# GUIDELINES FOR THE DEVELOPMENT OF A STATE'S REGULATION ON SAFETY MANAGEMENT SYSTEMS (SMS)
## -2008-

1.     **Statutory basis**

1.1     This regulation is promulgated under the statutory authority in [*State's applicable civil aviation regulation(s), air navigation order(s) or regulatory standard(s)*]

2.     **Scope and applicability**

2.1     **Scope**

2.1.1     This regulation describes the requirements for a service provider safety management system (SMS) operating in accordance with [ICAO Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, and Part III — International Operations — Helicopters*, ICAO Annex 11 — *Air Traffic Services*, and ICAO Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*].

2.1.2     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.

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

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

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

**2.2     Applicability and acceptance**

2.2.1     Effective [*date(s)*], a service provider shall have in place a safety management system (SMS) that is acceptable to *[State]*, that, as a minimum:

    2.2.1.1     identifies safety hazards and assesses and mitigates risks;

2.2.1.2 ensures that remedial action necessary to maintain an acceptable level of safety is implemented;

2.2.1.3 provides for continuous monitoring and regular assessment of the safety level achieved; and

2.2.1.4 aims to make continuous improvement to the overall level of safety.

2.2 In order to be acceptable to the State, a service provider SMS shall meet the requirements set forth in this regulation.

*Information note.* – *A regulation on SMS should include information regarding the acceptance process for the SMS. The acceptance process should include, as applicable, the application for SMS acceptance, the procedure(s) to submit the application, the duration of the acceptance, the renewal of the acceptance, and the suspension and/or revocation of the acceptance.*

## 3. References

3.1 This regulation is in accordance with [ICAO Annex 6 — *Operation of Aircraft, Part I — International Commercial Air Transport — Aeroplanes, and Part III — International Operations — Helicopters*, ICAO Annex 11 — *Air Traffic Services*, and ICAO Annex 14 — *Aerodromes, Volume I — Aerodrome Design and Operations*], and the *ICAO Safety Management Manual* (Doc 9859).

3.2 This regulation is in accordance with [*applicable regulatory and/or guidance material by the State*].

## 4. Definitions

*Note. - List intended as guidance only.*

- Accident
- Acceptable level of safety
- Accountable Executive
- Consequence
- Continuous monitoring
- Gap analysis
- Hazard
- Incident
- Internal safety investigations
- Mitigation
- Occurrence
- Oversight
- Predictive
- Proactive

- Probability

- Procedure

- Process

- Reactive

- Risk

- Safety

- Safety assessment

- Safety assurance

- Safety audit

- Safety manager

- Safety performance indicator

- Safety performance target

- Safety policy

- Safety requirement

- Safety survey

- Safety management system (SMS)

- Safety programme

- Severity

- System description

## 5.  **General**

5.1    [*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.

## 6.  **Safety policy and objectives**

### 6.1  **General requirements**

6.1.1   A service provider shall define the organization's safety policy.

6.1.2   The safety policy shall be signed by the accountable executive 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: (check it is aligned with example safety policy!)

> 6.1.6.1    commitment to implement an SMS;
>
> 6.1.6.2    commitment to continual improvement in the level of safety;
>
> 6.1.6.3    commitment to the management of safety risks;
>
> 6.1.6.4    commitment to encourage employees to report safety issues;
>
> 6.1.6.5    establishment of clear standards for acceptable behaviour; and
>
> 6.1.6.5    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 Executive to be responsible and accountable on behalf of the service provider for meeting the requirements of this regulation, and shall notify [State] the name of the person.

6.2.2    The Accountable Executive 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 Executive shall have:

> 6.2.3.1    full control of the human resources required for the operations authorized to be conducted under the operations certificate;
>
> 6.2.3.2    full control of the financial resources required for the operations authorized to be conducted under the operations certificate;
>
> 6.2.3.3    final authority over operations authorized to be conducted under the operations certificate;
>
> 6.2.3.4    direct responsibility for the conduct of the organization's affairs; and
>
> 6.2.3.5    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.

6.2.8   The Safety Manager shall:

6.2.8.1   ensure that processes needed for the SMS are established, implemented and maintained;

6.2.8.2   report to the Accountable Executive on the performance of the SMS and on any need for improvement; and

6.2.8.3   ensure safety promotion throughout the organization.

## 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:

6.3.3.1   safety policy and objectives;

6.3.3.2   safety planning,

6.3.3.3   system description;

6.3.3.4   gap analysis;

6.3.3.5   SMS components;

6.3.3.6   safety roles and responsibilities;

6.3.3.7   safety reporting policy;

6.3.3.8   means of employee involvement;

6.3.3.9   safety training;

6.3.3.10   safety communication;

6.3.3.11   safety performance measurement; and

6.3.3.12   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:

6.3.6.1   the system interactions with other systems in the air transportation system;

6.3.6.2   the system functions;

6.3.6.3    required human performance considerations of the system operation;

6.3.6.4    hardware components of the system;

6.3.6.5    software components of the system;

6.3.6.6    related procedures that define guidance for the operation and use of the system;

6.3.3.7    operational environment; and

6.3.3.8    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:

6.3.7.1    identify the safety arrangements and structures that may be already exist throughout an organization; and

6.3.7.2    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

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

6.4.1.1 orderly and efficient transition from normal to emergency operations;

6.4.1.2 designation of emergency authority;

6.4.1.3 assignment of emergency responsibilities;

6.4.1.4 coordination of efforts to cope with the emergency; and

6.4.1.5 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, to describe the following:

6.5.1.1    safety policy;

6.5.1.2    safety objectives;

6.5.1.3    SMS requirements, procedures and processes;

6.5.1.4    responsibilities and authorities for procedures and processes; and

6.5.1.5    SMS outputs.

6.5.3    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.

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

      6.5.4.1   scope of the safety management system;

      6.5.4.2   safety policy and objectives;

      6.5.4.3   safety accountabilities;

      6.5.4.4   key safety personnel;

      6.5.4.5   documentation control procedures;

      6.5.4.6   hazard identification and risk management schemes;

      6.5.4.7   safety performance monitoring;

      6.5.4.8   emergency response/contingency planning;

      6.5.4.9   management of change; and

      6.5.4.10   safety promotion.

*Information note. –   Generic guidelines for SMS documentation development and maintenance can be found in Attachment H to ICAO Annex 6, Part I, and Attachment G to ICAO Annex 6, Part III, Operator's Flight Safety Documents System.*

## 7.   Safety risk management

### 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.

### 7.2   Hazard identification

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:

      7.2.2.1   reporting of hazards, events or safety concerns;

      7.2.2.2   collection and storing the safety data;

      7.2.2.3   analysis of the safety data; and

      7.2.2.4   distribution of the safety information distilled from the safety data.

### 7.3    Risk management

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 7.2 of this regulation shall be analysed in terms of probability and severity of occurrence, and assessed for their tolerability.

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

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

### 8.    Safety assurance

### 8.1    General

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 under paragraph 7 achieve their intended objectives.

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

### 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:

8.2.2.1    safety reporting;

8.2.2.2    safety audits;

8.2.2.3    safety surveys;

8.2.2.4    safety reviews;

8.2.2.5    safety studies; and

8.2.2.6    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.

### 8.3    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.

8.3.2    The formal process for the management of change shall:

8.3.2.1    identify changes within the organization which may affect established processes and services;

8.3.2    describe the arrangements to ensure safety performance before implementing changes; and

8.3.3    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 under-performance 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:

8.4.2.1    proactive and reactive evaluations of facilities, equipment, documentation and procedures, to verify the effectiveness of strategies for control of safety risks; and

8.4.2.2    proactive evaluation of the individuals' performance, to verify the fulfilment of safety responsibilities.

## 9.    Safety promotion

## 9.1    General

9.1.1    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    The accountable executive shall receive safety awareness training regarding:

9.2.3.1    safety policy and objectives;

9.2.3.2    SMS roles and responsibilities; and

9.2.3.3    safety assurance.

## 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:

9.3.1.1    ensure that all staff is fully aware of the SMS;

9.3.1.2    convey safety critical information;

9.3.1.3    explain why particular safety actions are taken;

9.3.1.4    explain why safety procedures are introduced or changed; and

9.3.1.5    convey generic safety information.

9.3.2    Formal means of safety communication shall include:

9.3.2.1    safety policies and procedures;

9.3.2.2    news letters; and

9.3.2.3    bulletins.

## 10.    Quality policy

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

## 11.    Implementation of the SMS

11.1    This regulation proposes, but does not mandate, a phased implementation of a service provider SMS, which encompasses four phases as described in paragraph 11.2 through paragraph 11.5 hereunder.

11.2    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:

11.2.1    Identify the accountable executive and the safety accountabilities of managers;

11.2.2    Identify the person (or planning group) within the organization responsible for implementing the SMS;

11.2.3    Describe the system (Air operator, ATC services provider, approved maintenance organization, certified aerodrome operator);

11.2.4    Conduct a gap analysis of the organization's existing resources compared with the national and international requirements for establishing an SMS;

11.2.5    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;

11.2.6    Develop documentation relevant to safety policy and objectives; and

11.2.7    Develop and establish means for safety communication.

11.3    Phase 2 should put into practice those elements of the SMS implementation plan that refer to the safety risk management reactive processes:

11.3.1    hazard identification and risk management using reactive processes;

11.3.2    training relevant to:

11.3.2.1    SMS implementation plan components; and

        11.3.2.2   safety risk management (reactive processes).

    11.3.4     documentation relevant to:

        11.3.4.1   SMS implementation plan components; and

        11.3.4.2   safety risk management (reactive processes).

11.4    Phase 3 should put into practice those elements of the SMS implementation plan that refer to the safety risk management proactive and predictive processes:

    11.4.1     hazard identification and risk management using proactive and predictive processes

    11.4.3     training relevant to:

        11.4.3.1   SMS implementation plan components; and

        11.4.3.2   safety risk management (proactive and predictive processes).

    11.4.4     documentation relevant to:

        11.4.4.1   SMS implementation plan components; and

        11.4.4.2   safety risk management (proactive and predictive processes).

11.5    Phase 4 should put into practice operational safety assurance:

    11.5.1     development of acceptable level (s) of safety;

    11.5.2     development of safety indicators and targets;

    11.5.3     SMS continuous improvement;

    11.5.4     training relevant to operational safety assurance; and

    11.5.5     documentation relevant to operational safety assurance.

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