



CIVIL AVIATION RULES AND STANDARDS

FEDERAL DEMOCRATIC REPUBLIC OF ETHIOPIA

PART23 — SAFETY MANAGEMENT SYSTEM

**Addis Ababa
November 2019**

INTENTIONALLY LEFT BLANK

SAFETY MANAGEMENT SYSTEM

የኢትዮጵያ ሲቪል አቪዬሽን ባለሥልጣን



ETHIOPIAN CIVIL AVIATION AUTHORITY

Document Approval

This State Safety Rules and Standards must be undertaken, in compliance with International Standards, National Safety Program and Safety Management System implementation plan applicable to all Aviation Service Providers under the Ethiopian Civil Aviation Authority.

It is important to note that, this State Safety Rules and Standards required to implement the Safety Management System (SMS) and mandatory for all Aviation Service Providers who are operating in Ethiopia.

This is therefore, to confirm that the Federal Democratic Republic of Ethiopia Civil Aviation Authority hereby approved this State Safety Rules and Standards on January 21/2014 to be implemented by all concerned and be amended from time to time upon introduction of new methods through the international Civil Aviation Organization (ICAO).

Approved by 
Wosenyetch Hunegnaw (Col.)
Director General



C.A.A.46 100-047

SAFETY MANAGEMENT SYSTEM

Table of Contents

RECORD OF AMENDMENTS.....	4
Table of Contents	5
23.1 General.....	6
23.5 Definitions	8
ABBREVIATIONS	10
23.6 FRAMEWORK FOR A SAFETY MANAGEMENT SYSTEM (SMS)	11
23.6.1. Safety policy and objectives	11
23.6.1.1 Management commitment.....	11
23.6.1.2 Safety accountability and responsibilities	12
23.6.1.3 Appointment of key safety personnel.....	12
23.6.1.4 Coordination of emergency response planning.....	13
23.6.1.5 SMS documentation	13
23.6.2 Safety risk management	13
23.6.2.1 Hazard identification	13
23.6.2.2 Safety risk assessment and mitigation.....	13
23.6.3. Safety assurance	14
23.6.3.1 Safety performance monitoring and measurement.....	14
23.6.3.2 The management of change.....	14
23.6.3.3 Continuous improvement of the SMS	14
23.6.4. Safety promotion.....	14
23.6.4.1 Training and education	14
23.6.4.2 Safety communication.....	14
23.7. Implementation of the SMS.....	15

23.1 General

- (a) These Rules & Standards is promulgated under the statutory authority of Civil Aviation Proclamation No. 616/2008.
- (b) Within the context of these Rules & Standards the term “service provider” must be understood to designate any organization providing aviation related services. The term encompasses aircraft operators, aviation training organizations, aircraft maintenance organizations, air traffic service providers and aerodrome operators, as applicable.
- (c) The following service providers shall implement and maintain a safety management system (SMS) that is appropriate to the size and complexity of the operations authorized to be conducted under its certificate, and the nature of safety hazards and risks related to the operations:
 - (1) Approved training organizations (ATO) operating in accordance with ECARAS Part 3, that are exposed to safety risks related to aircraft operations during the provision of their services;
 - (2) Operators of airplanes or helicopters authorized to conduct international commercial air transport, in accordance with ECARS Part 9;
 - (3) Approved maintenance organizations (AMO) providing services to operators of airplanes or helicopters engaged in international commercial air transport, in accordance with ECARS Part 9;
 - (4) Air traffic service (ATS) providers in accordance with ECARAS PART 14; and
 - (5) Operators of certified aerodromes operating in accordance with ECARAS Part 12.
- (d) The SMS of a service provider shall:
 - (1) be established in accordance with the framework elements contained in section 23.6; and
 - (2) be commensurate with the size of the service provider and the complexity of its aviation products or services.
- (e) This Rules & standards addresses aviation safety related processes and activities rather than occupational safety, environmental protection, or customer service quality.
- (f) The service provider is responsible for the safety of services or products contracted to or purchased from other organizations.
- (g) Each service provider required to implement SMS shall develop a plan to facilitate SMS implementation.
- (h) These Rules & Standards requires the minimum acceptable requirements; the service provider can establish more stringent requirements.

23.2 Applicability

- (a) These Rules and Standards is applicable to:
 - (1) Approved training organizations (ATO) operating in accordance with ECARAS Part 3, that are exposed to safety risks related to aircraft operations during the provision of their services;
 - (2) Operators of airplanes or helicopters authorized to conduct international commercial air transport, in accordance with ECARS Part 9;
 - (3) Approved maintenance organizations (AMO) providing services to operators of airplanes or helicopters engaged in international commercial air transport, in accordance with ECARS Part 6;
 - (4) Air traffic services (ATS) providers in accordance with ECARAS PART 14; and
 - (5) Operators of certified aerodromes operating in accordance with ECARAS Part 12.

23.3 Acceptance of SMS

- (a) Each service provider shall have in place a safety management system (SMS) that is acceptable to the Authority, that, as a minimum:
 - (1) Identifies safety hazards;
 - (2) ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
 - (3) Provides for continuous monitoring and regular assessment of the safety level achieved; and
 - (4) Aims to make continuous improvement to the overall level of safety.
- (b) The SMS of:
 - (1) an approved training organization operating in accordance with ECARAS Part 3, that is exposed to safety risks related to aircraft operations during the provision of its services;
 - (2) a certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport, in accordance with ECARAS Part 9;
 - (3) an approved maintenance organization providing services to operators of aeroplanes or helicopters engaged in international commercial air transport, in accordance with ECARAS Part 6;
 - (4) ATS provider, in accordance with ECARAS Part 14; and
 - (5) an operator of a certified aerodrome operating in accordance with ECARAS Part 12;shall be made acceptable to the Authority.

23.4 The acceptance process

- (a) The service provider shall submit a formal application with the SMS document for acceptance to the Authority. The acceptance process includes the approval of the SMS document. The service provider shall periodically review its safety management system.

23.5 Definitions

When the following terms are used in Safety Management System, they have the following meanings:

Accident: An occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

- a) a person is fatally or seriously injured as a result of:
- being in the aircraft, or
 - direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or
 - direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or
- b) the aircraft sustains damage or structural failure which:
- adversely affects the structural strength, performance or flight characteristics of the aircraft, and
 - would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or
- c) the aircraft is missing or is completely inaccessible.

Acceptable level of safety performance (ALoSP). The minimum level of safety performance of civil aviation in a State, as defined in its State safety program, or of a service provider, as defined in its safety management system, expressed in terms of safety performance targets and safety performance indicators.

Accountable executive, A single, identifiable person having responsibility for the effective and efficient performance of the State's SSP or of the service provider's SMS

SAFETY MANAGEMENT SYSTEM

Change management, A formal process to manage changes within an organization in a systematic manner, so that changes which may impact identified hazards and risk mitigation strategies are accounted for, before the implementation of such changes

Defenses, Specific mitigating actions, preventive controls or recovery measures put in place to prevent the realization of a hazard or its escalation into an undesirable consequence.

Errors, An action or inaction by an operational person that leads to deviations from organizational or the operational person's intentions or expectations

High-consequence indicator, Safety performance indicators pertaining to the monitoring and measurement of high consequence occurrences, such as accidents or serious incidents. High-consequence indicators are sometimes referred to as reactive indicators

Lower-consequence indicators, Safety performance indicators pertaining to the monitoring and measurement of lower-consequence occurrences, events or activities such as incidents, non-conformance findings or deviations. Lower-consequence indicators are sometimes referred to as proactive/predictive indicators.

Risk mitigation, The process of incorporating defenses or preventive controls to lower the severity and/or likelihood of a hazard's projected consequence

Safety management system (SMS), A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety performance, A State or a 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 risk. The predicted probability and severity of the consequences or outcomes of a hazard

State safety programme (SSP). An integrated set of regulations and activities aimed at improving safety

SAFETY MANAGEMENT SYSTEM

ABBREVIATIONS

AOC	Air operator certificate
ALOS	Acceptable level of safety
AMO	Approved Maintenance Organization
ASR	Air Safety Report
ATS	Air Traffic Services
CAA	Civil Aviation Authority
CEO	Chief Executive Officer
CRM	Crew Resource Management
Doc	Document
ECAA	Ethiopian Civil Aviation Authority
ERP	Emergency Response Plan
FDR	Flight Data Recorder
FOD	Foreign Object Debris(Damage)
ICAO	International Civil Aviation Organization
MEL	Minimum Equipment LIST
QA	Quality Assurance
SMS	Safety Management System
SOP	Standard Operating Procedure
SSP	State Safety Program

23.6 FRAMEWORK FOR A SAFETY MANAGEMENT SYSTEM (SMS)

This subpart specifies the framework for the implementation and maintenance of an SMS. The framework comprises four components and twelve elements as the minimum requirements for SMS implementation:

(1) Safety policy and objectives

- (a) Management commitment
- (b) Safety accountability and responsibilities
- (c) Appointment of key safety personnel
- (d) Coordination of emergency response planning
- (e) SMS documentation

(2) Safety risk management

- (a) Hazard identification
- (b) Safety risk assessment and mitigation

(3) Safety assurance

- (a) Safety performance monitoring and measurement
- (b) The management of change
- (c) Continuous improvement of the SMS

(4) Safety promotion

- (a) Training and education
- (b) Safety communication

23.6.1. Safety policy and objectives

23.6.1.1 Management commitment

- (a) The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:
 - (1) reflect organizational commitment regarding safety, including the promotion of a positive safety culture;
 - (2) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;
 - (3) include safety reporting procedures;

SAFETY MANAGEMENT SYSTEM

- (4) clearly indicate which types of behaviours are unacceptable related to the service provider's aviation activities and include the circumstances under which disciplinary action would not apply;
 - (5) be signed by the accountable executive of the organization;
 - (6) be communicated, with visible endorsement, throughout the organization; and
 - (7) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.
- (b) Taking due account of its safety policy, the service provider shall define safety objectives. The safety objectives shall:
- (1) form the basis for safety performance monitoring and measurement as required by 23.6.3.1;
 - (2) reflect the service provider's commitment to maintain or continuously improve the overall effectiveness of the SMS;
 - (3) be communicated throughout the organization; and
 - (4) be periodically reviewed to ensure they remain relevant and appropriate to the service provider.

23.6.1.2 Safety accountability and responsibilities

- (a) The service provider shall:
- (1) identify the accountable executive who, irrespective of other functions, is accountable on behalf of the organization for the implementation and maintenance of an effective SMS;
 - (2) clearly define lines of safety accountability throughout the organization, including a direct accountability for safety on the part of senior management;
 - (3) identify the responsibilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the organization;
 - (4) document and communicate safety accountability, responsibilities and authorities throughout the organization; and
 - (5) define the levels of management with authority to make decisions regarding safety risk tolerability.

23.6.1.3 Appointment of key safety personnel

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

Note. — Depending on the size of the service provider and the complexity of its aviation products or services, the responsibilities for the implementation and maintenance of the SMS may be assigned to one or more persons, fulfilling the role of safety manager, as their sole function or combined with other duties, provided these do not result in any conflicts of interest.

23.6.1.4 Coordination of emergency response planning

- (a) The service provider required to establish and maintain an emergency response plan for accidents and incidents in aircraft operations and other aviation emergencies shall 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 products and services.

23.6.1.5 SMS documentation

- (a) The service provider shall develop and maintain an SMS manual that describes its:
 - (1) Safety policy and objectives;
 - (2) SMS requirements;
 - (3) SMS processes and procedures; and
 - (4) Accountability, responsibilities and authorities for SMS processes and procedures.
- (b) The service provider shall develop and maintain SMS operational records as part of its SMS documentation.

Note.— Depending on the size of the service provider and the complexity of its aviation products or services, the SMS manual and SMS operational records may be in the form of stand-alone documents or may be integrated with other organizational documents (or documentation) maintained by the service provider.

23.6.2 Safety risk management

23.6.2.1 Hazard identification

- (a) The service provider shall develop and maintain a process to identify hazards associated with its aviation products or services.
- (b) Hazard identification shall be based on a combination of reactive and proactive methods.

23.6.2.2 Safety risk assessment and mitigation

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

Note. — The process may include predictive methods of safety data analysis.

23.6.3. Safety assurance

23.6.3.1 Safety performance monitoring and measurement

- (a) The service provider shall develop and maintain the means to verify the safety performance of the organization and to validate the effectiveness of safety risk controls.

Note.— An internal audit process is one means to monitor compliance with safety regulations, the foundation upon which SMS is built, and assess the effectiveness of these safety risk controls and the SMS.

- (b) The service provider's safety performance shall be verified in reference to the safety performance indicators and safety performance targets of the SMS in support of the organization's safety objectives.

23.6.3.2 The management of change

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

23.6.3.3 Continuous improvement of the SMS

- (a) The service provider shall monitor and assess its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.

23.6.4. Safety promotion

23.6.4.1 Training and education

- (a) The service provider shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform their SMS duties.
- (b) The scope of the safety training programme shall be appropriate to each individual's involvement in the SMS.

23.6.4.2 Safety communication

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

23.7. Implementation of the SMS

- (a) This Rules & standards proposes, but does not mandate, a phased implementation of a service provider SMS, which encompasses four phases as described in paragraph (b) through paragraph (e) hereunder.
- (b) Phase 1 should provide a blueprint on how the SMS requirements will be met and integrated to the organization's work activities, and an accountability framework for the implementation of the SMS:
 - (1) Identify the Accountable executive and the safety accountabilities of managers;
 - (2) identify the person (or planning group) within the organization responsible for implementing the SMS;
 - (3) describe the system for the aviation services and products of the organization;
 - (4) Conduct a gap analysis of the organization's existing resources compared with the national and international requirements for establishing an SMS;
 - (5) 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;
 - (6) Develop documentation relevant to safety policy and objectives; and
 - (7) Develop and establish means for safety communication.
- (c) Phase 2 should put into practice those elements of the SMS implementation plan that refer to the safety risk management reactive processes:
 - (1) Investigation and analysis;
 - (2) Hazard identification and risk management;
 - (3) training relevant to:
 - (i) SMS implementation plan components; and
 - (ii) Safety risk management (reactive processes).
 - (4) Documentation relevant to:
 - (i) SMS implementation plan components; and
 - (ii) Safety risk management (reactive processes).
- (d) Phase 3 should put into practice those elements of the SMS implementation plan that refer to the safety risk management proactive processes:
 - (1) Investigation and analysis;
 - (2) Hazard identification and risk management;

SAFETY MANAGEMENT SYSTEM

- (3) training relevant to:
 - (i) SMS implementation plan components; and
 - (ii) Safety risk management (proactive processes).
- (4) Documentation relevant to:
 - (i) SMS implementation plan components; and
 - (ii) Safety risk management (proactive processes)
- (e) **Phase 4** should put into practice operational safety assurance:
 - (1) Development of acceptable level (s) of safety;
 - (2) Development of safety indicators and targets;
 - (3) SMS continuous improvement;
 - (4) Training relevant to operational safety assurance; and
 - (5) Documentation relevant to operational safety assurance.