

# TECHNICAL GUIDANCE MATERIAL for the Development of a SMS Manual

**SUBJECT:** TECHNICAL GUIDANCE MATERIAL FOR THE DEVELOPMENT OF A SMS MANUAL

**EFFECTIVE DATE:** 28 SEPTEMBER 2021

## APPLICABILITY

This TGM is applicable to service providers who are required to establish and implement safety management system in terms of CAR Part 140.

## PURPOSE

The purpose of this TGM is to guide industry in the development of a Safety Management System Manual.

## REQUIREMENTS

CAR Part 140  
SA CATS 140

### 1. REFERENCE:

- i. ICAO Annex 19
- ii. CAR Part 140
- iii. SA-CATS -140
- iv. ICAO Doc 9859 - Safety Management Manual (SMM)

### 2. TERMS AND ABBREVIATIONS:

TERM	DEFINITION
CAR	Civil Aviation Regulations
ERP	Emergency Response Plan
HIRM	Hazard Identification and Risk Management
ISO	International Organization for Standardization
MCM	Maintenance Control Manual
MEDA	Maintenance Error Decision Aid
OSHE	Occupational Safety, Health, And Environment
QMS	Quality Management System
SACAA	South African Civil Aviation Authority

SeMS	Security Management System
SMS	Safety Management System
SOPs	Standard Operating Procedures
SPIs	Safety Performance Indicators
TGM	Technical Guidance Material

### 3. GENERAL

- 3.1 This TGM serves to guide organizations in their compilation of a top-level SMS manual (or document) to define their SMS framework and its associated elements. The manual may form part of an operations manual or can be a stand-alone SMS manual or be integrated as a consolidated SMS section/chapter within an appropriate approved manual of the organization (e.g., the organization's manual of procedures or company manual).
- 3.2 Using the suggested format and content items in this TGM and adapting them as appropriate is one way in which an organization can develop its own top-level SMS manual. The extent of the SMS depends on the organisation complexity and its system description.
- 3.3 The manual will serve to communicate the organization's SMS implementation internally as well as with relevant external organizations. The manual shall be subject to or approval by the Director as evidence of the acceptance of the SMS.

**Note:** A distinction is to be made between an SMS manual and its operational supporting records and documents. The latter refers to historical and current records and documents generated during implementation and operation of the various SMS processes. These are documentary evidence of the ongoing SMS activities of the organization.

### 4. FORMAT OF THE SMS MANUAL

- 4.1 The SMS manual may be formatted in the following manner:
- Section heading;
  - Objective;
  - Criteria;
  - Cross-reference documents.
- 4.2 Below each numbered "section heading" is a description of the "objective" for that section, followed by its "criteria" and "cross-reference documents". The "objective" is what the organization intends to achieve by doing what is described in that section. The "criteria" defines the scope of what should be considered when writing that section. The "cross-reference documents" links the information to other relevant manuals or SOPs of the organization which contain details of the element or process as applicable.

### 5. CONTENTS OF THE MANUAL

- 5.1 The contents of the manual may include the following sections:

- 5.1.1 Document control;
- 5.1.2 SMS regulatory requirements;
- 5.1.3 Scope and integration of the safety management system
- 5.1.4 Safety policy;

- 5.1.5 Safety objectives;
- 5.1.6 Safety accountabilities, responsibilities and key personnel;
- 5.1.7 Safety reporting systems and remedial actions;
- 5.1.8 Hazard identification and risk assessment;
- 5.1.9 Safety performance monitoring and measurement;
- 5.1.10 Safety-related investigations and remedial actions;
- 5.1.11 Safety training and communication;
- 5.1.12 Continuous improvement and SMS audit;
- 5.1.13 SMS records management;
- 5.1.14 Management of change; and
- 5.1.15 Emergency/contingency response plan.

A. Below is an example of the type of information that should be included in each section using the format prescribed in 4.2.

## 1. Document control

### ***Objective***

Describe how the manual(s) will be kept up to date and how the organization will ensure that all personnel involved in safety-related duties have the most current version.

### ***Criteria***

- a) Hard copy or controlled electronic media and distribution list.
- b) The correlation between the SMS manual and other existing manuals such as the maintenance control manual (MCM) or the operations manual.
- c) The process for periodic review of the manual and its related forms/documents to ensure their continuing suitability, adequacy and effectiveness.
- d) The manual's administration, approval and regulatory acceptance process.

### ***Cross-reference documents***

Quality manual, engineering manual, etc.

## 2. SMS regulatory requirements

### ***Objective***

Address current SMS regulations and guidance material for necessary reference and awareness by all concerned.

### ***Criteria***

- a) Spell out the current SMS regulations/standards. Include the compliance timeframe and advisory material references as applicable.
- b) Where appropriate, elaborate on or explain the significance and implications of the regulations to the organization.
- c) Establish a correlation with other safety-related requirements or standards where appropriate.

### ***Cross-reference documents***

*SMS regulation/requirement references, SMS guidance document references, etc.*

### 3. System description, scope and integration of the safety management system

#### *Objective*

Describe the scope and extent of the organization's aviation-related operations and facilities within which the SMS will apply. The scope of the processes, equipment and operations deemed eligible for the organization's hazard identification and risk management (HIRM) programme should also be addressed.

#### *Criteria*

- a) Spell out the nature of the organization's aviation business and its position or role within the industry as a whole.
- b) Spell out organisational interfaces, including third party service providers (internal and external)
- c) Identify the major areas, departments, workshops and facilities of the organization within which the SMS will apply.
- d) Identify the major processes, operations and equipment which are deemed eligible for the organization's HIRM programme, especially those which are pertinent to aviation safety. If the scope of the HIRM-eligible processes, operations and equipment is too detailed or extensive, it may be controlled under a supplementary document as appropriate.
- e) Where the SMS is expected to be operated or administered across a group of interlinked organizations or contractors, define and document such integration and associated accountabilities as applicable.
- f) Where there are other related control/management systems within the organization, such as QMS, OSHE and SeMS, identify their relevant integration (where applicable) within the aviation SMS.

#### *Cross-reference documents*

Quality manual, engineering manual, etc.

### 4. Safety policy

#### *Objective*

Describe the organization's intentions, management principles and commitment to improving aviation safety in terms of the product or service provider. A safety policy should be a short description similar to a mission statement.

#### *Criteria*

- a) The safety policy should correspond with system description and be tailored to address individual organisational complexities.
- b) The safety policy states the organization's intentions, management principles and commitment to continuous improvement in aviation safety.
- c) The safety policy is approved and signed by the Accountable executive.
- d) The safety policy is promoted by the Accountable executive and all other managers.
- e) The safety policy is reviewed periodically.
- f) Personnel at all levels are involved in the establishment and maintenance of the safety management system.

- g) The safety policy is communicated to all employees with the intent that they are made aware of their individual safety obligations.

***Cross-reference documents***

Safety policy, etc.

**5. Safety objectives**

***Objective***

Describe the safety objectives of the organization. The safety objectives should be a short statement that describes in broad terms what the organization hopes to achieve.

***Criteria***

- a) The safety objectives have been established.
- b) The safety objectives are expressed as a top-level statement describing the organization's commitment to achieving safety.
- c) There is a formal process to develop a coherent set of safety objectives.
- d) The safety objectives are publicized and distributed.
- e) Resources have been allocated for achieving the objectives.
- f) The safety objectives are linked to safety indicators to facilitate monitoring and measurement where appropriate.

***Cross-reference documents***

Safety performance indicators document, monitoring instruments, safety performance management reports, etc.

**6. Roles and responsibilities**

***Objective***

Describe the safety responsibilities and accountabilities for personnel involved in the SMS.

***Criteria***

- a) The Accountable executive is responsible for ensuring that the safety management system is properly implemented and is performing to requirements in all areas of the organization.
- b) An appropriate safety manager (office), safety committee or safety action groups (where applicable) have been appointed/established as appropriate.
- c) Safety responsibilities and accountabilities of personnel at all levels of the organization are defined and documented.
- d) All personnel understand their responsibilities and accountabilities with regards to all safety management processes, decisions and actions.
- e) An SMS organizational accountabilities diagram is available.

***Cross-reference documents***

Company manual of procedure, terms of reference for committees, job descriptions, organogram, etc.

## 7. Safety reporting systems

### *Objective*

A reporting system should include both reactive (accident/incident reports, etc.) and proactive/predictive (hazard reports). Describe the respective reporting systems (voluntary, mandatory and confidential). Factors to consider include: report format, confidentiality, addressees, investigation/evaluation procedures, corrective/preventive actions and report dissemination.

### *Criteria*

- a) The organization has a procedure that provides for the capture of internal occurrences including accidents, incidents and other occurrences relevant to SMS.
- b) A distinction is to be made between mandatory reports (accidents, serious incidents, major defects, etc.), which are required to be notified to the CAA, and other routine occurrence reports, which remain within the organization.
- c) There is also a voluntary and confidential hazard/occurrence reporting system, incorporating appropriate identity/data protection as applicable.
- d) The respective reporting processes are simple, accessible and commensurate with the size of the organization.
- e) High-consequence reports and associated recommendations are addressed to and reviewed by the appropriate level of management.
- f) Reports are collected in an appropriate database to facilitate the necessary analysis.

### *Cross-reference documents*

Reporting system, reporting forms, data/information management policies, reporting procedures, accidents/incidents reports, feedback, etc.

## 8. Hazard identification and risk assessment

### *Objective*

Describe the hazard identification system and how such data are collated. Describe the process for the categorization of hazards/risks and their subsequent prioritization for a documented safety assessment. Describe how the safety assessment process is conducted and how preventive action plans are implemented.

### *Criteria*

- a) Identified hazards are evaluated, prioritised and processed for risk assessment as appropriate.
- b) There is a structured process for risk assessment involving the evaluation of severity, likelihood, tolerability, and preventive controls.
- c) Hazard identification and risk assessment procedures focus on aviation safety as their fundamental context
- d) The risk assessment process utilizes worksheets, forms, or software appropriate to the complexity of the organization and operations involved.
- e) Completed safety assessments are approved by the appropriate level of management.
- f) There is a process for evaluating the effectiveness of the corrective, preventive and recovery measures that have been developed.

- g) There is a process for periodic review of completed safety assessments and documenting their outcomes.

#### ***Cross-reference documents***

Risk registers, risk matrixes, analysed reports, safety improvement recommendations, safety performance measurement mechanisms, etc.

### **9. Safety performance monitoring and measurement**

#### ***Objective***

Describe the safety performance monitoring and measurement component of the SMS. This includes the organization's SMS safety performance targets and safety performance indicators (SPIs).

#### ***Criteria***

- a) The formal process to develop and maintain a set of safety performance indicators and their associated performance targets.
- b) Correlation established between the SPIs and the organization's safety objectives where applicable and the process of regulatory acceptance of the SPIs where required.
- c) The process of monitoring the performance of these SPIs including remedial action procedure whenever unacceptable or abnormal trends are triggered.
- d) Any other supplementary SMS or safety performance monitoring and measurement criteria or process.

#### ***Cross-reference documents***

Reports, procedures, submission of SPTs to the CAA, etc.

### **10. Safety-related investigations and remedial actions**

#### ***Objective***

Describe how accidents/incidents/occurrences are investigated and processed within the organization, including their correlation with the organization's SMS hazard identification and risk management system.

#### ***Criteria***

- a) Procedures to ensure that reported accidents and incidents are investigated internally.
- b) Dissemination of completed investigation reports internally as well as to the CAA as applicable.
- c) A process for ensuring that corrective actions taken or recommended are carried out and for evaluating their outcomes/effectiveness.
- d) Procedure on disciplinary inquiry and actions associated with investigation report outcomes.
- e) Clearly defined conditions under which punitive disciplinary action would be considered (e.g., illegal activity, recklessness, gross negligence or wilful misconduct).
- f) A process to ensure that investigations include identification of active failures as well as contributing factors and hazards.

- g) Investigation procedure and format provides for findings on contributing factors or hazards to be processed for follow-up action by the organization's hazard identification and risk management system where appropriate.

***Cross-reference documents***

Reporting procedures, outcomes of accidents/incidents investigation, safety improvement recommendations, just culture promotion, enforcement procedures/guidelines, etc.

**11. Safety training and communication**

***Objective***

Describe the type of SMS and other safety-related training that staff receives and the process for assuring the effectiveness of the training. Describe how such training procedures are documented. Describe the safety communication processes/channels within the organization.

***Criteria***

- a) The training syllabus, eligibility and requirements are documented.
- b) There is a validation process that measures the effectiveness of training.
- c) The training includes initial, recurrent and update training, where applicable.
- d) The organization's SMS training is part of the organization's overall training programme.
- e) SMS awareness is incorporated into the employment or indoctrination programme.
- f) The safety communication processes/channels within the organization.

***Cross-reference documents***

Training records, attendance registers, training policy, training programme, safety promotions initiatives, internal communication, etc.

**12. Continuous improvement and SMS audit**

***Objective***

Describe the process for the continuous review and improvement of the SMS.

***Criteria***

- a) The process for regular internal audit/review of the organization's SMS to ensure its continuing suitability, adequacy and effectiveness.
- b) Describe any other programmes contributing to continuous improvement of the organization's SMS and safety performance, e.g., MEDA, safety surveys, ISO systems.

***Cross-reference documents***

Audit schedules, audit reports, improvement recommendations, etc.

**13. SMS records management**

***Objective***



Describe the method of storing all SMS-related records and documents.

**Criteria**

- a) The organization has an SMS record or archiving system that ensures the retention of all records generated in conjunction with the implementation and operation of the SMS.
- b) Records to be kept include hazard reports, risk assessment reports, safety action group/safety meeting notes, safety performance indicator charts, SMS audit reports and SMS training records.
- c) Records should be traceable for all elements of the SMS and be accessible for routine administration of the SMS as well as internal and external audits purposes.

**Cross-reference documents**

**14. Management of change**

**Objective**

Describe the organization's process for managing changes that may have an impact on safety risks and how such processes are integrated with the SMS.

**Criteria**

- a) Procedures to ensure that substantial organizational or operational changes take into consideration any impact which they may have on existing safety risks.
- b) Procedures to ensure that appropriate safety assessment is performed prior to introduction of new equipment or processes which have safety risk implications.
- c) Procedures for review of existing safety assessments whenever there are changes to the associated process or equipment.

**Cross-reference documents**

Company SOP relating to management of change, etc.

**15. Emergency/contingency response plan**

**Objective**

Describe the organization's intentions regarding, and commitment to dealing with, emergency situations and their corresponding recovery controls. Outline the roles and responsibilities of key personnel. The emergency response plan (where applicable) can be a separate document, or it can be part of the SMS manual.





**Criteria (as applicable to the organization)**

- a) The organization has an emergency plan that outlines the roles and responsibilities in the event of a major incident, crisis or accident.
- b) There is a notification process that includes an emergency call list and an internal mobilization process.

- c) The organization has arrangements with other agencies for aid and the provision of emergency services as applicable.
- d) The organization has procedures for emergency mode operations where applicable.
- e) There is a procedure for overseeing the welfare of all affected individuals and for notifying next of kin.
- f) The organization has established procedures for handling the media and insurance-related issues.
- g) There are defined accident investigation responsibilities within the organization.
- h) The requirement for preservation of evidence, securing the affected area, and mandatory/ governmental reporting is clearly stated.
- i) There is emergency preparedness and response training for affected personnel.
- j) A disabled aircraft or equipment evacuation plan has been developed by the organization in consultation with aircraft/equipment owners, aerodrome operators or other agencies as applicable.
- k) A procedure exists for recording activities during an emergency response.

***Cross-reference documents***

ERP manual, etc.

<b>DEVELOPED BY:</b>		
	BONGEKILE MTLOKWA	28 SEPTEMBER 2021
SIGNATURE OF SMS Technical Officer	NAME IN BLOCK LETTERS	DATE
<b>REVIEWED BY:</b>		
	GCINOKUHLE MKHONZA	28 SEPTEMBER 2021
SIGNATURE OF MANAGER: QC & AIIR	NAME IN BLOCK LETTERS	DATE
<b>VALIDATED BY:</b>		
	MARY STEPHENS	28 SEPTEMBER 2021
SIGNATURE OF SM: CSD	NAME IN BLOCK LETTERS	DATE
<b>APPROVED BY:</b>		
	SIMON SEGWABE	28 SEPTEMBER 2021
SIGNATURE OF E: ASO	NAME IN BLOCK LETTERS	DATE

END