CHAPTER 4. SAFETY MANAGEMENT SYSTEM (SMS)

Note 1.— Guidance on implementation of an SMS is contained in the Safety Management Manual (SMM) (Doc 9859).

Note 2.— An organization may elect to extend one SMS across multiple service provider activities.

4.1 General

4.1.1 The SMS of a service provider shall:

a) be established in accordance with the framework elements contained in Appendix 2; and
b) be commensurate with the size of the service provider and the complexity of its aviation products or services.

4.1.2 The State shall ensure that the service provider develops a plan to facilitate SMS implementation.

4.1.3 The SMS of an approved training organization, in accordance with Annex 1, that is exposed to safety risks related to aircraft operations during the provision of its services shall be made acceptable to the State(s) responsible for the organization’s approval.

4.1.4 The SMS of a certified operator of aeroplanes or helicopters authorized to conduct international commercial air transport, in accordance with Annex 6, Part I or Part III, Section II, respectively, shall be made acceptable to the State of the Operator.

Note.— When maintenance activities are not conducted by an approved maintenance organization in accordance with Annex 6, Part I, 8.7, but under an equivalent system as in Annex 6, Part I, 8.1.2, or Part III, Section II, 6.1.2, they are included in the scope of the operator’s SMS.

4.1.5 The SMS of an approved maintenance organization providing services to operators of aeroplanes or helicopters engaged in international commercial air transport, in accordance with Annex 6, Part I or Part III, Section II, respectively, shall be made acceptable to the State(s) responsible for the organization’s approval.

4.1.6 The SMS of an organization responsible for the type design of aircraft, engines or propellers, in accordance with Annex 8, shall be made acceptable to the State of Design.

4.1.7 The SMS of an organization responsible for the manufacture of aircraft, engines or propellers, in accordance with Annex 8, shall be made acceptable to the State of Manufacture.

4.1.8 The SMS of an ATS provider, in accordance with Annex 11, shall be made acceptable to the State responsible for the provider’s designation.

4.1.9 The SMS of an operator of a certified aerodrome, in accordance with Annex 14, Volume I, shall be made acceptable to the State responsible for the aerodrome’s certification.

4.2 International general aviation — aeroplanes

Note.— Guidance on the implementation of an SMS for international general aviation is contained in the Safety Management Manual (SMM) (Doc 9859) and industry codes of practice.

The SMS of an international general aviation operator, conducting operations of large or turbojet aeroplanes in accordance with Annex 6, Part II, Section 3, shall be commensurate with the size and complexity of the operation and meet the criteria established by the State of Registry.

Note 1.— Further provisions related to the criteria to be established by the State of Registry can be found in Chapter 3.

Note 2.— Guidance concerning the responsibilities of the State of Registry in connection with lease, charter and interchange operations is contained in the Manual of Procedures for Operations Inspection, Certification and Continued Surveillance (Doc 8335). Guidance concerning the transfer of State of Registry responsibilities to the State where the aircraft operator has its principal place of business or, if it has no such place of business, its permanent address in accordance with Article 83 bis is contained in the Manual on the Implementation of Article 83 bis of the Convention on International Civil Aviation (Doc 10059).
APPENDIX 2. FRAMEWORK FOR A SAFETY MANAGEMENT SYSTEM (SMS)
(See Chapter 4, 4.1.1)

Note 1.— Guidance on the implementation of the framework for an SMS is contained in the Safety Management Manual (SMM) (Doc 9859).
Note 2.— The service provider’s interfaces with other organizations can make a significant contribution to the safety of its products or services. Guidance on interface management as it relates to SMS is provided in the Safety Management Manual (SMM) (Doc 9859).
Note 3.— In the context of this appendix as it relates to service providers, an “accountability” refers to an “obligation” that may not be delegated, and “responsibilities” refers to functions and activities that may be delegated. This appendix 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
   1.1 Management commitment
   1.2 Safety accountability and responsibilities
   1.3 Appointment of key safety personnel
   1.4 Coordination of emergency response planning
   1.5 SMS documentation
2. Safety risk management
   2.1 Hazard identification
   2.2 Safety risk assessment and mitigation
3. Safety assurance
   3.1 Safety performance monitoring and measurement
   3.2 The management of change
   3.3 Continuous improvement of the SMS
4. Safety promotion
   4.1 Training and education
   4.2 Safety communication

1. Safety policy and objectives
   1.1 Management commitment
   1.1.1 The service provider shall define its safety policy in accordance with international and national requirements. The safety policy shall:
      a) reflect organizational commitment regarding safety, including the promotion of a positive safety culture;
      b) include a clear statement about the provision of the necessary resources for the implementation of the safety policy;
      c) include safety reporting procedures;
      d) 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;
      e) be signed by the accountable executive of the organization;
      f) be communicated, with visible endorsement, throughout the organization; and
      g) be periodically reviewed to ensure it remains relevant and appropriate to the service provider.
   1.1.2 Taking due account of its safety policy, the service provider shall define safety objectives. The safety objectives shall:
      a) form the basis for safety performance monitoring and measurement as required by 3.1.2;
      b) reflect the service provider’s commitment to maintain or continuously improve the overall effectiveness of the SMS;
      c) be communicated throughout the organization; and
      d) be periodically reviewed to ensure they remain relevant and appropriate to the service provider.
1.2 Safety accountability and responsibilities
The service provider shall:
   a) 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;
   b) clearly define lines of safety accountability throughout the organization, including a direct accountability for safety on the part of senior management;
   c) 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;
   d) document and communicate safety accountability, responsibilities and authorities throughout the organization; and
   e) define the levels of management with authority to make decisions regarding safety risk tolerability.

1.3 Appointment of key safety personnel
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.

1.4 Coordination of emergency response planning
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.

1.5 SMS documentation
1.5.1 The service provider shall develop and maintain an SMS manual that describes its:

   a) safety policy and objectives;
   b) SMS requirements;
   c) SMS processes and procedures; and
   d) accountability, responsibilities and authorities for SMS processes and procedures.

1.5.2 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.

2. Safety risk management
2.1 Hazard identification
2.1.1 The service provider shall develop and maintain a process to identify hazards associated with its aviation products or services.
2.1.2 Hazard identification shall be based on a combination of reactive and proactive methods.

2.2 Safety risk assessment and mitigation
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.
3. Safety assurance
3.1 Safety performance monitoring and measurement
3.1.1 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. Guidance on the scope of the internal audit process is contained in the Safety Management Manual (SMM) (Doc 9859).

3.1.2 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.

3.2 The management of change
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.

3.3 Continuous improvement of the SMS
The service provider shall monitor and assess its SMS processes to maintain or continuously improve the overall effectiveness of the SMS.

4. Safety promotion
4.1 Training and education
4.1.1 The service provider shall develop and maintain a safety training programme that ensures that personnel are trained and competent to perform their SMS duties.
4.1.2 The scope of the safety training programme shall be appropriate to each individual’s involvement in the SMS.
4.2 Safety communication
The service provider shall develop and maintain a formal means for safety communication that:

   a) ensures personnel are aware of the SMS to a degree commensurate with their positions;
   b) conveys safety-critical information;
   c) explains why particular actions are taken to improve safety; and
   d) explains why safety procedures are introduced or changed.
CHAPTER 5. SAFETY DATA AND SAFETY INFORMATION COLLECTION, ANALYSIS, PROTECTION, SHARING AND EXCHANGE

Note.— The objective of this chapter is to ensure the continued availability of safety data and safety information to support safety management activities.

5.1 Safety data collection and processing systems
5.1.1 States shall establish safety data collection and processing systems (SDCPS) to capture, store, aggregate and enable the analysis of safety data and safety information.

Note 1.— SDCPS refers to processing and reporting systems, safety databases, schemes for exchange of information, and recorded information including but not limited to:

a) data and information pertaining to accident and incident investigations;
b) data and information related to safety investigations by State authorities or aviation service providers;
c) mandatory safety reporting systems as indicated in 5.1.2;
d) voluntary safety reporting systems as indicated in 5.1.3; and
e) self-disclosure reporting systems, including automatic data capture systems, as described in Annex 6, Part I, Chapter 3, as well as manual data capture systems.

Note 2.— Guidance related to SDCPS is contained in the Safety Management Manual (SMM) (Doc 9859).

Note 3.— The term “safety database” may refer to a single or multiple database(s).

Note 4.— SDCPS may include inputs from State, industry and public sources, and may be based on reactive and proactive methods of safety data and safety information collection.

Note 5.— Sector-specific safety reporting provisions are contained in other Annexes, PANS and SUPPs. There is a recognized benefit to the effective implementation of an SSP in having an integrated approach for the collection and analysis of the safety data and safety information from all sources.

5.1.2 States shall establish a mandatory safety reporting system that includes the reporting of incidents.

5.1.3 States shall establish a voluntary safety reporting system to collect safety data and safety information not captured by mandatory safety reporting systems.

5.1.4 Recommendation.— State authorities responsible for the implementation of the SSP should have access to the SDCPS as referenced in 5.1.1 to support their safety responsibilities, in accordance with the principles in Appendix 3.

Note.— State authorities responsible for the implementation of the SSP include accident investigation authorities.

5.1.5 Recommendation.— The safety database should use standardized taxonomy to facilitate safety information sharing and exchange.

Note.— States are encouraged to use an ADREP-compatible system. More information on ADREP can be found in Annex 13, Chapter 7.
5.2 Safety data and safety information analysis
5.2.1 States shall establish and maintain a process to analyse the safety data and safety information from the SDCPS and associated safety databases.

Note 1.— Specific State provisions for the identification of hazards as part of their safety risk management and safety assurance processes can be found in Chapter 3.
Note 2.— The purpose of the safety data and safety information analysis performed by the State is to identify systemic and cross-cutting hazards that might not otherwise be identified by the safety data analysis processes of individual service providers and operators.
Note 3.— The process may include predictive methods of safety data analysis.

5.3 Safety data and safety information protection
5.3.1 States shall accord protection to safety data captured by, and safety information derived from, voluntary safety reporting systems and related sources in accordance with Appendix 3.

Note.— Sources include individuals and organizations.

5.3.2 Recommendation.— States should extend the protection referred to in 5.3.1 to safety data captured by, and safety information derived from, mandatory safety reporting system and related sources.

Note 1.— A reporting environment where employees and operational personnel may trust that their actions or omissions that are commensurate with their training and experience will not be punished is fundamental to safety reporting. Note 2.— Guidance related to both mandatory and voluntary safety reporting systems is contained in the Safety Management Manual (SMM) (Doc 9859).

5.3.3 Subject to 5.3.1 and 5.3.2, States shall not make available or use safety data or safety information collected, stored or analysed in accordance with 5.1 or 5.2 for purposes other than maintaining or improving safety, unless the competent authority determines, in accordance with Appendix 3, that a principle of exception applies.
5.3.4 Notwithstanding 5.3.3, States shall not be prevented from using safety data or safety information to take any preventive, corrective or remedial action that is necessary to maintain or improve aviation safety.

Note.— Specific provision aimed at ensuring that there is no overlap with the protection of investigation records in Annex 13 is contained in Appendix 3, 1.2.

5.3.5 States shall take necessary measures, including the promotion of a positive safety culture, to encourage safety reporting through the systems referred to in 5.1.2 and 5.1.3.

Note. — Guidance related to positive safety culture is contained in the Safety Management Manual (SMM) (Doc 9859.)

5.3.6 Recommendation.— States should facilitate and promote safety reporting by adjusting their applicable laws, regulations and policies, as necessary.
5.3.7 Recommendation.— In support of the determination referred to in 5.3.3, States should institute and make use of appropriate advance arrangements between their authorities and State bodies entrusted with aviation safety and those entrusted with the administration of justice. Such arrangements should take into account the principles specified in Appendix 3.

Note.— These arrangements may be formalized through legislation, protocols, agreements or memoranda of understanding.

5.4 Safety information sharing and exchange

Note.— Sharing refers to giving, while exchange refers to giving and receiving in return.

5.4.1 If a State, in the analysis of the information contained in its SDCPS, identifies safety matters considered to be of interest to other States, that State shall forward such safety information to them as soon as possible. Prior to sharing such information, States shall agree on the level of protection and conditions on which safety information will be shared. The level of protection and conditions shall be in line with Appendix 3.
5.4.2 States shall promote the establishment of safety information sharing or exchange networks among users of the aviation system, and facilitate the sharing and exchange of safety information, unless national law provides otherwise.

Note.— Information on the sharing of safety information can be found in the ICAO Code of Conduct on the Sharing and Use of Safety Information in the Global Aviation Safety Plan (Doc 10004).