



**NAMIBIAN CIVIL AVIATION AUTHORITY**

Advisory Pamphlet (AP)

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**GUIDANCE ON THE DEVELOPMENT OF AN SAFETY  
MANAGEMENT MANUAL**

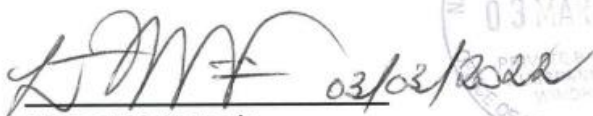
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3. APs should always be read in conjunction with the referenced regulations.
4. Safety Management Systems Manual is set out in the Schedule attached hereto.
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Interim Executive Director of Civil Aviation





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## SCHEDULE

### 1. GENERAL

- 1.1 This Advisory Pamphlet serves to guide organizations in the development and compilation of a top-level SMS manual to define their SMS framework and its associated elements.
- 1.2 This SMS guide gives detailed explanation of how an SMS Manual should look as required by NAMCATS Part 140.
- 1.3 This document shall be read in conjunction with NAMCARS Part 140 and NAMCATS Part 140.

### 2. FORMAT OF THE SMS MANUAL:

- 2.1 Using the format and content items in this document and adapting them as appropriate is one way in which an organization can develop its own top-level SMS manual.
- 2.2 The actual content items will depend on the specific SMS framework and elements of the organisation. However, the contents required in NAMCATS 140 should be used as a minimum and additional contents might be added as required.
- 2.3 The description under each element will be commensurate with the scope and complexity of the organisations SMS processes.
- 2.4 The SMS manual will serve to communicate the organization's SMS framework internally as well as with relevant external organisations.
- 2.5 The SMS manual is subject to approval by the NCAA as evidence of the acceptance of the SMS. To this end, the manual should include the recommended approval page, **FSS-GEN-FORM-603-01**.
- 2.6 For a comprehensive checklist of SMS Manual requirements see NCAA form **FSS-GEN-FORM-603-03**, available in its latest form on the NCAA website.

*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 full implementation of the SMS by the organization.*

- 2.7 The SMS manual may be formatted in the following manner:
  - 2.7.1 Section heading.
  - 2.7.2 Objective.
  - 2.7.3 Scope; and
  - 2.7.4 Cross-reference documents.



2.8 Below each numbered “**section heading**” is a description of the “**objective**” for that section, followed by its “**Scope**” and “**cross-reference documents.**”

2.9 The “**objective**” is what the organization intends to achieve by doing what is described in that section.

2.10 The “**Scope**” defines the scope of what should be considered when writing that section.

2.11 The “**cross-reference documents**” links the information to other relevant manuals or SOPs (Standard Operating Procedures) of the organization which contain details of the element or process as applicable.

### 3. CONTENTS OF THE MANUAL:

3.1 The contents of the manual may include the following sections:

- 3.1.1 Document Control
- 3.1.2 SMS Regulatory Requirements
- 3.1.3 Scope of the Safety Management System
- 3.1.4 Safety Policy
- 3.1.5 Safety Objectives and Goals
- 3.1.6 Safety Accountabilities and Key Personnel
- 3.1.7 Non-Punitive Reporting Policy
- 3.1.8 Safety Reporting
- 3.1.9 Hazard Identification and Risk Assessment
- 3.1.10 Safety Performance Monitoring and Measurement
- 3.1.11 Safety Investigations
- 3.1.12 SMS and Safety Training
- 3.1.13 SMS Audit and Safety Review
- 3.1.14 SMS Data and Records Management
- 3.1.15 Management of Change
- 3.1.16 Emergency Response Plan

Reference: NAMCATS 140.02.2 Sect 2.5

3.2 Below is an example of the type of information that could be included in each section using the format prescribed in paragraph 2.

### 4. CONTENTS OF A SMS MANUAL IN DETAIL:

#### 4.1 Document Control.

##### 4.1.1 Objective.

4.1.1.1 To 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.

##### 4.1.2 Scope.

4.1.2.1 Hard copy or controlled electronic media and distribution list must be included.

4.1.2.2 To be a controlled document, the manual must contain a list of effective pages, revision/amendment table, and each page must include the effective date and

revision/amendment number. Sections should be numbered/alphabetized for ease of reference.

- 4.1.2.3 There must be process describing periodic review of the manual and its related forms/documents to ensure their continuing suitability, adequacy, and effectiveness.
- 4.1.2.4 There should be one person nominated for control and distribution of the SMS manual and document updates, normally the safety manager.
- 4.1.2.5 The manual's administration, approval, and regulatory acceptance process must be detailed, including person responsible for administration.

*Note: Cross-reference documents such as Quality manual, maintenance control manual, etc.*

## **4.2 SMS Regulatory Requirements**

### **4.2.1 Objective.**

- 4.2.1.1 To address the current SMS regulations and guidance material for necessary reference and awareness by all concerned.

### **4.2.2 Scope.**

- 4.2.2.1 Describe the current SMS regulations/standards, including the company's compliance and advisory material references as applicable.
- 4.2.2.2 Include a statement that the SMS complies with all applicable regulations. For SMS this is NAMCAR/CATS Part 140, however you may wish to include ICAO Annex 19.
- 4.2.2.3 Where appropriate, elaborate on or explain the significance and implications of the regulations to the organization.

*Note: Cross-reference documents such as SMS regulation/requirement references, SMS guidance document references, etc.*

## **4.3 Scope and Integration of the Safety Management System**

### **4.3.1 Objective.**

- 4.3.1.1 To describe the scope and extent of the organization's aviation-related operations and facilities within which the SMS will apply, and
- 4.3.1.2 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.

### **4.3.2 Scope.**

- 4.3.2.1 Describe the importance of the applicability of the SMS Manual to all personnel and that the contents must be complied with by all.
- 4.3.2.2 The correlation must be drawn between the SMS manual and other existing manuals such as the Maintenance Control Manual (MCM) or the Operations Manual.
- 4.3.2.3 Describe the nature of the organization's aviation business to which the SMS will apply.
- 4.3.2.4 Identify the major areas, departments, workshops, and facilities of the organization which the SMS will apply.
- 4.3.2.5 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.



- 4.3.2.6 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.
- 4.3.2.7 Where there are other related control/management systems within the organization, such as QMS, OSHE, and SeMS (Security Management System), identify their relevant integration (where applicable) within the aviation SMS.
- 4.3.2.8 The SMS should include an implementation plan and gap analysis as an annexure or appendix that is reviewed twice yearly.

*Note: Cross-reference documents such as Quality manual, maintenance control manual, etc.*

#### 4.4 Safety Policy

##### 4.4.1 Objective.

- 4.4.1.1 To describe the organization's intentions, management principles, and commitment to improving aviation safety in terms of the product or service provided.
- 4.4.1.2 A safety policy should be a short description like a mission statement.

##### 4.4.2 Scope.

- 4.4.2.1 The safety policy should be appropriate to the size and complexity of the organization.
- 4.4.2.2 The safety policy states the organization's intentions, management principles and commitment to continuous improvement in aviation safety.
- 4.4.2.3 The safety policy must confirm commitment to provide the required human and financial resources to achieve the acceptable level of safety performance (ALOSP).
- 4.4.2.4 The safety policy should define reporting procedures and what is acceptable and unacceptable behaviour.
- 4.4.2.5 The safety policy must be approved and signed by the accountable manager.
- 4.4.2.6 The safety policy must be promoted by the accountable manager and all other managers and communicated to all employees to the extent that they are aware of their individual safety responsibilities (for example as a module in induction training).
- 4.4.2.7 The safety policy must be reviewed periodically, at a minimum annually.

*Note: Cross-reference documents such as OSHE (Occupation Safety, Health, and Environment), safety policy, etc.*

#### 4.5 Safety Objectives and Goals

##### 4.5.1 Objective.

- 4.5.1.1 To describe the safety objectives and goals of the organization.
- 4.5.1.2 The safety objectives should be a short top level statement that describes in broad terms what the organization hopes to achieve.

##### 4.5.2 Scope.

- 4.5.2.1 The safety objectives must be established with clearly set goals, for example use the "SMART" acronym, specific, measurable, achievable, realistic, and time bound.
- 4.5.2.2 The safety objectives must be expressed as a top-level statement describing the organization's commitment to achieving safety.
- 4.5.2.3 The safety objectives must be linked to safety performance indicators and targets to facilitate monitoring and measurement where appropriate.



*Note: Cross-reference documents such as Safety performance indicators document, etc.*

#### 4.6 Safety Accountabilities and Key Personnel

##### 4.6.1 Objective.

4.6.1.1 To describe the safety authorities, responsibilities and accountabilities for all personnel involved in the SMS.

##### 4.6.2 Scope.

4.6.2.1 The accountable manager must be responsible for ensuring that the safety management system is properly implemented and is performing to requirements in all areas of the organization. It should be made clear that the accountable manager has overall responsibility for the safety management system.

4.6.2.2 An appropriate safety manager (officer) is appointed responsible for the day to day management of the SMS who has direct access to the accountable manager thus ensuring expeditious handling of all critical safety matters.

4.6.2.3 Safety committee/review board and/or safety action groups should be appointed, as appropriate to the size of the organisation. The high-level safety group should have direct reporting to the accountable manager, preferably where possible the accountable manager is a participant. Groups should meet at a minimum of monthly for medium and large organisations, and quarterly for very small organisations.

4.6.2.4 Safety authorities, responsibilities, and accountabilities of personnel at all levels of the organization must be defined and documented. All personnel must understand their authorities, responsibilities, and accountabilities about all safety management processes, decisions and actions (this can be included in safety training, see section 4.11).

4.6.2.5 The organisation should define the levels of management permitted to make decisions regarding implementation of safety mitigations and actions for ensuring risk tolerability.

4.6.2.6 Personnel at all levels must be involved in the establishment and maintenance of the safety management system. Regular, ideally monthly, safety meetings should be held with all SMS user groups.

4.6.2.7 An SMS organizational accountabilities diagram should be made available. The integration of the SMS within the company should be highlighted including lines of reporting within the safety department and to the accountable manager.

*Note: Cross-reference documents such as Company SOP manual, administration manual, etc.*

#### 4.7 Safety Reporting

##### 4.7.1 Objective.

4.7.1.1 To include a reporting system that is both reactive (accident/incident reports, etc.) and proactive/predictive (hazard reports), and

4.7.1.2 Describe the respective reporting systems: Factors to consider should include report format, confidentiality, voluntary vs mandatory, addressees, investigation and evaluation procedures, risk assessment and mitigation, corrective and preventive actions, and report dissemination.

##### 4.7.2 Scope.



- 4.7.2.1 The organization must have procedures that provide for the collection, recording, acting on, and generating feedback for internal occurrences including accidents, incidents, hazards, and other occurrences relevant to SMS.
- 4.7.2.2 A distinction should be made between mandatory reports (accidents, serious incidents, major defects, etc. as per NAMCATS 140 Appendix A), which are required to be notified to the NCAA and DAAll, and other routine occurrence reports, which remain within the organization (and can be reported to NCAA voluntarily).
- 4.7.2.3 There must also be a voluntary and confidential hazard/occurrence reporting system, incorporating appropriate identity/data protection as applicable.
- 4.7.2.4 The respective reporting processes should be simple, accessible, and commensurate with the size of the organization.
- 4.7.2.5 High-consequence reports and associated recommendations should be addressed to and reviewed by the appropriate level of management, for example through safety committee meetings.
- 4.7.2.6 Reports should be collected in an appropriate database to facilitate the necessary risk and trend analysis.
- 4.7.2.7 There should be an established non-punitive reporting culture.

*Note: Cross-reference applicable documents.*

#### 4.8 Hazard Identification and Risk Assessment

##### 4.8.1 Objective.

- 4.8.1.1 To describe the hazard identification system and how such data are collated;
- 4.8.1.2 To describe the process for the categorization of hazards/risks and their subsequent prioritization for a documented safety assessment; and
- 4.8.1.3 To describe how the safety assessment process is conducted and how preventive action plans are implemented.

##### 4.8.2 Scope.

- 4.8.2.1 Identified hazards must be evaluated, prioritized, and processed for risk assessment and construction of mitigation measures and safety recommendations as appropriate.
- 4.8.2.2 There must be a structured process for risk assessment involving the evaluation of hazard severity and likelihood, risk tolerability, and preventive controls. (For example ICAO's risk management matrix – Ref: ICAO Doc 9859 Safety Management Manual)
- 4.8.2.3 Hazard identification and risk assessment procedures should focus on aviation safety as their fundamental context.
- 4.8.2.4 The risk assessment process must utilize worksheets, forms, or software appropriate to the complexity of the organization and operations involved.
- 4.8.2.5 Completed safety assessments should be approved by the appropriate level of management.
- 4.8.2.6 There must be a process for evaluating the effectiveness of the corrective, preventive and recovery measures that have been developed.
- 4.8.2.7 There must be a process for periodic review of completed safety assessments and documenting their outcomes.



*Note: Cross-reference applicable documents*

#### 4.9 Safety Performance Monitoring and Measurement

##### 4.9.1 Objective.

4.9.1.1 To describe the safety performance monitoring and measurement component of the SMS. This must include the organization's safety performance indicators (SPIs) and targets (SPTs).

##### 4.9.2 Scope.

4.9.2.1 There must be a formal process developed and maintained that sets safety performance indicators and their associated performance targets.

4.9.2.2 A correlation must be established between the SPIs and the organization's safety objectives as applicable.

4.9.2.3 SPIs and SPTs should ideally be an annexure of appendix to enable regular updating with ease as data is obtained and collated in the SMS.

4.9.2.4 There must be a process of monitoring the performance of these SPIs including remedial action procedure whenever unacceptable or abnormal trends are triggered.

4.9.2.5 Any other supplementary SMS or safety performance monitoring and measurement scope or process should be included as appropriate.

*Note: Cross-reference applicable documents*

#### 4.10 Safety Investigations

##### 4.10.1 Objective.

4.10.1.1 To 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.

##### 4.10.2 Scope.

4.10.2.1 There must be procedures to ensure that reported accidents and incidents are investigated internally whenever required (risk assessment obtains requires mitigation measures).

4.10.2.2 There must be defined accident investigation responsibilities within the organization.

4.10.2.3 Dissemination of completed investigation reports internally as well as to the NCAA should be implemented.

4.10.2.4 There must be a process for ensuring that corrective actions taken or recommended are carried out and for evaluating their outcomes/effectiveness.

4.10.2.5 There must be a procedure on disciplinary inquiry and actions associated with investigation report outcomes.

4.10.2.6 There should be clearly defined conditions under which punitive disciplinary action would be considered (e.g., illegal activity, recklessness, gross negligence, or willful misconduct).

4.10.2.7 There should be a process to ensure that investigations include identification of active failures as well as contributing factors and hazards.

4.10.2.8 Investigation procedure and format must be described and should provide for findings on contributing factors or hazards which are processed for follow-up action by the organization's hazard identification and risk management system where appropriate.

*Note: Cross-reference applicable documents*

#### **4.11 SMS and Safety Training and Communication**

##### 4.11.1 Objective.

- 4.11.1.1 To describe the type of SMS and other safety-related training that staff receive and the process for assuring the effectiveness of the training,
- 4.11.1.2 To describe how such training procedures are documented, and
- 4.11.1.3 To describe the safety communication processes/channels within the organization.

##### 4.11.2 Scope.

- 4.11.2.1 The training syllabus, eligibility, and requirements must be documented, (this may refer to a training procedures manual (TPM) or flight operations manual (FOM) Part D.
- 4.11.2.2 There should be a validation process that measures the effectiveness of training.
- 4.11.2.3 The SMS and safety training must include initial, recurrent, and advanced training, where applicable, to ensure employees are competent to perform their SMS and safety related duties.
- 4.11.2.4 The organisation's SMS training should be part of the organization's overall training programme.
- 4.11.2.5 SMS awareness must be incorporated into the employment or indoctrination programme to ensure employees at all levels understand their authorities, responsibilities, and accountabilities with regard to the SMS.
- 4.11.2.6 Training must contain a validation process for measuring effectiveness. This can be included in the QMS or as part of the SMS.
- 4.11.2.7 The safety communication processes/channels must be established within the organization.
- 4.11.2.8 Safety communication must convey safety critical information and explain why safety actions are taken. Communication must extend to all applicable user groups.
- 4.11.2.9 The safety communication should provide regular reports to management and to the NCAA on hazards, safety concerns, and mitigation.

*Note: Cross-reference applicable documents.*

#### **4.12 SMS Audit and Safety Review**

##### 4.12.1 Objective.

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

##### 4.12.2 Scope.

- 4.12.2.1 There should be a process for monitoring effectiveness of the SMS to enable continuous improvement, including regular (not greater than annual) review of the SMM.
- 4.12.2.2 The process for regular internal audit/review of the organization's SMS to ensure its continuing suitability, adequacy, and effectiveness must be indicated. This may reference the QMS.



4.12.2.3 A description of any other programmes contributing to continuous improvement of the organization's SMS and safety performance, e.g., MEDA (Maintenance Error Decision Aid), safety surveys, ISO systems should be included.

*Note: Cross-reference applicable documents*

#### 4.13 SMS Data and Records Management

##### 4.13.1 Objective.

4.13.1.1 To describe the method of storing all SMS-related records and documents.

##### 4.13.2 Scope.

4.13.2.1 The organization must have SMS records or archiving system that ensures the retention of all records generated in conjunction with the implementation and operation of the SMS, including:

- a. Occurrence, hazard, and risk register;
- b. Occurrence, hazard, and risk reports;
- c. Statistics and SPI and SPT related charts;
- d. SMS and safety training records;
- e. Safety meeting minutes;
- f. SMS audit reports;
- g. SMS implementation plan and gap analysis.

4.13.2.2 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.

4.13.2.3 Safety record identification should be stored securely and deidentified reports and statistics made accessible to all personnel.

4.13.2.4 For air operators of aircraft over 27,000kgs there should be a flight data analysis programme.

*Note: Cross-reference applicable documents*

#### 4.14 Management of Change

##### 4.14.1 Objective.

4.14.1.1 To 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.

##### 4.14.2 Scope.

4.14.2.1 Procedures to ensure that substantial organizational or operational changes are taken into consideration including any impact which they may have on existing safety risks.

4.14.2.2 There must be procedures to ensure that appropriate safety assessment is performed prior to introduction of new equipment or processes which have safety risk implications.

4.14.2.3 There must be procedures for review of existing safety assessments whenever there are changes to the associated process or equipment.

*Note: Cross-reference documents such as company SOP relating to management of change, etc.*

#### 4.15 Emergency/Contingency Response Plan

##### 4.15.1 Objective.



- 4.15.1.1 Is to 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 can be a separate document, or it can be part of the SMS manual.*
- 4.15.2 Scope (as applicable to the organization).
- 4.15.2.1 The organization has must have an emergency plan that outlines the roles and responsibilities in the event of a major incident, crisis, or accident.
- 4.15.2.2 There must be a notification process that includes an emergency call list and an internal mobilization process.
- 4.15.2.3 The organization should have arrangements with other agencies for aid and the provision of emergency services as applicable (for example ambulance services, search and rescue organisations).
- 4.15.2.4 The organization should have procedures for emergency mode operations where applicable.
- 4.15.2.5 There must be a procedure for overseeing the welfare of all affected individuals, including injured and un-injured passengers and friends/family members.
- 4.15.2.6 Notification and communication channels to next of kin should be specified where applicable (i.e if not performed by law enforcement, in case of injuries, or for follow up enquiries).
- 4.15.2.7 The organization should establish procedures for handling the media and insurance-related issues.
- 4.15.2.8 The requirement for preservation of evidence, securing the affected area, and mandatory/governmental reporting should be clearly stated.
- 4.15.2.9 There must be emergency preparedness and response training for affected personnel.
- 4.15.2.10 A disabled aircraft or equipment evacuation plan should be developed by the organization in consultation with aircraft/equipment owners, aerodrome operators, or other agencies as applicable.
- 4.15.2.11 A procedure should exist for recording and tracking of emergency response activities during an emergency response, ideally in the form of a response plan checklist.

*Note: Cross-reference applicable documents*

## 5. CONCLUSION

- 5.1 The safety management system is *the* most effective tool an organisation has to keep safety risk management as low as reasonably practicable (ALARP) and to maintain an acceptable level of safety performance (ALOSP), which is essential in the critical management of protection versus production. An effective SMS takes time to implement, and therefore your SMS implementation plan, established in line with NAMCATS 140.02.3 is a crucial part of your documentation.
- 5.2 Further reading on SMS implementation is contained in Advisory Pamphlet 1/1/2/4/1-2 Safety Management Systems. You are also consult and prepare a self-assessment on your manual using the NCAA checklist FSS-GEN-FORM-603-03. For a self-assessment on the implementation of your SMS please refer to NCAA checklist FSS-GEN-FORM-604-02. Emergency response plan detailed



**Namibia Civil Aviation Authority -  
Safety Division**

**ADVISORY PAMPHLET  
Safety Management Systems  
Manual**

requirements can be found in NCAA checklist FSS-GEN-FORM-603-05. All forms and advisory pamphlets are available on the NCAA website, <https://www.ncaa.com.na>.