



REPUBLIC OF MAURITIUS

DEPARTMENT OF CIVIL AVIATION

Sir Seewoosagur Ramgoolam International Airport, Plaine Magnien

**Mauritius Civil
Aviation
Requirements
MCAR -19**

**SAFETY MANAGEMENT
SYSTEM
REQUIREMENTS**

Issue 1 Rev 0

Dated 05 January 2015

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

FOREWORD

Safety cannot be achieved by simply introducing rules or directives concerning the procedures to be followed by operational employees; it encompasses most of the activities of the organization. For this reason, safety management must start from senior management, and the effects on safety must be examined at all levels of the organization.

A Safety Management System (SMS) is a systematic, explicit and proactive process for managing safety that integrates operations and technical systems with financial and human resource management to achieve safe operations with as low as reasonably practicable risk.

An SMS is systematic in that safety management activities are carried out in accordance with a pre-determined plan, and applied in a consistent manner throughout the organization. It is proactive by taking an approach that emphasizes prevention, through hazards identification and risk control and mitigation measures, before events that affect safety occur. It is also explicit, in that all safety management activities are documented, visible and performed as an essential component of management activities.

It is an integrated system which includes the people, procedures, practices and technology needed to monitor and improve the safety of the aviation transportation system.

Safety management may be also described as the systematic application of specific technical and managerial skills to identify and control hazards and related risks. By identifying, assessing and eliminating or controlling safety-related hazards and risks, acceptable levels of safety will be achieved.

The above statements are based on the ICAO Standards and Recommended Practices (on safety management System in Annex 19) for Service Providers such as air operators, maintenance organizations, Air Traffic Providers, aerodrome operators etc., to have such an SMS in place. ICAO Doc 9859 (Safety Management Manual) gives appropriate guidance material and describes a basic SMS.

In these requirements, full account is taken for the need to maintain civil aviation operational safety risks as low as reasonably practicable. DCA policies are incorporated and provide commonality of approach with disciplines such as flight operations, aircraft maintenance. aerodrome operation etc.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

These requirements are issued by the Authority under the provisions of Regulation 135 of the Civil Aviation Regulations 2007 as amended.

Service providers will have to demonstrate full compliance with these requirements by 31 January 2017.



I. POKHUN
Ag Director of Civil Aviation

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

TABLE OF CONTENTS

Foreword	1
Table of Contents	3
Amendments of Record	4
1 THE BENEFITS OF AN SMS	5
2 SCOPE	5
3 DEFINITIONS	5
4 GENERAL	7
5 APPLICABILITY	8
6 SAFETY POLICY AND OBJECTIVES	8
7 ORGANIZATIONAL STRUCTURE AND RESPONSIBILITIES	10
8 SMS IMPLEMENTATION PLAN	11
9 COORDINATION OF THE EMERGENCY RESPONSE PLAN	12
10 DOCUMENTATION	13
11 SAFETY MANAGEMENT	14
12 SAFETY MANAGEMENT SYSTEM	15
12.1 Safety policy and objectives	15
12.2 Safety risk management	16
12.3 Safety assurance	17
12.4 Safety promotion	18
APPENDIX 1	19

DEPARTMENT OF CIVIL AVIATION

MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

1. The Benefits of an SMS

To improve on existing levels of aviation safety in the light of the continuing growth of the industry, additional measures are needed. One such measure is to encourage individual operators to introduce their own SMS. Such a system is as important to business survival as a financial management system and the implementation of a SMS should lead to achievement of one of civil aviation's key business goals: enhanced safety performance aiming at best practice and moving beyond mere compliance with regulatory requirements.

2. Scope

These requirements establishes the requirements for a service provider safety management system (SMS) operating in accordance with the Mauritius Civil Aviation Act and the Civil Aviation Regulations 2007, MCAR-AOCR, MCAR-145, MCAR-ATO, MCAR-ANS and CANRM-AERODROME.

Within the context of these requirements, "Service Provider" means any organization certified to provide aviation related services. The term encompasses aircraft operators, maintenance organisations, Continuing Airworthiness Management Organisations, Training organisations, air traffic service providers and aerodrome operators, as applicable.

These requirements addresses aviation safety related processes and activities rather than occupational safety, environment protection, or customer service quality.

The Service Provider is responsible for the safety of services or products contracted to or purchased from other organisations.

3. Definitions

For the purpose of this Part, the following definitions apply:

"Accident". An occurrence during the operation of an aircraft which entails:

- A fatality or serious injury
- Substantial damage to an aircraft involving structural failure or requiring major repair;
- The aircraft is missing or is completely inaccessible

DEPARTMENT OF CIVIL AVIATION

MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

“Acceptable level of safety” The acceptable level of safety is a reference against which safety performance can be measured. Set levels need to be acceptable to the GCAA and related to any State safety program, in particular any ALS for Airport/ AIS/ Airline interface areas; for example, in relation to system hazards that could have outcomes such runway incursions.

“Gap analysis” A process to compare required resources, such as facilities and systems, and defences against hazards, with those resources and defences that exist. The purpose being to identify where there are gaps to be filled.

“Hazard” Condition, object or activity with the potential of causing injuries to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function. In summary, the damaging potential of an existing or future condition, object or activity.

“Incident” An occurrence, other than an accident, associated with the operation of an aircraft which affects, or could affect the safety of operation. A serious incident is an accident involving circumstances indicating that an accident nearly occurred.

“Internal safety investigations” One of three considerations in the assessment of risk (severity and exposure being the other two). The rate of exposure, or time period exposed to a hazard, can be regarded as another dimension of probability.

“Risk” The likelihood of injury to personnel, damage to equipment or structures, loss of material, or reduction of ability to perform a prescribed function, measured in terms of probability and severity.

“Safety” Is the state in which risk is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and risk management.

“Safety assessment” A particular application of the risk management process to assess a system that is new or about undergo a major change.

“Safety Management System” A systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

“Safety performance indicator” Expansions of safety policies and related to safety culture, these lead to a commitment to action as detailed in the

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

SMS process. A key safety measure used to express the level of safety performance achieved in a system.

“Safety performance target” The expression of an acceptable level of safety for a specific element of the operation, such as procedures, technology, systems or programs, and against which achieved performance can be measured, using Safety KPIs.

“Safety program” An integrated set of regulations and activities aimed at improving safety.

“Safety survey” A systematic mechanism to examine particular organizational elements or the processes used to perform specific operation either generally or from a particular safety perspective. They are particularly useful in assessing attitudes of selected populations. Safety surveys seek feedback from front-line personnel about areas of dissatisfaction and unsatisfactory conditions that may have accident potential.

“Service provider” Any organization certified to provide aviation related services. The term encompasses aircraft operators, maintenance organizations, air traffic service providers and aerodrome operators, as applicable.

“Severity” One of three considerations in the assessment of risk (probability and exposure being the other two- the rate of exposure, or time-period exposed to a hazard can be regarded as another dimension of probability).

4. General

- (a) A service provider who is certified under MCAR-AOCR, MCAR-145, or The Civil Aviation Regulations, shall show a complete compliance with these requirements by establishing a safety management system that is acceptable to the DCA, maintaining it, and completing its implementation as per the chronology mentioned in these requirements.
- (b) The safety management system shall be appropriate to the size, nature and complexity of the operations authorized to be conducted under its operations certificate and shall, at least, comply with the following requirements:
 - (i) identify safety hazards and assesses and mitigate risks

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (ii) ensure that remedial action necessary to maintain an acceptable level of safety is implemented;
- (iii) provide for continuous monitoring and regular assessment of the safety level achieved; and
- (iv) aim to make continuous improvement to the overall level of safety.

5. Application

An application for SMS acceptance shall be made in a form and manner established by the DCA. The applicant shall supplement his application by, at least, the following information:

- (a) Name of the Accountable Manager and the assigned Safety Management post holder.
- (b) A proposed Implementation Program with emphasis on time-lines.
- (c) A draft of the SMS Manual, if available.

6. Safety Policy and Objectives

The Accountable Manager of the organization shall define and sign a safety policy statement that, at least, shall:

- (a) be in accordance with all applicable legal requirements and international standards, best industry practices and shall reflect organizational commitments regarding safety.
- (b) be communicated, with visible endorsement, throughout the organization.
- (c) include a clear statement about the provision of the necessary human and financial resources for its implementation.
- (d) Include the following objectives:
 - (i) commitment to implement the safety management system;
 - (ii) commitment to the management of safety risks;
 - (iii) commitment to encourage employees to report safety issue;

DEPARTMENT OF CIVIL AVIATION

MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (iv) establishment of clear standards for acceptable behaviour; and
 - (v) identification of responsibilities of management and employees with respect to safety performance.
- (e) The safety objectives should be linked to the safety performance indicators, safety performance targets and safety requirements of the service provider SMS.
- (f) The safety policy shall be reviewed periodically to ensure it remains relevant and appropriate to the organization.

A safety policy statement could look like this:

“To prevent accidents and reduce their potential for damage or injury, our organization will maintain an effective safety management system. I support the open sharing of information on all safety issues and encourage all employees to report significant errors, safety hazards or concerns. I pledge that no staff member will be asked to compromise our safety standards to “get the job done.

Safety is a corporate value of this company, and we believe in providing our employees and customers with a safe environment. All employees must comply with this policy.

Our overall safety objective is the proactive management of identifiable hazards and their associated risks with the intent to eliminate their potential for injury to people and damage to aircraft or the environment. To that end, we will continuously examine our operation for hazards and find ways to minimize them. We will encourage hazards and incident reporting, train staff on safety management, document our findings and mitigation actions and strive for continuous improvement.

Ultimate responsibility for safety in the company rests with me as the Chief Executive Officer/Accountable Manager. Responsibility for making our operations safer for everyone lies with each one of us – from managers to front-line employees. Each manager is responsible for implementing the safety management system in his or her area of responsibility, and will be held accountable to ensure that all reasonable steps are taken to prevent incidents and accidents.”

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

7. Organisational structure and responsibilities

- (a) A service provider shall establish the safety structure necessary for the implementation and maintenance of the organization's SMS. The structure shall include the Accountable Manager of a service provider who shall have the authority for ensuring that all services are carried out to the standard required by this Part.

The Accountable Manager should have:

- (i) full control of the human resources required for the operations authorized to be conducted under the operations certificate;
 - (ii) full control of the financial resources required for the operations authorized to be conducted under the operations certificate;
 - (iii) final authority over operations authorized to be conducted under the operations certificate;
 - (iv) direct responsibility for the conduct of the organization's affairs; and
 - (v) final responsibility of all safety issues.
- (b) A service provider shall identify a safety management post holder to be the member of management who shall be responsible individual and focal point for the development and maintenance of an effective safety management system.
- (c) The safety management post holder shall:
- (i) ensure that processes needed for the SMS are established, implemented and maintained;
 - (ii) report to the Accountable Manager on the performance of the SMS and on any need for improvement; and
 - (iii) ensure safety promotion throughout the organization.
- (d) A service provider shall identify the safety responsibilities of all members of senior management, irrespective of other responsibilities

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (e) Safety- related positions, responsibilities and authorities shall be defined, documented and communicated throughout the organization.
- (f) A service provider that holds an Air Operating Certificate issued under CAR OPS XX or CAR OPS XXX and in the same time holds a Maintenance Organization Approval issued under CAR 145 shall establish an integrated Safety Management System.

8. SMS Implementation Plan

- (a) A service provider shall develop and maintain an SMS implementation plan.

The SMS implementation plan shall be definition of the approach the organization will adopt for managing safety in a manner that will meet the organization's safety needs.

The SMS implementation plan shall, at least, include the following:

- (i) safety policy and objectives;
 - (ii) safety planning;
 - (iii) system description;
 - (iv) gap analysis;
 - (v) SMS components;
 - (vi) safety roles and responsibilities;
 - (vii) safety reporting policy;
 - (viii) means of employee involvement;
 - (ix) safety training;
 - (x) safety communication;
 - (xi) safety performance measurement; and
 - (xii) management review of safety performance
- (b) The SMS implementation plan shall be endorsed by the Accountable Manager and the senior management of the organization.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (c) A service provider shall, as part of the development of the SMS implementation plan, complete a system description which shall, at least, include the following:
 - (i) the system interactions with other systems in the air transportation system;
 - (ii) the system functions;
 - (iii) required Human Factors considerations of the system operation;
 - (iv) hardware components of the system;
 - (v) software components of the system;
 - (vi) related procedures that define guidance for the operation and use of the system;
 - (vii) operational environment; and
 - (viii) contracted and purchased products and services.
- (d) A service provider shall, as part of the development of the SMS implementation plan, complete a gap analysis, in order to:
 - (i) identify the safety arrangements and structures throughout an organization; and
 - (ii) determine additional safety arrangements required to implement and maintain the organization's SMS. Appendix (1) introduces a model of a phased implementation of a service provider SMS.

9. Coordination of the Emergency Response Plan

A service provider shall develop and maintain, or coordinate, as appropriate, an emergency response plan (ERP) that shall ensure:

- (a) orderly and efficient transition from normal to emergency operations;
- (b) designation of emergency authority;
- (c) assignment of emergency responsibilities;
- (d) coordination of efforts to cope with the emergency; and

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (e) safe continuation of operations, or return to normal operations as soon as possible.

10. Documentation

- (a) A service provider shall develop and maintain SMS documentation, in paper or electronic form, to describe the following:
 - (i) safety policy;
 - (ii) safety objectives;
 - (iii) SMS requirements, procedures and processes;
 - (iv) responsibilities and authorities for procedures and processes; and
 - (v) SMS outputs
- (b) A service provider shall, as part of the SMS documentation, develop and maintain a safety management system manual (SMSM), to communicate the organization's approach to safety throughout the organization.

The SMSM shall document all aspects of the SMS, and its contents shall include the following:

- (i) scope of the safety management system;
 - (ii) safety policy and objectives;
 - (iii) safety accountabilities;
 - (iv) key safety personnel;
 - (v) documentation control procedures;
 - (vi) hazard identification and risk management schemes;
 - (vii) safety performance monitoring;
 - (viii) emergency response planning;
 - (ix) management of change; and
 - (x) safety promotion
- (c) The SMSM shall be approved by the DCA.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

Information note 1. – Generic guidelines for SMS documentation development and maintenance can be found in Attachment H to ICAO Annex 6, Part 1, and Attachment G to ICAO Annex 6, Part III, Operator’s Flight Safety Documents System.

11. Safety Management

- (1) The Certificate holders identified in 11.2 shall establish a safety management system acceptable to the Authority.
- (2) The safety management system shall:
 - (i) be commensurate with the size of the organizations and the complexity of its aviation products or services; and
 - (ii) contain the components and elements listed in Appendix 1

11.2 The following Certificate holders shall implement a safety management system as set out in 11.1:

- (1) Approved training organizations that are exposed to safety risks related to aircraft operations during the provision of the services;
- (2) Operators of aeroplanes or helicopters authorized to conduct commercial air transport;
- (3) Approved maintenance organizations providing services to operators of aeroplanes or helicopters engaged in commercial air transport;
- (4) Organizations responsible for the type design or manufacture of aircraft
- (5) Air traffic services (ATS) providers; and,
- (6) Operators of certified aerodromes.

11.3 General aviation operators of large or turbojet aeroplanes shall implement a safety management system commensurate SMS with the size and complexity of the operation

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

12. Safety Management System

The following specifies the framework for the implementation and maintenance of a safety management system (SMS) by the Service Providers identified in 1.6.

12.1 Safety policy and objectives

12.1.1 Management commitment and responsibility

- (1) The service provider shall define its safety policy.
- (2) The safety policy shall;
 - (i) include safety reporting procedures
 - (ii) 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;
 - (iii) be signed by the accountable executive of the organization;
 - (iv) be communicated, with visible endorsement, throughout the organization; and
 - (v) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.

12.1.2 Safety accountabilities

- (1) The service provider shall;
 - (i) identify the accountable executive who, irrespective of other functions, has ultimate and accountability, on behalf of the organization, for the implementation and maintenance of the SMS;
 - (ii) clearly define lines of safety accountability throughout the organization, including a direct accountability for safety on the part of senior management;
 - (iii) identify the accountabilities of all members of management, irrespective of other functions, as well as of

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

employees with respect to the safety performance of the SMS;

- (iv) document and communicate safety responsibilities, accountabilities and authorities throughout the organization; and
- (v) define the levels of management with authority to make decisions regarding safety risk tolerability.

12.1.3 Appointment of key safety personnel

- (1) The service provider shall appoint a safety manager who is responsible for the implementation and maintenance of an effective SMS.

12.1.4 Coordination of emergency response planning

- (1) The service provider shall develop an SMS implementation plan
 - (i) formally endorsed by the organization
 - (ii) that defines the organization's approach to the management of safety in a manner that meets the organization's safety objectives
- (2) The service provider shall develop and maintain SMS documentation that describes it's;
 - (i) safety policy and objectives
 - (ii) SMS requirements
 - (iii) SMS processes and procedures
 - (iv) accountabilities, responsibilities and authorities for SMS processes and procedures; and
 - (v) SMS outputs
- (3) The service provider shall develop and maintain an SMS manual as part of its SMS documentation.

12.2 Safety risk management

12.2.1 Hazard identification

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (1) The service provider shall develop and maintain a process that ensures that hazards associated with its aviation products or services are identified.
- (2) Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.

12.2.2 Safety risk assessment and mitigation

- (1) The service provider shall develop and maintain a process that ensures analysis, assessment and control of the safety risks associated with identified hazards.

12.3 Safety assurance

12.3.1 Safety performance monitoring and measurement

- (1) The service provider shall develop and maintain the means to;
 - (i) verify the safety performance of the organization; and
 - (ii) validate the effectiveness of safety risk controls.
- (2) The service provider's safety performance shall be verified in reference to the safety performance indicators and safety performance targets of the SMS.

12.3.2 The management of change

- (1) The service provider shall develop and maintain a process to;
 - (i) identify changes which may affect the level of safety risk associated with its aviation products or services; and
 - (ii) identify and manage the safety risks that may arise from those changes.

12.3.3 Continuous improvement of the SMS

- (1) The service provider shall monitor and assess the effectiveness of its SMS processes to enable continuous improvement of the overall performance of the SMS.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

12.4 Safety promotion

12.4.1 Training and education

- (1) The service provider shall develop and maintain a safety training program that ensures that personnel are trained and competent to perform their SMS duties.

- (2) The scope of the safety training program shall be appropriate to each individual's involvement in the SMS.

12.4.2 Safety communication

- (1) The service provider shall develop and maintain a formal means for safety communication that:
 - (i) ensures personnel are aware of the SMS to a degree commensurate with their positions;
 - (ii) conveys safety-critical information;
 - (iii) explains why particular safety actions are taken; and
 - (iv) explains why safety procedures are introduced or changed.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

APPENDIX 1

FRAMEWORK FOR A SAFETY MANAGEMENT SYSTEM (SAFETY MANAGEMENT SYSTEM)

Note 1. — Guidance on the implementation of the framework for a safety management system is contained in the safety management manual (smm).

Note 2. — Within the context of this appendix, the term “service provider” refers to those organizations listed in Regulation 3.

This appendix specifies the framework for the implementation and maintenance of a safety management system. The framework comprises four components and twelve elements as the minimum requirements for safety management system implementation-

1. Safety policy and objectives

- 1.1 Management commitment and responsibility
- 1.2 Safety accountabilities
- 1.3 Appointment of key safety personnel
- 1.4 Coordination of emergency response planning
- 1.5 Safety management system 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 safety management system

4. Safety promotion

- 4.1 Training and education

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

4.2 Safety communication

1. Safety policy and objectives

1.1 Management commitment and responsibility

The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall—

- (a) reflect organizational commitment regarding safety;
- (b) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;
- (c) include safety reporting procedures;
- (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;
- (e) be signed by the accountable executive of the organization;
- (f) be communicated, with visible endorsement, throughout the organization; and
- (g) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.

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 organization, for the implementation and maintenance of the safety management system;
- (b) clearly define lines of safety accountability throughout the organization, including a direct accountability for safety on the part of senior management;
- (c) identify the accountabilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the safety management system;
- (d) document and communicate safety responsibilities, accountabilities and authorities throughout the organization; and

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (e) define the levels of management with authority to make decisions regarding safety risk tolerability.
- 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 safety management system.
- 1.4 Coordination of emergency response planning
The service provider shall ensure that an emergency response plan is properly coordinated with the emergency response plans of those organizations it must interface with during the provision of its products and services.
- 1.5 Safety management system documentation
 - 1.5.1 The service provider shall develop a Safety Management System implementation plan, formally endorsed by the organization that defines the organization's approach to the management of safety in a manner that meets the organization's safety objectives.
 - 1.5.2 The service provider shall develop and maintain Safety Management System documentation that describes its—
 - (a) safety policy and objectives;
 - (b) safety management system requirements;
 - (c) safety management system processes and procedures;
 - (d) accountabilities, responsibilities and authorities for safety management system processes and procedures; and
 - (e) safety management system outputs.
 - 1.5.3 The service provider shall develop and maintain a Safety Management System Manual as part of its safety management system 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.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

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.

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 organization and to validate the effectiveness of safety risk controls.

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 safety management system.

3.2 The 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.

3.3 Continuous improvement of the safety management system

The service provider shall monitor and assess the effectiveness of its safety management system processes to enable continuous improvement of the overall performance of the safety management system.

4. Safety promotion

4.1 Training and education

4.1.1 The service provider shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform their safety management system duties.

4.1.2 The scope of the safety training programme shall be appropriate to each individual's involvement in the safety management system.

4.2 Safety communication

The service provider shall develop and maintain a formal means for safety communication that:

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

- (a) ensures personnel are aware of the safety management system to a degree commensurate with their positions;
- (b) conveys safety-critical information;
- (c) explains why particular safety actions are taken; and
- (d) explains why safety procedures are introduced or changed.

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

THE SERVICE PROVIDER SAFETY MANAGEMENT SYSTEM GAP ANALYSIS FRAMEWORK

The implementation of a safety management system requires a service provider to conduct an analysis of its system to determine which components and elements of a safety management system are currently in place and which components and elements must be added or modified to meet the implementation requirements. The analysis compares the safety management system requirements against the existing resources in the Service Providers (Organisation) Safety System.

This guidance provides, in checklist format, information to assist in the evaluation of the components and elements that comprise the safety management system framework as provided in the second schedule. The gap analysis report thereafter, forms the basis of the safety management system phased implementation plan.

The template below should be adopted by the service provider and used to conduct the gap analysis. Each question is designed for a “Yes” or “No” response. A “Yes” answer indicates that the service provider already has in place provisions to satisfy the requirement. A “No” answer indicates that there is a gap and/or no satisfactory provision for the requirement.

SAFETY MANAGEMENT SYSTEM Gap Analysis Template

<i>ICAO reference</i>	<i>Aspects to be analyzed or question to be answered</i>	<i>Answer</i>	<i>Status of implementation</i>
Component 1 – SAFETY POLICY AND OBJECTIVES			
Element 1.1 – Management commitment and responsibility			
	Is there a safety policy in place?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the safety policy reflect organizational commitments regarding safety management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the safety policy include a clear statement about the provision of the necessary resources for the implementation of the safety policy;	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the safety policy include the safety reporting procedures?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the safety policy clearly indicate which types of operational behaviors are unacceptable?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the safety policy include the conditions under which exemption from disciplinary action would be applicable?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Is the safety policy signed by the Accountable Executive?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the safety policy communicated, With visible endorsement, throughout the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the safety policy periodically reviewed to ensure it remains relevant and appropriate to the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a formal process to develop a coherent set of safety objectives?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are the safety objectives linked to the safety performance indicators, safety performance targets and safety requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are the safety objectives publicized and distributed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 1.2 – Safety accountabilities			
	Has the [organization] identified an Accountable Executive who, irrespective of other functions, shall have ultimate responsibility and accountability, on behalf of the [organization], for the implementation and maintenance of the SAFETYMANAGEMENT SYSTEM?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Accountable Executive have responsibility for ensuring that the safety management system is properly implemented and performing to requirements in all areas of the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Accountable Executive have full control of the financial resources required for the operations authorized to be conducted under the operations certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Accountable Executive have full control of the human resources required for the operations authorized to be conducted under the operations certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Does the Accountable Executive have direct responsibility for the conduct of the organization's affairs?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Accountable Executive have final authority over operations authorized to be conducted under the operations certificate?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the organization identified the accountabilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SAFETY MANAGEMENT SYSTEM?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are the safety responsibilities, accountabilities and authorities documented and communicated throughout the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the [organization] Included a definition of the levels of management with authority to make decisions regarding safety risk tolerability?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 1.3 – Appointment of key safety personnel			
	Has the organization appointed a qualified person to manage and oversee the day-to-day operation of the safety management system?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the person overseeing the operation of the safety management system fulfil the required job functions and responsibilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are the safety authorities, responsibilities and accountabilities of personnel at all levels of the organization defined and documented?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 1.4 – Coordination of emergency response planning			
	Does the [organization] have an emergency response/contingency plan appropriate to the size, nature and complexity of the organization?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Does the [organization] coordinate its emergency response/contingency procedures with the emergency/response contingency procedures of other organizations it must interface with during the provision of services?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the [organization] have a process to distribute and communicate the coordination procedures to the personnel involved in such interaction?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 1.5 – Safety Management System Documentation			
	Has the [organization] developed and maintains a safety library for appropriate hazard documentation and documentation management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the [organization] developed and maintains Safety Management System documentation in paper or electronic form?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the Safety Management System documentation developed in a manner that describes the Safety Management System and the consolidated interrelationships between all the Safety Management System components?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed a Safety Management System implementation plan that ensures that the Safety Management System meets the organization’s safety objectives?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the Safety Management System implementation plan been developed by a person or a planning group which comprises an appropriate experience base?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the person or planning group received enough resources (including time for meetings) for the development of the Safety Management System implementation plan?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the Safety Management System implementation plan endorsed by the senior management of the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Is the Safety Management System implementation plan regularly reviewed by the senior management of the [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Safety Management System implementation plan propose an implementation of the Safety Management System in phases?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Safety Management System implementation plan explicitly address the coordination between the service provider Safety Management System and the safety management system of other organizations the [organization] shall interface with during the provision of services?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed a safety management system manual as a key instrument for communicating the organization's approach to safety to the whole [organization]?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Safety Management System document all aspects of the Safety Management System, including among others the safety policy, objectives, procedures and individual safety accountabilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the Safety Management System clearly articulate the role of safety risk management as initial design activity and the role of safety assurance as continuous activity?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are relevant portions of Safety Management System related documentation incorporated into approved documentation, such as Company Operations Manual, Maintenance Control/Policy Manual, Airport Operations Manual, etc, as applicable?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have a records system that ensures the generation and retention of all records necessary to document and support operational requirements?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the service provider records system in accordance with applicable regulatory requirements and industry best practices?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Does the records system provide the control processes necessary to ensure appropriate identification, legibility, storage, protection, archiving, retrieval, retention time, and disposition of records?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Component 2 –SAFETY RISK MANAGEMENT			
Element 2.1 – Hazard identification			
	Does the [organization] have a formal safety data collection and processing system (SDCPS) for effectively collecting information about hazards in operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the [organization] SDCPS include a combination of reactive, proactive and predictive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the [organization] have reactive processes that provide for the capture of information relevant to safety and risk management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed training relevant to reactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider Developed communication relevant to reactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is reactive reporting simple, accessible and commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are reactive reports reviewed at the appropriate level of management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a feedback process to notify contributors that their reports have been received and to share the results of the analysis	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 2.1 – Hazard identification			
	Does the [organization] have a formal safety data collection and processing system (SDCPS) for effectively collecting information about hazards in operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Does the [organization] SDCPS include a combination of reactive, proactive and predictive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the [organization] have reactive processes that provide for the capture of information relevant to safety and risk management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed Training relevant to reactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed communication relevant to reactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is reactive reporting simple, accessible and commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are reactive reports reviewed at the appropriate level of management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a feedback process to notify contributors that their reports have been received and to share the results of the analysis?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have proactive processes that actively look for the identification of safety risks through the analysis of the organization's activities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there training relevant to proactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the service provider developed communication relevant to proactive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is proactive reporting simple, accessible and commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have predictive processes that provide the capture of system performance as it happens in real-time normal operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there training relevant to predictive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Has the service provider developed communication relevant to predictive methods of safety data collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the predictive safety data capture process commensurate with the size of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 2.2 – Safety risk assessment and mitigation			
	Has the [organization] developed and maintains a formal process that ensures analysis, assessment and control of the safety risks in the [organization] operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the [organization] Safety Management System documentation clearly articulate the relationship between hazards, consequences and safety risks?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a structured process for the analysis of the safety risks associated to the consequences of identified hazards, expressed in terms of probability and severity of occurrence?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there criteria for assessing safety risks and establishing safety risk tolerability (i.e., the acceptable level of safety risk the organization is willing to accept)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have safety risk mitigation strategies that include corrective and preventive action plans to prevent recurrence of reported occurrences and deficiencies?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Component 3 – SAFETY ASSURANCE			
Element 3.1 – Safety performance monitoring and measurement			
	Has the [organization] implemented internal process by which the safety performance of the organization is verify and to validate the effectiveness of safety risks controls?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are the following tools included in those processes?		
	Safety reporting systems	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Safety studies	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Safety reviews	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Safety audits	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Safety surveys	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Internal safety investigations	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the safety performance of the [organization] verified in reference to the safety performance indicators and safety performance targets of the Safety Management System?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are safety reports reviewed at the appropriate level of management?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a feedback process to notify contributors that their reports have been received and to share the results of the analysis?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are corrective and preventive actions generated in response to hazard identification?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there procedures in place for the conduct of internal investigations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a process to ensure that occurrences and deficiencies reported are analyzed to identify all associated hazards	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have a process for evaluating the effectiveness of the corrective and preventive measures that have been developed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the service provider have a system to monitor the internal reporting process and the associated corrective actions?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there an audit function with the independence and authority required to carry out effective internal evaluations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the audit system cover all functions, activities and organizations within the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there selection or training processes to ensure the objectivity and competence of auditors as well as the impartiality of the audit process?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a procedure for reporting audit results and maintaining records?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Is there a procedure outlining requirements for timely corrective and preventive action in response to audit results?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a procedure to record verification of action(s) taken and the reporting of verification results?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a process in place to monitor and analyze trends?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 3.2 – The management of change			
	Has the [organization] developed and maintains a formal process to identify changes within the organization which may affect established processes and services?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the formal process for the management of change analyze changes to operations or key personnel for safety risks?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the [organization] established arrangements to ensure safety performance prior to implementing changes?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the [organization] established a process to eliminate or modify safety risk controls that are no longer needed due to changes in the operational environment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 3.3 – Continuous improvement of the SAFETY MANAGEMENT SYSTEM			
	Has the [organization] developed and maintains a formal process to identify the causes of sub-standard performance of the Safety Management System?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the [organization] established a mechanism(s) to determine the implications of sub-standard performance of the Safety Management System in operations?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Has the organization established a mechanism(s) to eliminate or mitigate the causes of substandard performance of the Safety Management System?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Does the organization have a process for the proactive evaluation of facilities, equipment, documentation and procedures (through audits and surveys, etc.)?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Does the organization have a process for the proactive evaluation of the individuals' performance, to verify the fulfilment of their safety responsibilities?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Component 4 – SAFETY PROMOTION			
Element 4.1 – Training and education			
	Is there a documented process to identify training requirements so that personnel are trained and competent to perform the Safety Management System duties?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the safety training appropriate to the individual's involvement in the Safety Management System?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is the safety training incorporated into indoctrination training upon employment?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there emergency response or contingency training for affected personnel?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a process that measures the effectiveness of training?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
Element 4.2 – Safety communication			
	Are there communication processes in place within the [organization] that permit the safety management system to function effectively?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Are there communication processes (written, meetings, electronic, etc.) commensurate with the size and scope of the service provider?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is safety critical information established and maintained in a suitable medium that provides direction regarding relevant Safety Management System documents?	<input type="checkbox"/> Yes <input type="checkbox"/> No	

DEPARTMENT OF CIVIL AVIATION
MCAR - SAFETY MANAGEMENT SYSTEM REQUIREMENTS

	Is safety critical information disseminated throughout the [organization] and the effectiveness of safety communication monitored?	<input type="checkbox"/> Yes <input type="checkbox"/> No	
	Is there a procedure that explains why particular safety actions are taken and why safety procedures are introduced or changed?	<input type="checkbox"/> Yes <input type="checkbox"/> No	