

Republic of Iraq
Ministry of Transport
Iraq Civil Aviation Authority



REGULATIONS
(22)
SAFETY
MANAGEMENT SYSTEM

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REPUBLIC OF IRAQ

REGULATIONS

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REGULATIONS NO.(22)

SAFETY MANAGEMENT SYSTEM

Citation

Citation 1.1 These Regulations may be cited as **(Safety Management System)** Regulations.

Definitions and Acronyms

Definitions and Acronyms 2.1 In these Regulations:

“Accident” An unplanned event or series of events that results in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

“Accountable Manager” Means General Manager (GM), Managing Director (MD) or Chief Executive Officer (CEO), who has corporate authority for ensuring that all work required by the customer can be financed and carried out to the standard required.

“Analysis” The process of identifying a question or issue to be addressed, modeling the issue, investigating model results, interpreting the results, and possibly making a recommendation. Analysis typically involves using scientific or mathematical methods for evaluation.

“Audit” Scheduled, formal reviews and verifications to evaluate compliance with policy, standards, and/or contractual requirements.

“Gap Analysis” Identification of existing safety components, compared to SMS program requirements. Gap analysis provides a service provider an initial SMS development plan and roadmap

for compliance.

“Hazard” Condition, object or activity with the potential of causing injuries to personnel, damage to equipment or structures loss of material, or reduction of ability to perform a prescribed function.

“Internal audit” An audit conducted by, or on behalf of, the organization being audited.

“Likelihood” The estimated probability or frequency, in quantitative or qualitative terms, of an occurrence related to the hazard.

“Mitigation” Measures to eliminate the potential hazard or to reduce the risk probability or severity.

“Oversight” A function that ensures the effective promulgation and implementation of the safety-related standards, requirements, regulations, and associated procedures.

“Probability” The feasibility that a situation of danger might occur.

“Risk” The chance of loss or injury, measured in terms of severity and probability. The chance that something is going to happen and the consequences if it does.

“Risk Management” The identification, analysis and elimination (and/or mitigation to an acceptable or tolerable level) of those hazards, as well as the subsequent risks, that threaten the viability of an organization.

“Safety” Is the state in which the risk of harm to persons or property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard.

“Safety Assurance” Processes within the SMS which include activities of continuous monitoring, internal audits, internal evaluations, external audits, data analysis, system assessment and management review, together which systematically provide confidence that organizational products/services meet or exceed safety requirements.

“Safety Management System” a systematic approach to managing safety, including the necessary organizational structures, accountabilities, policies and procedures.

“Safety Performance Indicators” are a measure (or metric) used to express the level of safety performance achieved in a system.

“Safety Performance Targets” the required level of safety

performance for a system. A safety performance target comprises one or more safety performance indicators, together with desired outcomes expressed in

“Safety Promotion” A combination of safety culture, training, and data sharing activities that support the implementation and operation of an SMS in an organization.

“Safety Requirements” are operational procedures, technology, systems and programmes to which measures of reliability, availability, performance and/or accuracy can be specified.

“Safety Risk Management” A formal process within the SMS composed of describing the system, identifying the hazards, assessing the risk, analyzing the risk, and controlling the risk.

“Senior Management” A Team/Group of Managers/Directors including the Accountable Manager as determined by the Board of Directors.

“Service Provider” Any entity that offers or sells a product/service to satisfy a want or need in the air transportation system.

“Severity” The possible consequences of a situation of danger, taking as reference the worst foreseeable situation.

2.2 The following acronyms are used in these regulations:

- (a) SDCPS - Safety Data Collection And Processing Systems
- (b) SMS - Safety Management System
- (c) SMSM - Safety Management System Manual.
- (d) SRM - Safety Risk Management.

Scope and Applicability

Scope of these Regulations

3.1 Scope

3.1.1 This regulation describes the requirements for a service provider safety management system (SMS) and is applicable to service providers who that falls within the safety oversight function of the ICAA.

3.1.2 Within the context of this regulation the term “service provider” must be understood to designate any organization providing aviation related services. The term encompasses aircraft operators, maintenance organizations, air traffic service providers and aerodrome operators, as applicable.

3.1.3 This regulation addresses aviation safety related processes and activities rather than occupational safety, environmental protection, or customer service quality.

3.1.4 The service provider is responsible for the safety of services or products contracted to or purchased from other organizations.

3.1.5 This regulation establishes the minimum acceptable requirements; the service provider can establish more stringent requirements.

Applicability and Acceptance of these Regulations

3.2 Applicability and Acceptance

3.2.1 A service provider shall have in place a safety management system (SMS) that is acceptable to ICAA, and shall as a minimum:

- (a) Identifies safety hazards and assesses and mitigates risks;
- (b) Ensures that remedial action necessary to maintain an acceptable level of safety is implemented;
- (c) Provides for continuous monitoring and regular assessment of the safety level achieved; and
- (d) Aims to make continuous improvement to the overall level of safety.

3.2.2 The Service provider shall establish, maintain and adhere to a safety management system (SMS) that is appropriate to the size, nature and complexity of the operations authorized to be conducted under its operations certificate and the safety hazards and risks related to the operations.

Quality Policy

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

Components of Safety Management System

Components of Safety Management System

5.1 An SMS should comprise the following four components:

- (a) Safety Policy and Objectives;
- (b) Safety Risk Management;
- (c) Safety Assurance; and
- (d) Safety Promotion.

Safety Policy and Objectives

Safety Policy
Objectives

6.1 General requirements

6.1.1 A service provider shall define the organization's safety policy. This policy should reflect the organization's safety philosophy and become the establishment of the SMS.

6.1.2 The safety policy shall be signed by the Accountable Manager of the organization.

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

6.1.4 The safety policy shall be communicated, with visible endorsement, throughout the organization.

6.1.5 The safety policy shall include a clear statement about the provision of the necessary human and financial resources for its implementation.

6.1.6 The safety policy shall, *inter alia*, include the following objectives:

- (a) Commitment to implement an SMS;
- (b) Commitment to continual improvement in the level of safety;
- (c) Commitment to the management of safety risks;
- (d) Commitment to encourage employees to report safety issues;
- (e) Establishment of clear standards for acceptable behaviour; and
- (f) Identification of responsibilities of management and employees with respect to safety performance.

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

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

6.1.9 The safety objectives should be linked to the safety performance indicators, safety performance targets and safety requirements of the service provider SMS.

6.2 Organizational structure and responsibilities

6.2.1 A service provider shall identify an Accountable Manager to be responsible and accountable on behalf of the service provider for meeting the requirements of this regulation, and shall notify ICAA the name of the person.

6.2.2 The Accountable Manager shall be a single, identifiable person who, irrespective of other functions, shall have the ultimate responsibility for the implementation and maintenance of the SMS.

6.2.3 The Accountable Manager shall have:

- (a) Full control of the human resources required for the operations authorized to be conducted under the operations certificate;
- (b) Full control of the financial resources required for the operations authorized to be conducted under the operations certificate;
- (c) Final authority over operations authorized to be conducted under the operations certificate;
- (d) Direct responsibility for the conduct of the organization's affairs; and
- (e) Final responsibility for all safety issues.

6.2.4 A service provider shall establish the safety structure necessary for the implementation and maintenance of the organization's SMS.

6.2.5 A service provider shall identify the safety responsibilities of all members of senior management, irrespective of other responsibilities.

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

6.2.7 A service provider shall identify a Safety Manager to be the member of management who shall be the responsible individual and focal point for the development and maintenance of an effective SMS. The Safety Manager should be a Senior Management appointment in the organization in order to provide the necessary degree of authority when dealing with safety matters, and should report directly to the Accountable Manager.

6.2.8 The Safety Manager should carry out at least the following functions:

- (a) Manage the SMS implementation plan on behalf of the

Accountable Manager;

- (b) Facilitate the risk management process that should include hazard identification, risk assessment and risk mitigation;
- (c) Monitor any corrective action required in order to ensure accomplishment;
- (d) Provide periodic reports on safety performance;
- (e) Maintain safety documentation;
- (f) Plan and organize staff safety training;
- (g) Provide independent advice on safety matters;
- (h) Advise Senior Managers on safety matters;
- (i) Assist Line Managers;
- (j) Oversee hazard identification systems; and
- (k) Be involved in occurrence/accident investigations.

6.2.9 Senior Management should:

- (a) Develop the safety policy, which is endorsed by the Accountable Manager;
- (b) Continuously promote the safety policy to all staff and demonstrate their commitment to it;
- (c) Specify and allocate necessary human and financial resources; and
- (d) Establish safety objectives and performance standards for the SMS. The safety objectives and performance standards should be linked to the safety performance indicators, safety performance targets and safety requirements of the SMS.

6.3 SMS Implementation Plan

6.3.1 A service provider shall develop and maintain an SMS implementation plan.

6.3.2 The SMS implementation plan shall be the definition of the approach the organization will adopt for managing safety in a manner that will meet the organization's safety needs.

6.3.3 The SMS implementation plan shall include the following:

- (a) Safety policy and objectives;
- (b) Safety planning,
- (c) System description;
- (d) Gap analysis;
- (e) SMS components;
- (f) Safety roles and responsibilities;
- (g) Safety reporting policy;
- (h) Means of employee involvement;
- (i) Safety training;
- (j) Safety communication;
- (k) Safety performance measurement; and
- (l) Management review of safety performance.

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

6.3.5 A service provider shall, as part of the development of the SMS implementation plan, complete a system description.

6.3.6 The system description shall include the following:

- (a) The system interactions with other systems in the air transportation system;
- (b) The system functions;
- (c) Required human performance considerations of the system operation;
- (d) Hardware components of the system;
- (e) Software components of the system;
- (f) Related procedures that define guidance for the operation and use of the system;

- (g) Operational environment; and
- (h) Contracted and purchased products and services.

6.3.7 A service provider shall, as part of the development of the SMS implementation plan, complete a gap analysis, in order to:

- (a) Identify the safety arrangements and structures that may already exist throughout an organization; and
- (b) Determine additional safety arrangements required to implement and maintain the organization's SMS.

6.3.8 The SMS implementation plan shall explicitly address the coordination between the SMS of the service provider and the SMS of other organizations the service provider must interface with during the provision of services.

6.4 Coordination of Emergency Response Planning

A service provider shall develop and maintain, or coordinate, as appropriate, an emergency response/contingency plan that shall ensure:

- (a) Orderly and efficient transition from normal to emergency operations;
- (b) Designation of emergency authority;
- (c) Assignment of emergency responsibilities;
- (d) Coordination of efforts to cope with the emergency; and
- (e) Safe continuation of operations, or return to normal operations as soon as possible.

6.5 Documentation

6.5.1 A service provider shall develop and maintain SMS documentation, in paper or electronic form.

6.5.2 A service provider shall, as part of the SMS documentation, develop and maintain a safety management system manual (SMSM), to communicate the organization's approach to safety throughout the organization.

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

- (a) Scope of the safety management system;
- (b) Safety policy and objectives;
- (c) Safety accountabilities;
- (d) Key safety personnel;
- (e) Documentation control procedures;
- (f) Hazard identification and risk management schemes;
- (g) Safety performance monitoring;
- (h) Emergency response/contingency planning;
- (i) Management of change; and
- (j) Safety promotion.
- (k) Contracted activities.

6.5.4 The organization shall establish and maintain procedures for controlling all documents required by this Standard to ensure that:

- (a) They can be located;
- (b) They are periodically reviewed, revised as necessary and approved for adequacy by authorized personnel.
- (c) The current versions of relevant documents are available at all locations where operations essential to the effective functioning of the SMS are performed; and
- (d) Obsolete documents are promptly removed from all points of use or otherwise assured against unintended use.

Safety Risk Management

Safety Risk
Components

7.1 General

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

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

7.1.3 The SRM component of an SMS can be divided into three areas:

- (a) Hazard identification processes;
- (b) Risk assessment and mitigation processes; and
- (c) Internal safety investigation.

7.2 Hazard identification processes

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

7.2.2 The hazard identification process shall include the following steps:

- (a) Reporting of hazards, events or safety concerns;
- (b) Collection and storing the safety data;
- (c) Analysis of the safety data; and
- (d) Distribution of the safety information distilled from the safety data.

7.3 Risk assessment and mitigation processes

7.3.1 A service provider shall develop and maintain a formal risk management process that ensures the analysis, assessment and mitigation of risks of consequences of hazards to an acceptable level.

7.3.2 The risks of the consequences of each hazard identified through the hazard identification processes described in section 8.2 of this regulation shall be analyzed in terms of probability and severity of occurrence, and assessed for their tolerability.

7.3.3 The risk analysis process shall include:

- (a) Existing safety risk controls;
- (b) Triggering mechanisms; and;
- (c) Safety risk of reasonably likely outcomes from the existence of a hazard, to include estimation of the likelihood and severity.

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

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

7.3.6 The organization shall define acceptable risk for hazards that will exist in the short-term while safety risk control/mitigation plans are developed and executed.

7.4 Internal safety investigation

7.4.1 The scope of internal safety investigations should include occurrences that are not required to be investigated or reported to the ICAA. Though often of a supposed minor nature, they could be indicative of a potential hazard that would only be revealed through a systematic investigation.

7.4.2 The scale and scope of any investigation should be suitable to determine and validate the underlying hazards. A systems approach is useful to provide a broad appreciation of the context of any occurrence. Effort expended should be proportional to the perceived benefit to the organization in terms of identifying hazard and risk.

7.4.3 Investigations follow an iterative process that may require going back and repeating steps as new data is acquired or new conclusions are reached. Information sources will include:

- (a) Documentation;
- (b) Operational data monitoring;
- (c) Interviews;
- (d) Simulations; and
- (e) Safety databases.

Safety Assurance

8.1 General

Safety
Assurance
Process

8.1.1 A service provider shall develop and maintain safety assurance processes to ensure that the safety risks controls developed as a consequence of the hazard identification and risk management activities.

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

8.1.3 Safety assurance shall include the following aspects :

- (a) Safety performance monitoring and measurement.
- (b) Management of change.
- (c) Continuous improvement of the safety system.

8.2 Safety performance monitoring and measurement

8.2.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain the necessary means to verify safety performance of the organization in comparison with the approved safety policies and objectives, and to validate the effectiveness of implemented safety risk controls.

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

- (a) Safety reporting;
- (b) Safety audits;
- (c) Safety surveys;
- (d) Safety reviews;
- (e) Safety studies; and
- (f) Internal safety investigations

8.2.3 The safety reporting procedure shall set out the conditions to ensure effective safety reporting, including the conditions under protection from disciplinary/administrative action shall apply.

8.2.4 Safety audits are used to ensure that the structure of the SMS is sound in terms of:

- (a) Adequate staff levels;
- (b) Compliance with approved procedures and instructions; and
- (c) Level of competency and training to operate equipment and facilities and maintain their levels of performance.

8.2.5 Safety surveys should examine particular elements or processes of a specific operation and may involve the use of:

- (a) Checklists;

- (b) Questionnaires; and
- (c) Informal confidential interviews.

8.2.6 A service provider shall, develop and maintain documented procedure defining responsibilities and requirements for planning and conducting internal audits of:

- (a) Management policies, controls and procedures concerning all safety critical activities.
- (b) The implementation and maintenance of Safety Management System requirements established by the organization.

8.3 Management of change

8.3.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain a formal process for the management of change. It utilizes the organization's existing risk management process to ensure that there is no adverse effect on safety. Change can introduce new hazards that could impact the appropriateness and effectiveness of any existing risk mitigation.

8.3.2 The formal process for the management of change shall:

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

8.4 Continuous improvement of the safety system

8.4.1 A service provider shall, as part of the SMS safety assurance activities, develop and maintain formal processes to identify the causes of underperformance of the SMS, determine the implications in its operation, and to rectify situations involving below standard performance in order to ensure the continual improvement of the SMS.

8.4.2 Continuous improvement of the service provider SMS shall include:

- (a) Proactive and reactive evaluations of facilities, equipment, documentation and procedures, to verify the effectiveness of strategies for control of safety risks; and

- (b) Proactive evaluation of the individuals' performance, to verify the fulfillment of safety responsibilities.
- (c) Tracking organizational changes to ensure that they are effective.

Safety Promotion

SMS Training
Requirements

9.1 General

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

9.2 Safety training

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

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

9.2.3 Safety training should consist of the following:

- (a) A documented process to identify training requirements.
- (b) A validation process that measures the effectiveness of training.
- (c) Initial (general safety) job-specific training.
- (d) Recurrent safety training.
- (e) Indoctrination / initial training incorporating SMS.
- (f) Training that includes human factors and organizational factors.

9.2.4 The Accountable Manager shall receive safety awareness training regarding:

- (a) Safety policy and objectives;
- (b) SMS roles and responsibilities; and
- (c) Safety assurance.

9.2.5 Managers and supervisors should understand the safety process, hazard identification, risk management and the management of change.

9.2.6 Senior Managers should understand organizational safety standards, safety assurance and the regulatory requirements for their organization.

9.2.7 A service provider shall, develop and maintain a training file for each employee, including management, to assist in identifying and tracking employee training requirements and verifying that the personnel have received the planned training. This file is completed in accordance with the training guidelines that are developed.

9.2.8 Training exercises and methods should kept current to reflect new techniques, technologies, results of investigations and corrective actions and regulatory changes.

9.3 Safety communication

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

- (a) Ensure that all staff is fully aware of the SMS;
- (b) Convey safety critical information;
- (c) Explain why particular safety actions are taken;
- (d) Explain why safety procedures are introduced or changed; and
- (e) Convey generic safety information.
- (f) Contain a process for assessing the suitability of safety communication and its effect on the organization.

9.3.2 Formal means of safety communication shall include:

- (a) Safety policies and procedures;
- (b) Newsletters; and
- (c) Bulletins boards, safety reporting drop boxes, and electronic reporting through web sites or email.
- (d) Presentations;
- (e) Safety notices; and

- (f) Informal workplace meetings between staff and the accountable manager or senior managers.

Implementation of the SMS

10.1 General

This standard proposes, but does not mandate, a phased implementation of a service provider SMS, which encompasses four phases as described in paragraph (2) through paragraph (5) hereunder.

10.2 Phase 1 – ***Planning***

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:

- (a) Identify the Accountable Executive and the safety accountabilities of managers;
- (b) Identify the person (or planning group) within the organization responsible for implementing the SMS;
- (c) Describe the system (Air operator, ATC services provider, approved maintenance organization, certified aerodrome operator);
- (d) Conduct a gap analysis of the organization's existing resources compared with the national and international requirements for establishing an SMS;
- (e) Develop an SMS implementation plan that explains how the organization will implement the SMS on the basis of national requirements and international SARPs, the system description and the results of the gap analysis;
- (f) Develop documentation relevant to safety policy and objectives; and
- (g) Develop and establish means for safety communication.

10.3 Phase 2 – ***Reactive processes***

Should put into practice those elements of the SMS implementation plan that refer to the safety risk management based on reactive processes:

- (a) Hazard identification and risk management using reactive processes;

- (b) training relevant to:
 - i. SMS implementation plan components; and
 - ii. safety risk management (reactive processes).
- (c) documentation relevant to:
 - i. SMS implementation plan components; and
 - ii. safety risk management (reactive processes)

10.4 Phase 3 – ***Proactive and predictive processes***

Should put into practice those elements of the SMS implementation plan that refer to the safety risk management based on proactive and predictive processes:

- (a) hazard identification and risk management using proactive and predictive processes
- (b) training relevant to:
 - i. SMS implementation plan components; and
 - ii. safety risk management (proactive and predictive processes).
- (c) documentation relevant to:
 - i. SMS implementation plan components; and
 - ii. safety risk management (proactive and predictive processes).

10.5 Phase 4 – ***Operational safety assurance***

Should put into practice operational safety assurance:

- (a) development and agreement on safety performance indicators and safety performance targets
- (b) SMS continuous improvement;
- (c) training relevant to operational safety assurance; and
- (d) documentation relevant to operational safety assurance;

- (e) maintain means for safety communication.