NAMIBIAN CIVIL AVIATION AUTHORITY

Advisory Pamphlet (AP)

FSS-SPQ-AP 1/1/2/4/1-11

12/2024

DEVELOPMENT OF A
SAFETY MANAGEMENT SYSTEM (SMS)
COURSE

Approval

Edition Number	1.0	Effective Date		
	Position	**Name**	**Signature**	**Date**
Prepared by	Senior Manager: SPQ	Mr. George Matroos		08/11/24
Endorsed by:	General Manager: Safety	Mr. Ericsson M. Nengola		19/11/2024
NCAA Approval:	Executive Director	Ms. Toska Sem		02/12/2024

NAMIBIA CIVIL AVIATION AUTHORITY NCAA 2024 -12- 02 PRIVATE BAG 12003 AUSSPANNPLATZ WINDHOEK OFFICE OF THE EXECUTIVE DIRECTOR

Change Summary

Edition Number	Brief Description of Change	Prepared by	Effective Date
1.0	First Edition	SPQ	

NOTE:

1. When amended, this document will be re-issued in full. Each page will indicate the edition number. The edition number shall be the same on each page.
2. When printed this document is uncontrolled.

Advisory Pamphlets (AP) System.

1. The Namibian Civil Aviation Authority (NCAA) issues Advisory Pamphlets in accordance with NAMCARs 2018, Part 3, regulation 3.04.4 to advise the aviation public in a systematic way of non-regulatory material. and acceptable means of compliance. Unless incorporated into a regulation by reference, the contents of an Advisory Pamphlet are not non-binding on the public. Advisory Pamphlets are issued in a numbered-subject system corresponding to the subject areas of the Namibian Civil Aviation Regulations (NAMCARs) and the Namibian Civil Aviation Regulations (NAMCARs) approved NCAA File Plan.

2. Advisory Pamphlets are intended to provide information and guidance to illustrate a means but not necessarily the only means of complying with the Regulations, or to explain certain Regulatory requirements by providing interpretative and explanatory material. Where an AP is referred to in a 'Note' below the regulation, the AP remains as guidance material.

3. Advisory Pamphlets should be read in conjunction with the referenced regulations.

4. Voluntary Reporting Scheme (VRS) and Mandatory Occurrence Reporting Scheme (MORS) is set out in the schedule hereto.

5. Advisory pamphlets may also be accessed at https://www.ncaa.com.na.

6. Reproduction of Advisory Pamphlets. Advisory pamphlets may be reproduced in their entirety or in part without permission from the Civil Aviation Authority.

7. Any queries on the content herein should be addressed to spq@ncaa.na for forwarding to the relevant department.

Effective date: _____

Ms. Toska Sem
Executive Director for Civil Aviation

NAMIBIA CIVIL AVIATION AUTHORITY NCAA 05 DEC 2024 PRIVATE BAG 12024 WINDHOEK OFFICE OF THE EXECUTIVE DIRECTOR

Table of Contents

1. APPLICABILITY

1.1. This advisory pamphlet is essential for all aviation training organizations striving to adhere to industry best practices.

1.2. The document applies to an aviation training organisation or training provider in the process of developing and gaining acceptance for an SMS training course.

2. PURPOSE

2.1. This advisory pamphlet delineates the essential prerequisites for developing a Safety Management System (SMS) course—an integral facet of training for aviation safety personnel. Aligned with the requirements of Part 140 of the Namibian Civil Aviation Regulations (NAMCARs),

2.2. This course development guidance is designed to curate training that will equip safety personnel with the requisite knowledge and skills essential for proficiently implementing and sustaining an SMS. The recommended course structure embodies a conscientious approach, ensuring participants undergo comprehensive training to competently navigate the intricacies of effective SMS implementation and long-term management.

3. REQUIREMENTS

3.1. The issuance of this advisory pamphlet is necessitated by the following Regulations and Technical Guidance Material (TGM) pertinent to the SMS implementation.

4. REFERENCE

a. NAMCAR Part 140 – SMS;
b. NAMCATS 140 – SMS;
c. Namibian SSP Manual;
d. ICAO Annex 19;
e. ICAO Safety Management Manual.

5. INTRODUCTION

5.1. A Safety Management System (SMS) is a methodical approach to safety oversight, covering organizational structure, accountabilities, policies, and processes. ICAO's safety management requirements underscore the importance of establishing clear lines of safety accountability and fostering an appropriate safety culture. States are entrusted with the responsibility of implementing a State safety program (SSP), mandating operators, training organisations, maintenance

organizations, air traffic services, design and manufacturing organizations, and aerodrome operators to integrate an SMS into their operations. The SMS and SSP are integral like pieces of a jigsaw and participants of both interact and rely on each other for the overall improvement to safety of aviation in the State.

5.2. The Namibia Civil Aviation Authority (NCAA) bears the responsibility of establishing and upholding minimum standards for aviation SMS training courses. This commitment ensures uniformity and credibility across the aviation sector.

5.3. This document serves as a guide, delineating the criteria for developing an SMS training course tailored for safety personnel tasked with the implementation and maintenance of SMS under CARs Part 140.

5.4. The outlined criteria encompass the fundamental components necessary for SMS training, ensuring that graduates possess the requisite knowledge, skills, and attitude to meet the stringent requirements of NAMCAR Part 140.

5.5. The criteria are designed to be flexible, allowing for the inclusion of additional content beyond the minimum recommended components. This adaptability acknowledges the dynamic nature of the aviation industry and encourages continuous improvement in SMS training programs.

6. OVERVIEW

6.1. This document is provided to create a comprehensive safety management system course, aimed at safety managers, safety officers, safety inspectors, and is highly beneficial to anyone involved in implementation and maintenance of an SMS or SSP. It covers regulatory aspects of safety management system training required to hold a nominated post approved by the regulator.

7. OBJECTIVE OF THE TRAINING COURSE

7.1. The objective of the training course is to equip safety personnel with the knowledge and skills necessary to design, implement, and maintain a robust Safety Management System (SMS). The course is crafted to align seamlessly with the principles outlined in the ICAO Doc 9859 Safety Management Manual (SMM). Through this alignment, participants will gain a comprehensive understanding of international best practices and standards, ensuring effective and harmonized SMS practices within the aviation domain.

7.2. Encompassed in this objective is the aim to empower students with a comprehensive understanding, practical skills, and a positive mindset, enabling them to proficiently develop, implement, and manage a Safety Management System (SMS). This includes the ability to assess and measure the performance of the SMS. The aim is to cultivate a holistic competence that goes beyond theoretical knowledge, equipping individuals to navigate the complexities of SMS implementation and management effectively within the specific challenges posed by the scale and intricacies of aviation enterprises.

8. COURSE GOALS

8.1. The goals of the SMS Course encompass:

a. **Developing knowledge:** Participants will acquire a robust understanding of safety management concepts and familiarize themselves with the pertinent ICAO Standards and Recommended Practices (SARPs).

b. **Overseeing implementation:** Participants will be equipped to oversee the implementation of key components of a fundamental Safety Management System (SMS) in strict adherence to NAMCARs Part 140.

8.2. The SMS Course strategically addresses four overarching SMS requirements:

a. **Safety Policy and Objectives:** Participants will gain insights into formulating and articulating safety policies and objectives.

b. **Safety Risk Management:** The course delves into the intricate processes of identifying, assessing, and mitigating safety risks within aviation operations.

c. **Safety Assurance:** Participants will understand and apply mechanisms for assuring and verifying the effectiveness of safety measures.

d. **Safety Promotion:** The course emphasizes the promotion of a safety-oriented culture and practices within aviation organizations.

9. COURSE CONTENT

9.1. The course is structured into six modules, fostering integrated learning. The emphasis is on problem-based (Case Study) learning, encouraging participants to apply theoretical knowledge to real-world scenarios.

10. REFERENCE

10.1. The training methodology is flexible, allowing organizations to choose methods that best suit their educational approach. However, these methodologies are subject to audits by the Namibia Civil Aviation Authority (NCAA) to ensure compliance and effectiveness. Essential reference materials for the course include ICAO Annex 19, ICAO Doc 9859, NAMCAR and NAMCATS Part

140. These materials serve as foundational resources, aligning the training with international standards and regulatory requirements.

11. ASSESSMENT METHODS

11.1. Participants should undergo a comprehensive evaluation employing various assessment techniques to gauge their proficiency across multiple dimensions. The assessment modalities should include:

a. **Knowledge-based questions:** These assess theoretical understanding.
b. **Problem-based questions:** Designed to evaluate practical application and critical thinking skills.
c. **Practical exercises:** Engaging activities to evaluate hands-on competencies.
d. **Case studies:** Thought-provoking scenarios simulating real-world situations to test analytical and decision-making capabilities.
e. **Attendance**: 80% attendance shall be required.

12. PASS MARK:

12.1. **A minimum pass mark of 75%** shall be required, emphasizing the need for participants to demonstrate a robust understanding and application of the acquired knowledge and skills.

13. COURSE DURATION:

13.1. The training is structured with a **minimum duration of 5 days**. This timeframe allows for in-depth learning, practical engagement, and comprehensive assimilation of the Safety Management System (SMS) course content. Participants benefit from ample time to absorb, apply, and reinforce their understanding of the intricacies associated with SMS implementation and management.

14. RECOMMENDED SYLLABUS SAFETY MANAGER COURSE

14.1. The following section details the recommended content for a Safety Management System Course. While developers are advised to personalise, customise, or add to the content herein, it is recommended not to detract from these core concepts to ensure your course is robust and likely to be approved without revision.

14.2. This course shall be covered over a minimum of five days to ensure sufficient depth.

MODULE ONE – Safety Management Fundamentals

The rationale behind Module One is to instil in participants the foundational principles of safety management, encompassing both individual and organizational influences. Understanding these core concepts is essential for cultivating a robust foundation in safety management practices.

SECTIONS	TOPICS TO BE COVERED
Section 1: Concept of safety and its evolution	Fundamental safety management concepts: what is safety management, who does it apply to, humans in the systems, evolution of accident causation, management dilemma.
Section 2: Safety risk management	Understanding hazards and their consequences, hazard identification, overview of safety risk assessments, safety risk tolerability, safety risk mitigation strategies, safety risk management documentation.
Section 3: Safety culture introduction	What is a safety culture, safety culture and safety management, development of safety culture, monitoring of safety culture.
Section 4 Safety Reporting	Mandatory reports, voluntary reports, hazard reports, non-punitive policy, culpability tree, company reporting procedure and forms, external reporting process.
Section 5 Components of the SMS	SMS manual, safety meetings, safety promotion, safety training, participation,

MODULE TWO – Safety Data Collection and Processing

The rationale for Module Two is to acquaint participants with the intricacies of safety data collection, analysis, exchange, and the protective provisions surrounding this critical aspect of safety management. This foundational understanding is imperative for fostering adeptness in handling safety-related data effectively.

SECTIONS	TOPICS TO BE COVERED
Section 1 – Development of a Safety Risk Assessment	Reasons for a risk assessment, components of a risk assessment, language to use for describing the hazard and risk, outcomes of a risk assessment, using the risk matrix, developing mitigations, recommendations.
Section 2 - Risk assessment practical exercise	Scenario (Group work): Development of a risk assessment in groups for a set safety hazard and event.

Section 3: Safety data collection, analysis, and exchange	Safety data collection, reporting systems, safety data analysis, Safety data governance, safety data protection, safety data outcomes.
Section 4 - Safety data analysis	Types of analysis, safety data/information reporting, safety information exchange, data-driven decision-making, numerical methods of analysis.
Section 5: Data analysis exercise	Data analysis group work, interpretation of data and concluding a data driven decision.

MODULE THREE – Safety Performance Management

This module is designed to delve into the development of Safety Performance Indicators (SPIs), SPI charts, target settings, safety performance monitoring, and the strategic actions essential for achieving and sustaining acceptable safety performance. It serves as a comprehensive guide to equip participants with the necessary knowledge and skills to effectively manage safety performance within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: Development of safety objectives	Overview of SDCPS, safety analysis, development of safety objectives.
Section 2: Safety performance indicators and safety performance targets	Types of SPIs, Selecting and defining SPIs, Setting safety performance targets, Safety performance measurement, Use of SPIs and SPTs.
Section 3: Monitoring safety performance	Baseline for safety performance, Revision/refinement of SPIs, identifying actions required, Update safety objectives.
Section 4: Hazard and occurrence databases	Developing safety databases, occurrence register, hazard register, analysis tools

MODULE FOUR – SMS Implementation

This module is dedicated to imparting knowledge and fostering competency in the crucial aspects of Safety Management System (SMS) implementation and administration. It is designed to equip participants with the necessary skills to effectively implement and administer SMS within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: SMS Organization and accountabilities	Identification of SMS accountable executive, Appointment of project team and coordinator, definition of Terms of Reference for SMS implementation team, safety management applicability, establishment of safety

	management responsibilities and accountabilities, identification of SMS/Safety manager.
Section 2: SMS gap analysis	Performance of SMS gap analysis, identification of action tasks, review organizational structure, safety accountabilities, and procedures.
Section 3: SMS Implementation	Development of SMS implementation plan, monitoring of task implementation.
Section 4: SMS Integration	Integration of SMS with QMS, Integration of SMS with other relevant management systems description and identification of interfaces.
Section 5: SMS manual and records	Development of SMS documentation, acceptance of SMS manual, initiation of SMS records keeping system.
Section 6: SMS Committee and Administration	Initiation of SMS/Safety committee, recommendation of SMS/safety committee schedule and agenda to SMS accountable executive, establishment of a permanent SMS administration function/office, initiation of departmental Safety Action Groups and Safety Review Boards where appropriate.
Section 7: Safety policy and objectives	Development of safety policy statement, development of safety objectives.
Section 8: Emergency response planning	Initiation of organization's ERP, Coordination of ERP with relevant external organizations.

MODULE FIVE – SMS Implementation

This module builds upon the foundation by further imparting knowledge and enhancing competency in the critical areas of SMS implementation and administration. Participants will gain deeper insights and skills essential for proficiently navigating the intricacies of SMS deployment within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: Hazard Identification and voluntary reporting system	Hazard identification from occurrence notification reports, hazard identification from occurrence investigation process, hazard identification from internal voluntary reporting systems, hazard identification from the review of aviation equipment and processes, hazard identification during safety/quality surveillance processes, hazard identification from operational monitoring system data review and audit findings, establishment of supplementary hazard survey programmes, role of the central hazards register, establishment of hazard prioritization procedure.

Section 2: Safety Investigation	Safety investigation concepts, interview techniques, sources, evidence collection, statements, outcomes, safety action group, safety review board.
Section 2a: Safety Investigation	Practical exercise in groups,
Section 3: Safety risk mitigation	Establishment of risk mitigation procedure, establishment of safety risk mitigation documentation, definition of SRM approval processes.
Section 4: Management of change	Establishment of management of change procedures.
Section 5: Occurrence reporting and Investigation	Establishment of mandatory occurrence notification and investigation procedures, establishment of routine incident notification and investigation procedure, establishment of safety data administration policy/procedure.
Section 6: SMS disciplinary policy and procedures	Definitions of principle of exception, safety policy statements on violation or gross negligence versus mistake, culpability decision tree, establishment of internal disciplinary policy and procedures, establishment of equitable disciplinary decision aid (safety culture).
Section 7: Safety data processing and analysis	Processing and analysis of safety data.

MODULE SIX – SMS Training, Safety Promotion, and Internal Audit

This module is designed to furnish participants with the knowledge and competency necessary for the development of internal SMS training programs and the establishment of an effective SMS audit program. Participants will gain insights into fostering a culture of safety promotion within the organization.

Section 1 – SMS training programme	Development of SMS training programme for SMS participants, induction and recurrent, establishment of safety training records system.
Section 2 – Safety information sharing, exchange, and safety promotions:	Establishment of mechanisms for safety and SMS communication within the organization, establishment of mechanisms to promote safety information sharing internally and externally.
Section 3 – Internal and External SMS Audit:	Establishment of internal SMS audit program, definition, means, and preparation for external SMS audit provisions.

15. RECOMMENDED SYLLABUS PARTICIPANT COURSE

15.1. The following section details the recommended content for a Safety Management System Course aimed at participants, including operational personnel and management. This course is not a qualifying course for a nominated post holder or safety officer, it is intended to add to the knowledge of those **who interact with an aviation operational activity** and thus are required to have a knowledge of SMS.

15.2. This course is not a stand-alone recommendation and must be married with a company specific SMS induction or recurrent training course.

15.3. While developers are advised to personalise, customise, or add to the content herein, it is recommended not to detract from these core concepts to ensure your course is robust and likely to be approved without revision.

MODULE ONE – Safety Management Fundamentals

The rationale behind Module One is to instil in participants the foundational principles of safety management, encompassing both individual and organizational influences. Understanding these core concepts is essential for cultivating a robust foundation in safety management practices.

SECTIONS	TOPICS TO BE COVERED
Section 1: Concept of safety and its evolution	Fundamental safety management concepts: what is safety management, who does it apply to, humans in the systems, evolution of accident causation, management dilemma.
Section 2: Safety risk management	Understanding hazards and their consequences, hazard identification, overview of safety risk assessments, interpreting a safety risk assessment, safety risk tolerability, safety risk mitigation strategies, safety risk management documentation.
Section 3: Safety culture introduction	What is a safety culture, safety culture and safety management, development of safety culture, monitoring of safety culture.
Section 4 Safety Reporting	Mandatory reports, voluntary reports, hazard reports, non-punitive policy, culpability tree, company reporting procedure and forms, external reporting process.
Section 5 Components of the SMS	SMS manual, safety meetings, safety promotion, safety training, participation,

MODULE TWO – Safety Performance Management

This module is designed to delve into safety data, objectives and goals, Safety Performance Indicators (SPIs), target settings, safety performance monitoring, and the strategic actions essential for achieving and sustaining acceptable safety performance. It serves as an overview to equip participants with the necessary knowledge and skills to effectively interpret performance within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: Safety data collection, analysis, and exchange	Safety data collection, reporting systems, safety data analysis, safety data governance, safety data protection, safety data outcomes.
Section 2: Safety objectives and goals	Overview of SDCPS, safety analysis, development of safety objectives.
Section 3: Safety performance indicators and safety performance targets	Types of SPIs, use of SPIs and SPTs.

MODULE THREE – SMS Implementation

This module is dedicated to imparting knowledge and fostering competency in the crucial aspects of Safety Management System (SMS) implementation and administration. It is designed to equip participants with the necessary skills to completely and effectively participate in SMS within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: SMS Implementation and maturity	Identification of SMS accountable executive, Appointment of project team and coordinator, definition of Terms of Reference for SMS implementation team, safety management applicability, establishment of safety management responsibilities and accountabilities, identification of SMS/Safety manager.
Section 2: SMS manual and records	SMS record keeping system.
Section 3: SMS Committee and Administration	What is a Safety Action Group and Safety Review Board, how are they convened and who should be involved.
Section 4: Emergency response planning	Initiation of organization's ERP, Coordination of ERP with relevant external organizations.

MODULE FOUR – SMS Implementation

This module builds upon the foundation by further imparting knowledge and enhancing competency in the critical areas of SMS implementation and administration. Participants will gain deeper insights and skills essential for proficiently navigating the intricacies of SMS deployment within aviation operations.

SECTIONS	TOPICS TO BE COVERED
Section 1: Hazard Identification and voluntary reporting system	Hazard identification from operations, supplementary hazard survey programmes, role of the central hazards register, hazard feedback
Section 2: Safety Investigation	Safety investigation concepts, interview techniques, sources, evidence collection, statements, outcomes, safety action group, safety review board.
Section 3: Occurrence reporting and Investigation	Mandatory occurrence notification and investigation procedures, establishment of routine incident and hazard notification and investigation procedure, establishment of safety data administration policy/procedure.
Section 4: SMS disciplinary policy and procedures	Definitions of principle of exception, safety policy statements on violation or gross negligence versus mistake, culpability decision tree, establishment of internal disciplinary policy and procedures, establishment of equitable disciplinary decision aid (safety culture).

MODULE FIVE – SMS Training, Safety Promotion, and Internal Audit

This module is designed to furnish participants with the knowledge and competency necessary for the development of internal SMS training programs and the establishment of an effective SMS audit program. Participants will gain insights into fostering a culture of safety promotion within the organization.

Section 1 – SMS training programme	Required training for SMS participants, induction and recurrent, safety training records.
Section 2 – Safety information sharing, exchange, and safety promotions:	Safety and SMS communication within the organization, promotion of safety information sharing internally and externally, confidential communication.

16. TRAINING MATRIX

The following modules, or their equivalent, apply to each participant as follows:

	Safety office holders (Safety officers, safety managers, post holders)	**Operational staff (ground crew, cabin crew, flight crew, dispatch, ATS, operational management etc.)**	**All staff**
Module 1	Yes	Yes	Yes
Module 2	Yes	Sections 1-3	
Module 3	Yes	Yes	
Module 4	Yes	Sections 1-4	
Module 5	Yes	Sections 1-2	
Module 6	Yes	Yes	

It is noted that all participants can attend all modules for maximum benefits, the above only details the minimum recommended content for each job category.

17. TERMS AND ABBREVIATIONS:

TERM	**DEFINITION**
Safety management system	A systematic approach to managing safety, encompassing organizational structures, accountability, responsibilities, policies, and procedures.
Safety performance	A State's or service provider's safety achievement as defined by its safety performance targets and safety performance indicators.
Safety performance indicator	A data-based parameter used for monitoring and assessing safety performance.
Safety performance target	The State or service provider's planned target for a safety performance indicator over a given period aligning with safety objectives.
ABBREVIATION	**DESCRIPTION**
ERP	Emergency Response Plan
CAR	Civil Aviation Regulations
CATS	Civil Aviation Technical Standards
QMS	Quality Management System

NCAA	Namibia Civil Aviation Authority
SDCPS	Safety Data Collection and Processing Systems
SMM	Safety Management Manual
SMS	Safety Management Systems
SPI	Safety Performance Indicators
SPT	Safety Performance Targets
SRM	Safety Risk Management
TGM	Technical Guidance Material