



GOVERNMENT OF INDIA

**OFFICE OF THE DIRECTOR GENERAL OF CIVIL AVIATION**  
TECHNICAL CENTRE, OPPOSITE SAFDARJUNG AIRPORT, NEW DELHI – 11 0 003

**CIVIL AVIATION REQUIREMENTS**  
**SECTION 1 – GENERAL**  
**SERIES 'C' PART I**  
**20<sup>TH</sup> JULY 2010**

**EFFECTIVE: FORTHWITH**

F.No. 15011/19/2010-AS

**Subject: Establishment of a Safety Management System (SMS)**

**1. INTRODUCTION**

- 1.1 ICAO in its Annexes requires '*States to, as part of their safety programme, have the service providers/ organizations engaged in commercial operations, maintenance of aircraft, aerodrome operations, provision of air traffic services, design organizations, training to implement a safety management system which is acceptable to the State*'.
- 1.2 In compliance with the standards of ICAO Annexes, various CARs specify the requirements for the establishment of SMS by an organisation. This CAR specifies the minimum acceptable requirements for the establishment of SMS in an organization.
- 1.3 This CAR lays down the aviation safety-related processes, procedures and activities for the establishment of Safety Management System (SMS) by an organization and is issued in accordance with rule 133A of the Aircraft Rules, 1937.

**2. Applicability**

- 2.1 This CAR applies to:
- 2.1.1 an applicant for, or a holder of, one of the following approvals/ permits/ licence:
- a) an approval issued to a maintenance organization for the maintenance of aircraft engaged in scheduled/ non-scheduled operations; or

- b) an air operator's permit issued in accordance with rule 134; or
- c) an Aerodrome licence; or

2.1.2 An air traffic services provider.

### **3. DEFINITIONS**

- 3.1 Acceptable level of safety (ALoS) is the minimum degree of safety that must be assured by a system in actual practice;
- 3.2 Accountable Executive is the single, identifiable person having final responsibility for the effective and efficient performance of the organization's SMS.
- 3.3 Consequence A consequence is defined as the potential outcome (or outcomes) of a hazard.
- 3.4 Gap analysis - a gap analysis is basically an analysis of the safety arrangements already existing within the organization as compared to those necessary for the SMS to function.
- 3.5 "Service provider" refers to any organization providing aviation services. The term includes approved training organizations that are exposed to operational safety risks during the provision of their services, aircraft operators, approved maintenance organizations, organizations responsible for type design and/or manufacture of aircraft, air traffic service providers and certified aerodromes, as applicable.
- 3.6 "Safety Management System" is a management tool for the management of safety by an organisation, reflecting an organised and orderly approach.

### **4. GENERAL**

- 4.1 The applicant of, or holder of an approval/ certificate/ licence as specified in the applicability para of this CAR including the ANS service provider shall develop, establish, maintain and adhere to a safety management system.
- 4.2 The safety management system shall correspond to the size, nature and complexity of the operations, activities, hazards and risks associated with the operations associated with the approval of an organization.
- 4.3 A safety management system shall include:
  - 1. a safety policy on which the system is based;
  - 2. a process for setting goals for the improvement of aviation safety and for measuring the attainment of those goals;
  - 3. a process for identifying hazards to aviation safety and for evaluating and managing the associated risks;
  - 4. a process for ensuring that personnel are trained and competent to perform their duties;

5. a process for the internal reporting and analyzing of hazards, incidents and accidents and for taking corrective actions to prevent their recurrence;
6. a document containing all safety management system processes and a process for making personnel aware of their responsibilities with respect to them;
7. a quality assurance program;
8. a process for conducting periodic reviews or audits of the safety management system; and
9. any additional requirements for the safety management system that are prescribed in this CAR.

4.4 The safety management system shall be accepted by DGCA.

4.5 Detailed requirements for the acceptance of a safety management system are laid down in the subsequent paras of this CAR.

4.6 The plan for implementation for SMS is given in Para 14.

## **5. SAFETY POLICY AND OBJECTIVES**

### **5.1 General requirements – Safety Policy**

5.1.1 A service provider shall define the organization's safety policy including a clear statement about the provision of the necessary resources for its implementation. The safety policy shall be signed by the Accountable Executive of the organization.

5.1.2 The safety policy shall include the responsibilities of management and employees with respect to the safety performance of the SMS.

5.1.3 The safety policy shall be communicated to all the employees.

5.1.4 The safety policy shall also include:

- a) a commitment to review the safety management system to determine its effectiveness for continual improvement in the level of safety;
- b) procedures for reporting of a hazard, incidents and accidents;
- c) procedures for collection of data relating to a hazard, incidents and accidents, its analysis and ;
- d) the conditions under which disciplinary action would not be applicable following hazard reporting by employees.

5.1.5 The safety policy shall be in accordance with all applicable legal requirements and international standards, best industry practices and shall reflect organizational commitments regarding safety.

5.1.6 The safety policy shall be reviewed periodically to ensure it remains relevant and appropriate to the organization.

5.1.7 A service provider shall establish safety objectives for the SMS.

5.1.8 The safety objectives should be linked to the safety performance indicators, safety performance targets and action plans of the service provider's SMS.

*Note: Example of the 'Safety Policy and objectives for an organization' is given in Annexure I.*

## **5.2 SMS organizational arrangements and safety accountabilities and responsibilities**

5.2.1 Accountable Executive:

- a) A service provider shall identify an Accountable Executive to be responsible and accountable on behalf of the service provider for meeting the requirements of this CAR, and shall notify the name of the person.
- b) The Accountable Executive shall be a single, identifiable person who, irrespective of other functions, shall have ultimate responsibility and accountability, on behalf of the [organization], for the implementation and maintenance of the SMS.
- c) The Accountable Executive shall have full control over the following for the operations authorized to be conducted under the approval/ permit/ licence or for the provision of ANS services:
  1. The required human resources;
  2. The required financial resources;
- d) The Accountable Executive would be the final authority over operations authorized to be conducted under the approval/ permit/ licence or for the provision of ANS services, be directly responsible for the conduct of the organization's affairs and be the final responsibility for all safety issues.

5.2.2 The service provider shall establish the necessary organizational arrangements for the implementation of, adherence to and maintenance of the organization's SMS.

5.2.3 A service provider shall identify the safety accountabilities, responsibilities and authorities of all members of management as well as of all employees, irrespective of other responsibilities.

5.2.4 Safety-related accountabilities, responsibilities and authorities shall be defined, documented and communicated throughout the organization.

**6. Person managing the Safety Management System**

- 6.1 The service provider shall identify someone from management to be the safety manager who shall be the individual and focal point responsible for the implementation and maintenance of an effective SMS.
- 6.2 The safety manager shall *inter alia*:
- 6.2.1 ensure that processes needed for the SMS are developed, implemented adhered to and maintained;
- 6.2.2 report to the Accountable Executive on the performance of the SMS and on any need for improvement; and
- 6.2.3 ensure safety promotion throughout the organization.

*Note: Example of Sample Job Description and requirements for a Safety Manager is given in Annexure II.*

**7. Coordination of emergency response planning**

- 7.1 A service provider as part of the safety management system prepare its emergency response plan and ensure that the emergency response plan is properly coordinated with the emergency response plans of those organizations it must interface with during the provision of its services.
- 7.2 The emergency response plan shall be such so as to ensure orderly and efficient transition from normal to emergency operations and the return to normal operations.
- 7.2.1 The coordination of the emergency response plan shall include, *inter alia*, the:
- a) delegation of emergency authority;
  - b) assignment of emergency responsibilities during the coordinated activities;
  - c) coordination of efforts to cope with the emergency; and
  - d) compatibility with other emergency response plans of other organizations.

**8. Documentation**

- 8.1 A service provider shall develop and maintain SMS documentation to describe:
- a) the safety policy and objectives;
  - b) the SMS requirements;
  - c) the SMS processes and procedures;
  - d) the accountabilities, responsibilities and authorities for processes and procedures; and

- e) the SMS outputs.
- 8.2 A service provider shall, as part of the SMS documentation, complete a system description.
- 8.3 The system description shall include the following:
- a) the system interactions with other systems in the air transportation system;
  - b) the system functions;
  - c) required human performance considerations of the system operation;
  - d) hardware components of the system;
  - e) software components of the system;
  - f) related procedures that define guidance for the operation and use of the system;
  - g) operational environment; and
  - h) contracted, subcontracted and purchased products and/or services.
- 8.4 A service provider shall, as part of the SMS documentation, complete a gap analysis, to:
- a) identify the safety arrangements and structures that may already exist in its organization; and
  - b) determine additional safety arrangements required to implement and maintain the organization's SMS.
- 8.5 A service provider shall, as part of the SMS documentation, develop, adhere to and maintain an SMS implementation plan.
- 8.6 The SMS implementation plan shall be the definition of the approach the organization will adopt for managing safety in a manner that will meet the organization's safety objectives.
- 8.7 The SMS implementation plan shall explicitly address the coordination between the SMS of the service provider and the SMS of other organizations the service provider must interface with during the provision of services.
- 8.8 The SMS implementation plan shall include the following:
- a) safety policy and objectives;
  - b) system description;
  - c) gap analysis;
  - d) SMS components;
  - e) safety roles and responsibilities;

- f) hazard reporting policy;
- g) means of employee involvement;
- h) safety performance measurement;
- i) safety training;
- j) safety communication; and
- k) management review of safety performance.

8.9 The SMS implementation plan shall be endorsed by senior management of the organization.

9. **A safety management systems manual (SMSM)**

9.1 As part of the SMS documentation, a service provider shall develop and maintain a safety management systems manual (SMSM), to communicate the organization's approach to safety throughout the organization.

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

- a) scope of the safety management system;
- b) safety policy and objectives;
- c) safety accountabilities;
- d) key safety personnel;
- e) documentation control procedures;
- f) coordination of emergency response planning;
- g) hazard identification and safety risk management schemes;
- h) safety performance monitoring;
- i) safety auditing;
- j) procedures for the management of change;
- k) safety promotion; and
- l) control of contracted activities.

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

## **10. SAFETY RISK MANAGEMENT**

### **10.1 General**

10.1.1 A service provider shall develop and maintain a formal process that ensures that hazards in operations are identified.

10.1.2 A service provider shall develop and maintain safety data collection and processing systems (SDCPS) that provide for the identification of hazards and the analysis, assessment and mitigation of safety risks.

10.1.3 A service provider's SDCPS shall include reactive, proactive and predictive methods of safety data collection.

### **10.2 Hazard identification**

10.2.1 A service provider shall develop and maintain formal means for effectively collecting, recording, acting on and generating feedback about hazards in operations, which combine reactive, proactive and predictive methods of safety data collection. Formal means of safety data collection shall include mandatory, voluntary and confidential reporting systems.

10.2.2 The hazard identification process shall include the following steps:

- a) reporting of hazards, events or safety concerns;
- b) collection and storage of safety data;
- c) analysis of the safety data; and
- d) distribution of the safety information distilled from the safety data.

### **10.3 Safety risk assessment and mitigation**

10.3.1 A service provider shall develop and maintain a formal process that ensures analysis, assessment and control of the safety risks of the consequences of hazards during the provision of its services.

10.3.2 The safety risks of the consequences of each hazard identified through the hazard identification processes described in para 10.2 of this CAR shall be analysed in terms of probability and severity of occurrence, and assessed for their tolerability.

10.3.3 The organization shall define the levels of management with authority to make safety risk tolerability decisions.

10.3.4 The organization shall define safety controls for each safety risk assessed as tolerable.

## **11. SAFETY ASSURANCE**

### **11.1 General**

11.1.1 A service provider shall develop and maintain safety assurance processes to ensure that the safety risk controls developed as a consequence of the hazard identification and safety risk management activities in paragraph 10 achieve their intended objectives.

11.1.2 Safety assurance processes shall apply to an SMS whether the activities and/or operations are accomplished internally or are outsourced.

### **11.2 Safety performance monitoring and measurement**

11.2.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain the necessary means to verify the safety performance of the organization in reference to the safety performance indicators and safety performance targets of the SMS, and to validate the effectiveness of safety risk controls.

11.2.2 Safety performance monitoring and measurement means shall include the following:

- a) hazard reporting systems;
- b) safety audits;
- c) safety surveys;
- d) safety reviews;
- e) safety studies; and
- f) internal safety investigations.

11.2.3 The hazard reporting procedures shall set out the conditions to ensure effective reporting, including the conditions under which disciplinary/administrative action shall not apply.

### **11.3 Management of change**

11.3.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain a formal process for the management of change.

11.3.2 The formal process for the management of change shall:

- a) identify changes within the organization which may affect established processes and services;
- b) establish arrangements to ensure safety performance prior to implementing changes; and
- c) eliminate or modify safety risk controls that are no longer needed due to changes in the operational environment.

#### **11.4 Continuous improvement of the safety system**

11.4.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain formal processes to identify the causes of substandard performance of the SMS, determine the implications on its operations, and rectify situations involving substandard performance in order to ensure continuous improvement of the SMS.

11.4.2 Continuous improvement of the service provider's SMS shall include:

- a) proactive and reactive evaluations of facilities, equipment, documentation and procedures, to verify the effectiveness of strategies for control of safety risks; and
- b) proactive evaluation of the individual's performance, to verify the fulfillment of safety responsibilities.

### **12. SAFETY PROMOTION**

#### **12.1 General**

Service providers shall develop and maintain formal safety training and safety communication activities to create an environment where the safety objectives of the organization can be achieved.

*Note: Guidance on Training and education as part of Safety Promotion is given in Annexure III.*

#### **12.2 Safety training**

12.2.1 A service provider shall, as part of its safety promotion activities, develop and maintain a safety training programme that ensures that personnel are trained and competent to perform their SMS duties.

12.2.2 The scope of the safety training shall be appropriate to the individual's involvement in the SMS.

12.2.3 The Accountable Executive shall receive safety awareness training regarding:

- a) safety policy and objectives;

- b) SMS roles and responsibilities;
- c) SMS standards; and
- d) safety assurance.

### **12.3 Safety communication**

12.3.1 A service provider shall, as part of its safety promotion activities, develop and maintain formal means for safety communication, to:

- a) ensure that all staff are fully aware of the SMS;
- b) convey safety-critical information;
- c) explain why particular safety actions are taken;
- d) explain why safety procedures are introduced or changed; and
- e) convey generic safety information.

12.3.2 Formal means of safety communication shall include *inter alia*:

- a) safety policies and procedures;
- b) newsletters;
- c) bulletins; and
- d) websites.

*Note: Guidance on Safety communication as part of Safety Promotion is given in Annexure IV.*

## **13. QUALITY POLICY**


A service provider shall ensure that the organization's quality policy is consistent with, and supports the fulfilment of, the activities of the SMS.

## **14. GUIDANCE AND PLAN FOR IMPLEMENTATION FOR THE DEVELOPMENT OF SMS**

14.1 The guidelines and phase-wise for the development and implementation of an SMS in an organization has been described in Annexure V to this CAR.

14.2 Since the implementation of SMS involves a progressive development in an organisation, a phased-in approach involving four phases over a period of three years from the date of issuance of this CAR may be adopted by organisations.

- 14.3 Phase 1: Within 4 months of date of issue of this CAR, organisations required to have SMS in accordance with para 2 of this CAR will provide DGCA with:
- a) the name of the accountable executive;
  - b) the name of the person responsible for implementing the SMS;
  - c) a statement of commitment to the implementation of SMS (signed by the accountable executive);
  - d) documentation of a gap analysis between the organization's existing system and the SMS regulatory requirements; and
  - e) the organization's implementation project plan based on an internal gap analysis.
- 14.4 Phase 2: At one-year, the organisation will demonstrate that their system includes the following components:
- a) a documented safety management plan;
  - b) documented policies and procedures relating to the required SMS components; and
  - c) a process for occurrence reporting with the associated supportive elements such as training, a method of collecting, storing and distributing data, and a risk management process.
- 14.5 Phase 3: Two years from the date of issue of the CAR, the organisation will demonstrate that, in addition to the components already demonstrated during Phase 2, they also have a process for the proactive identification of hazards and associated methods of collecting, storing and distributing data and a risk management process.
- The required components:
- a) documented safety management plan;
  - b) documented policies and procedures;
  - c) process for reactive occurrence reporting and training; and
  - d) Process for proactive identification of hazards are in place.
- 14.6 Phase 4: One year following phase 3, the organisation will demonstrate that, in addition to the components already demonstrated during phases two and three, they have also addressed:
- a) training;
  - b) quality assurance; and
  - c) emergency preparedness.
- 14.7 Chart for the Phase-wise implementation of SMS is given at Annexure VI.

  
( Dr. Nasim Zaidi )  
Director General of Civil Aviation

## Annexure I

### **Example of a safety policy and objectives**

The systematic management of safety is a core business function, and the DGCA requires service provider, led by the board and senior management levels to plan and implement a Safety Management System (SMS). The SMS, so developed, is required to be described in an SMS Manual (SMSM) which is dedicated to the business of the service provider and is planned and drafted to meet the scope and nature of its overall system and the sub-systems within the overall system. As part of the SMS the DGCA expects to see evidence of, as well as intent to:

- Commit to developing, implementing, maintaining and constantly improving strategies and processes to ensure that their aviation activities take place under a balanced allocation of organisational resources: all aimed at achieving the highest level of safety performance and meeting organisational, national and international standards, while delivering services.
- Ensure that all levels of management and all employees have declared and appropriate levels and scope of accountabilities for the delivery of safety performance, starting with the executive named as having overall and ultimate accountability for safety and safety performance; “the Accountable Executive”. All this is required to be stated in the SMSM.
- Establish and implement a safety policy and safety objectives that reflect the following:

### **Safety Policy**

1. **Meet** the safety requirement needs of the organisation, which will, as a minimum, comply with the regulations. The only exception to this are the exemptions, if any, for which the compensatory safety risk controls need to be introduced, including review timescales. The organisation:
  - a. acknowledges that the national requirements are minimum standards;
  - b. understands the need to exceed these where necessary in the pursuit of controlling safety risks, and achieving the declared safety performance; and
  - c. recognises the desirability of seeking out and adopting good accepted international practice.
2. **Establish and implement** a Safety Management System (SMS), the scope of which covers the entire system including the sub-systems, in line with an Implementation Plan, reflecting an agreed strategy, regulatory requirements and declared safety performance.

Safety requirements of the SMS will include (inter-alia) processes and mechanisms:

- a. For hazard identification and risk management, including a hazard reporting system, in order to eliminate or mitigate the safety risks from the consequences of hazards resulting from operations or activities; all to a point which is As Low As Reasonably Practicable (ALARP).
- b. To set demanding but realistic safety performance indicators, targets and action plans, to be agreed with the DGCA, and monitored and measured by internal processes.
- c. To:
  - i. Continually review non-compliances which are the subject of exemptions, against the relevant safety assessment or safety case, applying corrective action as required by the agreed action plan and company's safety requirements, and advising the DGCA of any deviation from the agreed action plan.
  - ii. Advise the DGCA of any new non-compliance found and how the company plans to meet the CAR on exemptions.
- d. For the reporting, collection, recording and analysis of occurrence data.
- e. To manage change, in relation to safety management and performance.
- f. For two way communications between all staff and the management of the organisation, including safety-critical information and safety promotion material, and not forgetting interfaces with contractors and users.
- g. To identify training needs, meet them in a timely manner and assess training effectiveness.
- h. For the coordination of the operator emergencies with the relevant elements of the organisation's management systems and the appropriate internal and external stakeholders.
- i. For effective and disciplined document provision and control.

The format and layout will take account of readability and be as clear and concise as possible.

3. **Support** the management of safety through the provision of all appropriate resources, including the appropriate quality policy and use of the quality assurance process, and authority for decision making and budget expenditure that will result in an organisational culture that:
  - a. fosters safe practices;
  - b. encourages effective safety reporting and communication; and
  - c. actively manages safety with the same attention to results as the attention to the results of the other management systems of the organisation.
4. **Clearly** define and communicate for all staff, managers and employees alike, their accountabilities and responsibilities for the delivery of the organisation's safety performance and the performance of the SMS.

5. **Enforce** the management of safety as a primary responsibility of all managers and employees, not forgetting interfaces with contractors and users.
6. **Ensure** that:
  - a. No action will be taken against any employee who discloses a safety concern through the hazard reporting system, unless such disclosure indicates, beyond any reasonable doubt, an illegal act, gross negligence, or a deliberate or willful disregard of regulations or procedures.
  - b. Sufficient skilled and trained human resources are available to implement safety strategies and processes, including for any services outsourced.
  - c. All staff members are provided with adequate and appropriate aviation safety information and training, are competent in safety matters, and are allocated only tasks commensurate with their skills.
  - d. The organisation works cooperatively with users and other stakeholders, using safety committees and focused joint safety teams, where necessary.
  - e. Externally supplied systems and services, to support their operations, meet the organisation's safety performance standards.
7. **Continually improve** safety performance through management processes that ensure that relevant safety action is taken and is effective, including that related to non-compliances.

### **Safety Objectives**

1. **To achieve** a mature system for managing safety and the organisation's contribution to meeting the State Safety Plan's objectives by continually reviewing the SMS and implementing any revisions deemed necessary from those reviews.
2. **Be satisfied that** the organisation is operationally competent during day-to-day operations and change, in terms of:
  - a. training in functional and professional areas (initial, recurrent and effectiveness);
  - b. equipment, infrastructure, and service facility provision;
  - c. maintenance of equipment, infrastructure, and service facilities;
  - d. the provision and promulgation of data to the required accuracy;
  - e. safety performance setting and monitoring;
  - f. reacting to occurrences and being proactive and predictive in identifying emerging hazards;
  - g. design, development and the entering into service of changes in airport organisation, infrastructure, and facilities; and

- h. staffing establishment, including the:
  - i. appointment of the right people in the right jobs by a process that matches personnel profiles to task competence needs, including key appointments in safety-critical areas; and
  - ii. establishment of specialist safety groups at the senior and other levels.
  
- 3. **Be satisfied as an organisation, and be able to satisfy the DGCA**, in relation to contractors' safety performance, by using a procedure to write safety requirements into the contracting process, including:
  - a. bidding and contractual documentation;
  - b. demonstration of task capability, in all areas of the service provision;
  - c. supervision and surveillance requirements; and
  - d. pre entry-into-service testing, in order to demonstrate fitness for purpose and the meeting of the organisation's safety performance requirements.
  
- 4. **To seek** improvements in safety performance where that is possible. Otherwise, maintain safety performance, in line with that agreed with the DGCA, as part of safety assurance as a component of the operational SMS (as distinct from SMS design).
  
- 5. **To integrate** the SMS with other management systems as the SMS matures; for it to become part of overall business planning and operational system, in order to pursue, in line with the implementation plan:
  - a. Effective and efficient use of resources by:
    - i. identifying the most significant risks to safety, and directing appropriate resource to resolve those safety concerns; and
    - ii. integrating management systems, such as using the QMS as a tool to support the SMS in internal audits of processes.
  - b. Attain an organisational way of working that will:
    - i. enable the development of a just culture; and
    - ii. further encourage full staff participation and commitment in safety management.
  
- 6. **To demonstrate** to the safety regulator that the organisation does what it says it will do in its safety policy and objectives, and be able to produce evidence to that effect, including that related to non-compliances.

**Any overall safety statement, as well as the safety policy and safety objectives, is to be signed and dated by the "Accountable Executive", representing the Board, be communicated to all staff in an adequate and timely manner, and be the subject of regular review.**

**Annexure II**

**Sample Job Description and Requirements for a Safety Manager**

1. Overall purpose

The safety manager is responsible for providing guidance and direction for the planning, implementation and operation of the organisation's safety management system (SMS).

2. Nature and scope of the function

The safety manager will interact with operational personnel, senior managers and departmental heads throughout the organisation. The safety manager should also foster positive relationships with regulatory authorities, agencies and service providers outside the organisation. Other contacts and working relationships will be established at a working level as appropriate, including those at functional interfaces, such as quality management and training.

3. Responsibilities

3.1 The position requires the ability to cope with changing circumstances and situations with little supervision. The safety manager acts independently of other managers within the organisation.

3.2 The safety manager is responsible for providing information and advice to senior management and to the Accountable Executive on matters relating to safe operations. Tact, diplomacy and a high degree of integrity are prerequisites.

3.3 The job requires flexibility because assignments may be undertaken with little or no notice and outside normal work hours.

4. Key Roles

Safety advocate - Demonstrates an excellent safety behaviour and attitude, follows regulatory practices and rules, recognises and reports hazards and promotes effective safety reporting.

Leader - Models and promotes an organisational culture that fosters exemplary safety practices through effective leadership.

Communicator - Acts as a two way information conduit, providing and articulating information regarding safety issues to the organisation's staff, contractors and stakeholders.

Developer - Assists in the continuous improvement of the hazard identification and safety risk assessment processes and the organisation's SMS.

Relationship builder - Builds and maintains an excellent working relationship with the organisation's safety functions and those that interface with it, including quality management.

Ambassador – Represents the organisation, as required.

Analyst - Analyses technical data for trends related to hazards, events and occurrences.

Process manager - Effectively utilises applicable processes and procedures to fulfil roles and responsibilities, as well as measuring effectiveness and investigating opportunities to improve the quality of processes.

5. Authority

5.1 Regarding safety matters, the safety manager has direct access to the Accountable Executive and appropriate senior and middle management.

5.2 The safety manager is authorised to conduct safety audits, surveys and inspections of any aspect of the operation.

5.3 The safety manager has the authority to conduct investigations of internal safety events in accordance with the procedures specified in the safety management systems manual (SMSM) of the organisation.

6. Qualifications, experience and attributes/skill set to meet the key roles of the function.

- broad operational knowledge and extensive experience in the functions of the organisation and the interfaces with users and major technical contractors;
- sound knowledge of safety management principles and practices;
- good written and verbal communication skills;
- well-developed interpersonal skills;
- computer literacy;
- ability to relate to and influence persons at all levels, both inside and outside the organisation; organisational ability;
- ability to work unsupervised;
- good analytical skills;
- leadership skills and an authoritative approach; and
- worthy of respect from peers and management.

**Annexure III**

**Training and education as part of safety promotion**

An organisational safety effort cannot succeed by mandate or strictly through mechanistic implementation of policies. Safety promotion sets the tone that predisposes both individual and organisational behaviour and fills in the blank spaces in the organisation's policies, procedures and processes, providing a sense of purpose to safety efforts and contributing to the development of a positive safety culture.

Many of the processes and procedures specified in the safety policy and objectives and safety risk management and safety assurance components of the SMS provide the structural building blocks of an SMS. However the organisation must also set in place processes and procedures that allow for communication among operational personnel and with the organisation's management. Organisations must make every effort to communicate their objectives, as well as the current status of the organisation's activities and significant events. Likewise, organisations must supply a means of upward communication in an environment of openness.

Safety promotion includes:

- a) training and education, including safety competency; and
- b) safety communication.

The safety manager provides current information and training related to safety issues relevant to the specific operations and operational units of the organisation. The provision of appropriate training to all staff, regardless of their level in the organisation, is an indication of management's commitment to an effective SMS. Safety training and education should consist of the following:

- a) a documented process to identify training requirements;
- b) a validation process that measures the effectiveness of training;
- c) initial (general safety) job-specific training;
- d) indoctrination/initial training incorporating SMS, including Human Factors and organisational factors; and
- e) recurrent safety training.

Training requirements and activities should be documented for each area of activity within the organisation. A training file should be developed for each employee, including management, to assist in identifying and tracking employee training requirements and verifying that personnel have received the planned training. Training programmes should be adapted to fit the needs and complexity of the organisation.

Safety training within an organisation must ensure that personnel are trained and competent to perform their safety management duties, as well as that necessary for any modification of organisational culture or behaviour. The SMS Manual (SMSM) should specify initial and recurrent safety training standards for operational personnel, managers and supervisors, senior managers and the Accountable Executive. The amount of safety training should be appropriate to the individual's responsibility and involvement in the SMS. The SMSM should also specify safety training responsibilities, including contents, frequency, validation and safety training records management.

Safety training should follow a building-block approach. Safety training for operational personnel should address safety responsibilities, including following all operating and safety procedures, and recognising and reporting hazards. The training objectives should include the organisation's safety policy and SMS fundamentals and overview. The contents should include the definition of hazards, consequences and risks, the safety risk management process, including roles and responsibilities and, quite fundamentally, safety reporting and the organisation's safety reporting system(s).

Safety training for managers and supervisors should address safety responsibilities, including promoting the SMS and engaging operational personnel in hazard reporting. In addition to the training objectives established for operational personnel, training objectives for managers and supervisors should include a detailed knowledge of the safety process, hazard identification and safety risk assessment and mitigation, and change management. In addition to the contents specified for operational personnel, the training contents for supervisors and managers should include safety data analysis.

Safety training for senior managers should include safety responsibilities including compliance with national and organisational safety requirements, allocation of resources, ensuring effective inter-departmental safety communication and active promotion of the SMS. In addition to the objectives of the two previous employee groups, safety training for senior managers should include safety assurance and safety promotion, safety roles and responsibilities, and establishing acceptable levels of safety.

Lastly, safety training should include specific and tailored safety training for the Accountable Executive, to the extent that he will understand the system as a whole, in the same way that a non-specialist finance person with the final and full accountability in that area needs to understand a financial management system.

The training should cover the system in its entirety at the high-level, its interfaces, the plan for its implementation and expectations for delivery, as well as the accountabilities of the post and impact on the business in the event of failures in the system for which he or she is accountable. Ignorance of the system as a whole and the potential consequences of sub-standard outputs cannot be allowed to be any kind of justification for such consequences happening.

**Annexure IV**

**Safety communication as part of safety promotion**

The organisation should develop a communications plan to communicate SMS objectives and procedures to all operational personnel, and the SMS should be visible in all aspects of the organisation's operations supporting the delivery of services. The safety manager should communicate the performance of the organisation's SMS programme through bulletins and briefings.

The safety manager should also ensure that lessons learned from investigations and case histories or experiences, both internally and from other organisations, are distributed widely. Communication should flow between the safety manager and operational personnel throughout the organisation. Safety performance will be more efficient if operational personnel are actively encouraged to identify and report hazards. Safety communication therefore aims to:

- a) ensure that all staff are aware of the SMS, including the safety policies/objectives;
- b) convey safety-critical information;
- c) explain why particular actions are taken;
- d) explain why safety procedures are introduced or changed; and
- e) convey "nice-to-know" information.

Examples of organisational communication include:

- a) safety management systems manual (SMSM);
- b) safety processes and procedures;
- c) safety newsletters, notices and bulletins, including those directed towards a strategic programme, such as behavioural change as part of modifying/developing a safety culture; and
- d) websites or email.

**Annexure V**

**GUIDELINES AND PHASE-WISE FOR THE DEVELOPMENT AND  
IMPLEMENTATION OF AN SMS IN AN ORGANIZATION**

- 1. Phase I** — Planning should provide a blueprint on how the SMS requirements will be met and integrated into the organization's work activities, and an accountability framework for the implementation of the SMS:
  - a. Identify the Accountable Executive and the safety accountabilities of managers;
  - b. Identify the person (or planning group) within the organization responsible for implementing the SMS;
  - c. Describe the system (ATOs, air operators, AMOs, organizations responsible for type design and/or manufacture of aircraft, ATC service providers, certified aerodromes);
  - d. Conduct a gap analysis of the organization's existing resources compared with the national and international requirements for establishing an SMS;
  - e. Develop an SMS implementation plan that explains how the organization will implement the SMS on the basis of national requirements and international SARPs, the system description and the results of the gap analysis;
  - f. Develop documentation relevant to safety policy and objectives; and
  - g. Develop and establish means for safety communication.
  
- 2. Phase II** — Reactive processes should put into practice those elements of the SMS implementation plan that refer to safety risk management based on reactive processes:
  - a. hazard identification and safety risk management using reactive processes;
  - b. training relevant to:
    1. SMS implementation plan components; and
    2. safety risk management (reactive processes).
  - c. documentation relevant to:
    1. SMS implementation plan components; and
    2. safety risk management (reactive processes).

- 3. Phase III** — Proactive and predictive processes should put into practice those elements of the SMS implementation plan that refer to safety risk management based on proactive and predictive processes:
- a. hazard identification and safety risk management using proactive and predictive processes;
  - b. training relevant to:
    - 1. SMS implementation plan components; and
    - 2. safety risk management (proactive and predictive processes).
  - c. documentation relevant to:
    - 1. SMS implementation plan components; and
    - 2. safety risk management (proactive and predictive processes).
- 4. Phase IV** — Operational safety assurance should put into practice operational safety assurance:
- a. development of and agreement on safety performance indicators and safety performance targets;
  - b. SMS continuous improvement;
  - c. training relevant to operational safety assurance;
  - d. documentation relevant to operational safety assurance; and
  - e. develop and maintain formal means for safety communication.

**Chart for Phase-wise implementation of SMS**

Date of issuance of CAR	+120 Days	+1 Year	+2 Year	+3 Year
	Phase 1	Phase 2	Phase 3	Phase 4
To demonstrate	<ol style="list-style-type: none"> <li>1. the name of the accountable executive;</li> <li>2. the name of the person responsible for implementing the SMS;</li> <li>3. a statement of commitment to the implementation of SMS (signed by the accountable executive);</li> <li>4. documentation of a gap analysis between the organization's existing system and the SMS regulatory requirements; and</li> <li>5. the organization's implementation project plan based on an internal gap analysis.</li> </ol>	<ol style="list-style-type: none"> <li>1. a documented safety management plan;</li> <li>2. documented policies and procedures relating to the required SMS components; and</li> <li>3. a process for occurrence reporting with the associated supportive elements such as training, a method of collecting, storing and distributing data, and a risk management process.</li> </ol>	<p>A process for the proactive identification of hazards and associated methods of collecting, storing and distributing data and a risk management process.</p> <p>The required components:</p> <ol style="list-style-type: none"> <li>1. documented safety management plan;</li> <li>2. documented policies and procedures;</li> <li>3. process for reactive occurrence reporting and training; and</li> <li>4. Process for proactive identification of hazards are in place.</li> </ol>	<ol style="list-style-type: none"> <li>1. training;</li> <li>2. quality assurance; and</li> <li>3. emergency preparedness.</li> </ol>

---