the organisation</p>	<p>The safety policy has been signed by the most senior manager in the organisation (e.g. CEO) and has been formally published.</p> <p>The organisation conducts reviews of its safety policy at least once every five years to ensure that it continues to be relevant and appropriate.</p> <p>The organisation has sufficient staff and resources to implement its safety policy and related procedures.</p> <p>The safety policy has been communicated to employees throughout the organisation.</p>	<p>The safety policy is subject to ongoing review and improvement (e.g., when a new executive becomes accountable for safety or when there are indications that the policy does not adequately address the adequate level of commitment to safety).</p> <p>The organisation compares its safety policy to those of other ANSPs.</p> <p>If changes are made to safety policy, the organisation has a process to ensure that the SMS is updated to meet the amended requirements of the policy.</p> <p>Updates to the safety policy are communicated throughout the organisation.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>2.2 The safety policy addresses key attributes of the organisation's approach to safety. These attributes will most likely include culture, visible endorsement, communication and safety reporting.</p>	<p>The organisation is considering which key attributes of its approach to safety should be included in its safety policy.</p>	<p>The organisation's approach to safety is reflected in its developing safety policy or related procedures.</p>	<p>There is a clear relationship between the organisation's safety policy and its SMS.</p> <div data-bbox="1131 456 1420 751" style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <p>The organisation's safety policy or related procedures determine how safety management is implemented throughout the organisation.</p> </div> <div data-bbox="1131 778 1420 1134" style="border: 1px solid black; padding: 5px;"> <p>The organisation's safety policy or related procedures define the procedures for safety reporting, including the types of behaviours that are acceptable and the circumstances under which disciplinary action might apply.</p> </div>	<p>The organisation conducts periodic reviews of its approach to safety management and, where necessary, updates its safety policy and related procedures.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

3. Safety Accountabilities (ICAO Reference 1.2 and 1.3)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>3.1 An approved, clearly documented, and recognised system for the management of safety. Management structure, responsibilities, accountabilities and authorities are clearly defined and documented.</p>	<p>No formal designation of responsibilities, accountabilities or authorities for the management of safety exists.</p>	<p>The organisation has identified its safety responsibilities, accountabilities and authorities.</p> <p>Line managers assume responsibility for safety management.</p>	<div data-bbox="1133 336 1424 576" style="border: 1px solid black; padding: 5px;"> <p>The organisation has defined and documented authorities, responsibilities and accountabilities for safety management.</p> </div> <div data-bbox="1133 600 1424 839" style="border: 1px solid black; padding: 5px;"> <p>The organisation has an accountable executive who has ultimate responsibility for the management of the SMS.</p> </div> <p>The wider leadership team takes responsibility for the application of the SMS.</p> <p>The organisation reviews safety responsibilities after significant organisational changes.</p>	<p>The organisation reviews safety authorities, responsibilities and accountabilities at least once every five years to determine whether they are suitable and effective.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

³ Line management is usually responsible for implementing procedures or practices which are required by the SMS. Specific responsibility for developing and overseeing the SMS and the organisation's safety outcomes is usually assigned to safety departments, executive management and board oversight committees depending on the structure and governance of the organisation.

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>3.2 A clearly defined safety management function / safety manager that is independent of line management.</p>	<p>A safety management function within the organisation has not yet been formed to develop the SMS.</p>	<p>The organisation has a safety management function or safety management position responsible for developing and maintaining the SMS</p>	<div data-bbox="1133 336 1420 544" style="border: 1px solid black; padding: 5px;"> <p>The safety management function or position is independent of operational line management.</p> </div> <div data-bbox="1133 571 1420 778" style="border: 1px solid black; padding: 5px;"> <p>The safety management function or position has the authority to develop and maintain an effective SMS.</p> </div> <p>The safety management function or position has access to the resources required for the proper development and maintenance of the SMS.</p>	<p>Leadership, at the highest level, recognises its role in the SMS and actively supports its development, implementation, maintenance and promotion throughout the organisation (including support departments).</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>3.3 Safety management accountabilities and responsibilities are understood clearly and accepted by all relevant staff and contractors.</p>	<p>Knowledge of the principles underpinning SMS among all staff and contractors is negligible.</p>	<p>Relevant staff and contractors apply rules and procedures to their tasks.</p> <div data-bbox="813 456 1102 692" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Relevant staff and contractors are at least partially aware of their roles and accountabilities in the SMS.</p> </div>	<p>Relevant staff and contractors are aware of how their actions affect the safety of the wider operation.</p> <p>Relevant staff and contractors are aware of how the actions of others affect safety.</p> <div data-bbox="1133 660 1422 868" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>Accountability for safety in the organisation is understood by all relevant staff and contractors.</p> </div>	<p>Relevant staff and contractors throughout the organisation have responsibility for promoting and improving safety.</p> <p>The organisation reviews and assesses documented safety management responsibilities at least once every five years.</p> <p>Relevant staff and contractors take proactive, day-to-day action to have rules and procedures changed where they identify a potential safety benefit.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

4. Coordination of Emergency Response Plan (ICAO Reference 1.4)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>4.1 Emergency response procedures and an emergency response plan that documents the orderly and efficient transition from normal to emergency operations and the return to normal operations.</p>	<p>The organisation has sound primary air traffic management systems but does not have redundant capabilities or back-up systems.</p>	<p>The organisation has procedures and at least some redundant capabilities and resources to manage abnormal and unexpected situations.</p>	<p>All of the organisation's primary systems have redundant or back-up capabilities.</p> <p>Emergency response procedures have been developed, documented and distributed to the appropriate staff.</p> <p>The organisation rehearses emergency response procedures at least once per year.</p> <div data-bbox="1133 836 1422 1075" style="border: 1px solid black; padding: 5px;"> <p>The organisation has defined and documented authorities, responsibilities and accountabilities for safety management.</p> </div>	<p>The organisation measures the reliability of its primary and back-up ATM systems.</p> <p>The organisation regularly exercises its emergency response procedures at least once a year and regularly revises its emergency response plan.</p> <p>The organisation's emergency response procedures have been rehearsed through live or simulated operational exercises at least once in the past three years.</p> <p>The organisation uses indicators to assess the effectiveness of its emergency response procedures, as tested during the regular exercises and rehearsals.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

5. SMS Documentation (ICAO Element 1.5)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>5.1 A formal SMS that meets all applicable safety and regulatory requirements.</p>	<p>There is no SMS in place. There may be deviations from safety regulatory requirements.</p> <p>The need for an SMS implementation plan is recognised.</p>	<p>The organisation has started to implement its SMS.</p> <p>The organisation has developed an implementation plan to ensure that its SMS will meet regulatory requirements.</p>	<p>The organisation's SMS meets all safety regulatory requirements.</p> <p>The organisation has completed all work required by its SMS implementation plan.</p>	<p>The organisation exceeds minimum compliance requirements by operating at a higher standard of international safety management.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>5.2 Clearly defined and documented safety standards and processes.</p>	<p>Operations manuals do not contain specific safety management procedures.</p>	<p>The SMS implementation plan includes requirements for:</p> <ul style="list-style-type: none"> Safety policy and objectives SMS requirements SMS processes and procedures Accountabilities, responsibilities and authorities Outputs such as investigation reports, performance trend reports and safety documentation to support changes to service delivery 	<p>All safety management documentation is readily available to appropriate staff.</p>	<p>The organisation monitors its SMS processes and outputs regularly to identify any problems employees may have in applying the SMS.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>5.3 Safety management documents are regularly reviewed, assessed and maintained.</p>	<p>There is no formal process that maintains the SMS, nor is there an identified authority (or authorities) responsible for the updates.</p>	<p>The organisation has a process to address amendments to its SMS. Someone within the organisation is responsible for updating the SMS.</p>	<p>The organisation has a formal process for maintaining all safety management processes and procedures.</p> <p>The organisation's SMS is regularly reviewed and updated.</p>	<p>The organisation conducts formal reviews of any organisational changes that could affect safety and/or the safety management framework.</p> <p>The organisation assesses the usability and accessibility of its SMS processes and documents.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

6. Compliance with International Obligations

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>6.1 An organisation that ensures, in a timely manner, that there are no inconsistencies between regional and international safety standards.</p>	<p>There is limited awareness of regional or international safety standards.</p>	<p>All relevant personnel are aware of the regional and international safety standards applicable to the organisation.</p> <p>The organisation has started work on compliance with applicable regional and international safety standards.</p>	<p>The organisation meets all required regional and international safety standards.</p> <p>Relevant personnel understand the regional and international safety standards applicable to the organisation.</p>	<p>The organisation has a structured mechanism to address the need for ongoing and consistent compliance with regional and international safety standards.</p> <p>The organisation contributes to a regional and/or international dialogue to improve safety standards.</p> <p>The organisation has established a process to measure the timeliness and consistency of its compliance with the appropriate regional and international safety standards.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

7. Safety Risk Management (ICAO Frameworks 2 and 3.1.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>7.1 Hazards to operations are reported and assessed.</p>	<p>Hazards to operations are not highlighted by either managers or staff. However, risks to operations are recognised.</p>	<p>The organisation is developing processes to assist in the identification and reporting of hazards.</p> <p>The organisation is developing processes to assess the risk that hazards pose to operations.</p> <p>The organisation is developing processes to document the existence of hazards and their risk levels.</p>	<p>The organisation has a sufficient number of qualified employees to assist in identifying and assessing hazards.</p> <p>The organisation has taken reasonable steps to identify all hazards affecting its operations.</p> <p>The organisation's hazard identification process is based on a combination of reactive, proactive and predictive methods of safety data collection.</p> <p>The organisation regularly includes stakeholders in its identification and assessment processes.</p> <p>The organisation addresses identified hazards as part of its process to improve safety performance.</p>	<p>The organisation reviews and updates its hazard identification and analysis processes at least once every five years.</p> <p>The organisation monitors whether the hazard identification process is appropriately applied.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>7.2 Assessed risks are mitigated or controlled.</p>	<p>There is limited understanding of the need to mitigate or control risk, even when risks are recognised.</p>	<p>The organisation acknowledges the need to mitigate and control risks.</p> <div data-bbox="813 485 1099 663" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>The organisation has defined the level of risk that individual managers can approve.</p> </div> <p>The organisation is establishing processes to document how appropriate controls and mitigations should be selected.</p>	<div data-bbox="1133 336 1420 595" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>The level of analysis, assessment, mitigation and control of risk being undertaken is proportionate to the severity of the risk outcome.</p> </div> <div data-bbox="1133 632 1420 834" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>The organisation documents and enforces the level of risk that its managers can accept.</p> </div>	<p>The organisation reviews the level of risk it can accept at least once every five years on the basis of its performance.</p> <p>The organisation reviews its level of risk to ensure it is in line with the risk tolerance level of its governing body (e.g., board).</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>7.3 Risk controls are monitored for effectiveness, and remedial action is taken if controls are not working effectively.</p>	<p>There is little understanding of what constitutes a risk control at either a system or local level.</p> <p>The effectiveness of these controls is not evaluated.</p>	<p>There is a reasonable understanding of risk controls in the organisation.</p> <p>The organisation is developing processes to identify, assess and control operational risks.</p>	<p>The organisation has formally documented its risk control processes.</p> <p>The organisation is implementing risk control processes.</p> <p>The organisation is identifying and documenting operational risk controls.</p> <p>The organisation has implemented processes and practices that allow it to measure its operational risk baseline.</p>	<p>The organisation regularly monitors the effectiveness of risk controls.</p> <p>Where deviations or deficiencies are identified, the organisation has proposed improvements to the risk control framework.</p> <p>The organisation's long-term investment programme provides for improvements in safety that address key risks (e.g., safety tools, additional staff, training).</p> <p>The organisation identifies and manages performance deviations and deficiencies from its operational risk baseline.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

8. Safety by Design

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>8.1 Design addresses the entire system, including the people, procedures, airspace and equipment. Systems contain features to ensure safe operation and support the operator’s decision-making process. Equal weight is given to the success and failure case approaches.</p>	<p>Safety is not explicitly addressed in the design process.</p>	<p>There are informal processes to assess the effects of failure on the operation.</p> <p>There is evidence that the informal processes for assessing the effects of failure on the operation are used.</p>	<p>When designing new procedures, airspace or equipment, the organisation has a formal process by which it achieves a ‘safe design.’ (i.e., the potential for failures are assessed, controlled and/or mitigated which may be viewed as a ‘design out approach’.)</p> <p>When designing new procedures, airspace or equipment, the organisation has formal processes for addressing failures that have been identified through occurrences, investigations or safety surveys.</p>	<p>When designing new procedures, airspace or equipment, the organisation has formal processes to identify the effectiveness of improvements in safety according to risk.</p> <p>When designing new procedures, airspace or equipment, the organisation assesses benefits that have been achieved through its design processes.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

9. Safety Interfaces

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>9.1 Effectively managed safety-related internal interfaces (e.g. operations and engineering service level agreements).</p>	<p>The various internal interfaces operate in isolation.</p>	<p>The organisation's internal safety-related interfaces are managed on an informal basis.</p>	<p>The organisation's formal, safety-related internal interfaces are managed through interface agreements (e.g., letters of agreement (LOAs), memoranda of understanding (MOUs), service-level agreements (SLAs)).</p>	<p>The organisation has established a formal process to regularly evaluate the performance of its interface agreements (LOAs/MOUs/SLAs, etc.).</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>9.2 The effective management of external interfaces with a safety impact (e.g., military, airspace users, airports). Formalised processes and procedures for managing external agreements, services, and supplies (e.g., cross-border letters of agreement).</p>	<p>Safety-related external interfaces are managed on an informal basis.</p>	<p>The organisation is preparing or negotiating draft contractual arrangements for all safety-related external interfaces</p> <p>The organisation has completed at least some contractual arrangements for safety-related external interfaces.</p>	<p>Safety requirements are specified and documented in the appropriate agreements.</p> <p>Activities for all safety-related external interfaces and relationships are coordinated and managed through documented agreements.</p>	<p>The organisation systematically reviews and revises safety requirements within contractual agreements.</p> <p>The organisation systematically reviews the performance of its critical external service providers and suppliers against the contract and takes action as necessary.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

10. Fatigue-related Risk Management

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>10.1 A data-driven means of continuously monitoring and managing fatigue-related safety risk that aims to ensure relevant personnel are performing at adequate levels of alertness.</p>	<p>Fatigue-related risk is not recognised as a safety risk which needs to be managed.</p>	<p>Management considers fatigue to be an operational hazard/risk.</p> <p>The organisation has informal processes and procedures in place that address fatigue-related risk.</p>	<p>The organisation has formal processes and procedures by which fatigue is assessed and managed.</p> <p>The organisation has defined the responsibilities of management and employees for the management of fatigue-related risk.</p> <p>The organisation provides training on the management of fatigue-related risk.</p>	<p>The organisation continually assesses compliance with fatigue-related risk procedures.</p> <p>The organisation has processes to assess and improve the management of fatigue-related risk.</p> <p>The organisation uses data and information from internal and external sources to improve the management of fatigue-related risk.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

11. Safety Reporting, Investigation and Improvement (ICAO Element 1.1.c)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>11.1 A continuing organisation-wide process to report and investigate safety occurrences and risks</p>	<p>There is an informal system in place for reporting safety occurrences, but reports are not reviewed systematically.</p> <p>The reporting system is not organisation-wide.</p> <p>Investigation is done on an ad hoc basis with little or no feedback.</p>	<p>The organisation investigates incidents, even if there is no formal investigation process.</p> <p>The organisation provides feedback to staff on investigation findings.</p>	<div data-bbox="1133 336 1424 655" style="border: 1px solid black; padding: 5px;"> <p>The organisation has a formal reporting and investigation system.</p> <p>The organisation keeps formal records of all incident and accident reports and related information.</p> </div> <p>Investigations result, if necessary, in corrective and preventive action.</p> <p>Staff reporting safety occurrences can also suggest ways to solve problems identified in their occurrence reports.</p> <p>The organisation provides feedback to those who report occurrences or hazards of any corrective actions taken as a result of their report.</p>	<p>The organisation checks to ensure that all required occurrences have been reported.</p> <p>The organisation monitors the number of reports that require investigation but are yet to be investigated.</p> <p>The organisation measures the quality and effectiveness of its investigations.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

12. Operational Safety Surveys and SMS Audits

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>12.1 Internal and independent (external) safety surveys and SMS audits.</p>	<p>There is no plan to conduct systematic safety surveys and SMS audits.</p> <p>Safety surveys, SMS audits, and gap assessments are conducted on an ad hoc basis.</p>	<p>The organisation has a plan either in place or under development to formalise how SMS audits are conducted.</p> <p>The organisation has carried out any SMS audits.</p>	<p>The organisation has a formal process describing how to conduct SMS audits.</p> <p>The organisation conducts internal SMS audits at least annually.</p> <div data-bbox="1131 598 1422 801" style="border: 1px solid black; padding: 5px; margin: 10px 0;"> <p>SMS audits have resulted in the development and implementation of improvement plans.</p> </div>	<p>The organisation carries out safety surveys in addition to SMS Audits.</p> <p>The organisation's safety surveys are carried out systematically.</p> <p>The organisation has established a process to analyse trends arising from safety surveys and SMS audits.</p> <p>Where appropriate, the organisation conducts reassessments to confirm that any implemented recommendations arising from safety surveys and SMS audits have been successful.</p> <p>The organisation commissions external surveys and SMS audits at least once every five years.</p> <p>The outputs from safety surveys and SMS audits are incorporated (as appropriate) into operations or the SMS.</p> <p>The organisation has established a process that requires external data (e.g., pilot non-conformance with ATC instruction trend information) to be considered when selecting topics for operational safety surveys and SMS audits.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/ organisations.</p>

13. Safety Performance Monitoring and Measurement (ICAO Element 3.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>13.1 An established and active monitoring system that uses and tracks suitable safety indicators and associated targets (e.g., lagging and leading indicators).</p>	<p>There are no indicators, thresholds or formal monitoring systems in place to measure safety achievements and trends</p>	<p>The organisation has a plan in place or under development to implement a safety performance monitoring system.</p> <p>The organisation has established safety indicators.</p>	<p>The organisation has implemented and formally documented a safety performance monitoring system.</p> <p>The organisation's safety performance targets are meeting all applicable regulatory requirements.</p>	<p>The organisation has developed targets to reflect its safety policy and risk tolerance.</p> <p>The organisation analyses trends for safety improvement purposes.</p> <p>The organisation has safety indicators covering all aspects of the system or operation.</p> <p>The organisation uses leading indicators to increase the range of safety metrics for measuring its performance.</p> <p>Safety management processes require that any negative trends in safety performance indicators be addressed.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/ organisations.</p>
<p>13.2 Methods to measure safety performance, which is compared within and across ANSPs.</p>	<p>Ad hoc safety performance data related to individual incidents is available, but there is no systematic approach for measuring safety performance.</p>	<p>At least some parts of the organisation have implemented safety performance measurement processes.</p>	<p>The organisation has implemented qualitative techniques to measure safety performance (e.g., opinion surveys, NOSS/Day-2-Day results, and overload reports).</p> <p>The organisation has implemented quantitative techniques to measure and verify safety performance.</p> <p>The organisation has implemented measures to validate the effectiveness of risk controls and mitigations.</p>	<p>The organisation conducts internal comparative analysis.</p> <p>The organisation works with stakeholders to conduct external comparative analysis.</p> <p>The results of the organisation's safety performance activities influence the operational safety survey and SMS auditing programme.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/ organisations.</p>

14. Management of Change (ICAO Reference 3.2)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>14.1 Documentation and reporting mechanisms are in place to ensure that internal and external stakeholders understand how safety risks introduced during and/or following implementation of change are managed and mitigated.</p>	<p>There are no change management processes in place even though the organisation recognises that impacts of change must be managed.</p>	<div data-bbox="813 336 1102 539" style="border: 1px solid black; padding: 5px;"> <p>The organisation is developing change management processes to assess and quantify the risks of change.</p> </div> <div data-bbox="813 571 1102 804" style="border: 1px solid black; padding: 5px;"> <p>The organisation is developing change management processes that require the involvement of stakeholders.</p> </div>	<div data-bbox="1133 336 1422 539" style="border: 1px solid black; padding: 5px;"> <p>The organisation's change management processes determine whether a change should be authorised.</p> </div> <p>The organisation's stakeholders, including its regulator, are aware of these processes and their purpose.</p> <div data-bbox="1133 746 1422 979" style="border: 1px solid black; padding: 5px;"> <p>The organisation assesses the safety impact of changes and associated mitigations before they are introduced.</p> </div>	<p>The organisation's change management processes are reviewed and updated at least every five years (e.g., from internal experience, external lessons learnt).</p> <p>The organisation assesses the performance of its risk controls and mitigations as part of its change management processes.</p> <p>The organisation's change management processes define and report transitional risk.</p> <p>The organisation's change management processes involve all relevant internal stakeholders.</p> <p>The change management processes are tailored for the importance and the resources needed for the change.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

15. Continual Improvement of the SMS (ICAO Reference 3.3)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>15.1</p> <p>An integrated planning process drives the continual improvement of the SMS.</p>	<p>An ad hoc or non-existent safety planning process is utilised by the organisation. Safety goals and objectives have not been identified or documented for the implementation of an SMS.</p>	<p>The organisation is preparing to develop a plan to show how it will improve the implementation and management of safety.</p>	<p>The organisation has established formal planning processes to drive improvement of its SMS</p> <p>The organisation regularly evaluates the effectiveness of these planning processes.</p>	<p>The organisation has a plan to improve the management of safety risks.</p> <p>The organisation's plan to improve its SMS includes measurable safety management goals and targets.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>15.2</p> <p>A structured approach to gather and share information on operational safety and SMS best practices from the industry.</p>	<p>There is no structured approach to gather best practices from the industry. The organisation can identify and adopt industry best practices on an ad hoc basis.</p> <p>There are no plans to release and share best practices with industry stakeholders.</p>	<p>The organisation gathers information on operational safety and SMS.</p> <p>The organisation gathers information on internal best practices to improve safety management.</p>	<p>The organisation has formal processes in place to identify best practices from throughout the industry that can be used to improve the SMS.</p> <p>The organisation shares its best practices with industry stakeholders (e.g., ANSPs, airlines, regulators).</p>	<p>The organisation reviews, assesses, and adopts industry best practices.</p> <p>The organisation has carried out an impact assessment to determine whether the best practices have been effective in improving safety.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

16. Training and Education (ICAO Element 4.1)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>16.1 Staff, and contractors where appropriate, who are educated and trained in safety and safety management, and where required, licensed.</p> <p>Note that this objective is primarily focused on ATC, engineering and senior staff who have the ability to affect the safety of the operational service.</p>	<p>Staff, and contractors where appropriate, are provided with training for safety and safety management activities on an ad hoc basis.</p>	<p>The organisation regularly provides staff and contractors with training and education in safety and safety management.</p> <p>The organisation provides staff and contractors with training and education to help them apply required safety management practices and procedures.</p>	<p>The organisation has an annual planning process for safety management training.</p> <p>The organisation's annual training plan ensures that appropriate staff are aware of all safety management practices and procedures that are applicable to their roles.</p> <p>The organisation's annual training plan ensures that staff are aware of the organisation's approach to safety.</p>	<p>Those who receive training are given an opportunity to provide feedback on the effectiveness of the training.</p> <p>The organisation's training programmes are updated on the basis of that feedback.</p> <p>The organisation uses indicators to measure the effectiveness of its training programme.</p> <p>The training is constantly adapted to include identified risks and address shortcomings (highlighted through, for example, feedback from courses).</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>16.2 Staff are competent to conduct their obligations under the SMS.</p>	<p>There are no formal competency methods (including proficiency, licensing and training)</p>	<p>The organisation is developing competency methods.</p>	<p>Competency methods are designed and applied to ensure that staff, where appropriate, are educated, trained and competent to perform the specific duties required of them by the organisation's SMS.</p> <p>Records of competence training are kept and maintained.</p> <p>Additional training is delivered to address gaps in competence (e.g., for staff who change roles).</p>	<p>The means by which competency standards are determined is subject to review and improvement.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

17. Safety Communication (ICAO Element 4.2)

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>17.1 Staff are informed about the safety and safety management standards relevant to their positions.</p>	<p>Staff have limited knowledge of SMS processes and procedures.</p>	<p>Relevant staff are informed when safety actions or new safety management procedures are introduced.</p> <p>The organisation issues internal staff communications that focus on safety and safety management.</p>	<p>Safety is a key focus of internal communications.</p> <div data-bbox="958 427 1420 539" style="border: 1px solid black; padding: 5px;"> <p>Staff are informed when procedures have changed.</p> </div> <div data-bbox="958 571 1420 715" style="border: 1px solid black; padding: 5px;"> <p>The organisation tailors its safety communications to meet the recipients' needs.</p> </div>	<p>The organisation regularly assesses the effectiveness of its communication, and addresses any deficiencies.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>17.2 An organisation-wide means to record and disseminate lessons learned and safety-critical information.</p>	<p>Safety lessons learned are known only to those who experience them.</p>	<p>The organisation intends to record and share lessons learned throughout the organisation.</p>	<div data-bbox="958 754 1420 930" style="border: 1px solid black; padding: 5px;"> <p>The organisation has a formal process for systematically sharing operational safety lessons learned with appropriate staff.</p> </div> <div data-bbox="958 962 1420 1106" style="border: 1px solid black; padding: 5px;"> <p>The organisation disseminates safety-critical information to all appropriate staff.</p> </div>	<p>The organisation systematically shares all safety lessons learned throughout the organisation at all appropriate levels.</p> <p>The organisation reviews its lessons-learned dissemination process at least once every five years.</p> <p>Staff are given the appropriate means to react to communications and alert the organisation of any perceived problems. This is to be considered as outside of the regular occurrence reporting system.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>

Objective	Informal Arrangements	Defined	Managed	Assured	Optimised
<p>17.3 Appropriate safety information and knowledge is shared with industry stakeholders.</p> <p>Information disclosure complies with agreed publication and confidentiality policies / agreements.</p>	<p>Safety data and information are treated as confidential. There are no plans to disseminate it to any industry stakeholders.</p>	<p>The organisation shares safety data and information externally using informal processes.</p>	<p>When required by regulation, the organisation shares safety data and information nationally.</p> <p>When required by regulation, the organisation shares safety data and information with international bodies.</p>	<p>The organisation encourages the proactive sharing of safety-related information with other parties (including industry stakeholders) to drive safety improvement.</p> <p>The organisation actively shares safety data with international bodies to drive safety improvement.</p> <p>The organisation has established a formal process to receive and act on safety data and information from external stakeholders.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>
<p>17.4 A general public knowledgeable of the ANSP's performance through routine publication of achieved safety levels and trends.</p> <p>(Information disclosure complies with the requirements of ICAO Annex 13, Attachment E)</p>	<p>Safety-related performance information is not made available to the public under any circumstances.</p>	<p>The organisation makes safety-related performance information available to selected authorities.</p>	<p>The organisation makes high-level safety-related performance information available according to regulatory requirements.</p>	<p>The organisation makes safety performance information available to the general public beyond what is required by regulation.</p>	<p>The organisation has set best practice(s) for safety management for this objective and is willing to share those with other ANSPs/organisations.</p>



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