



WORKING PAPER

**DANGEROUS GOODS PANEL (DGP)
MEETING OF THE WORKING GROUP OF THE WHOLE**

Montréal, 15 to 19 April 2013

Agenda Item 1 : Development of proposals, if necessary, for amendments to Annex 18 — *The Safe Transport of Dangerous Goods by Air*

ADOPTION OF ANNEX 19 — SAFETY MANAGEMENT

(Presented by the Secretary)

SUMMARY

This paper presents a proposal of the Air Navigation Commission for the adoption of Annex 19, which addresses safety management responsibilities and processes.

Action by the DGP-WG is in paragraph 02.

1. INTRODUCTION

1.1 On 21 February 2013, during the review by the Air Navigation Commission of the request to convene DGP/24, it was recalled that the DGP had been asked to explore the possibility of introducing a safety management system (SMS) approach to the transport of dangerous goods, noting the potential difficulty of extending such a system to dangerous goods shippers.

1.2 The Council, on 25 February 2013, adopted a new Annex to the Convention on International Civil Aviation on safety management responsibilities and processes – *Annex 19 – Safety Management* and is provided in the appendix of this working paper.

1.3 On 27 February 2013, during the review by Council of amendments to Annex 18, one representative stated his hope that, following the adoption of Annex 19, the DGP would be able to come back at a later stage with a further amendment to the revised standard in 11.1 which would refer to safety management.

2. **ACTION BY THE DGP-WG**

2.1 The DGP-WG is invited to provide information on the following:

- a) implementation of SMS in their States;
- b) experience with SMS specifically with regard to dangerous goods:
 - 1) for operators; and
 - 2) for all others involved in the transport chain

APPENDIX

**A NEW ANNEX TO THE CONVENTION ON INTERNATIONAL CIVIL AVIATION
ON SAFETY MANAGEMENT RESPONSIBILITIES AND PROCESSES – *ANNEX 19 – SAFETY
MANAGEMENT***



**International Standards
and Recommended Practices**

**Annex 19
to the Convention on
International Civil Aviation**

Safety Management

**For information regarding the applicability
of Standards and Recommended Practices,
see Chapter 2.**

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International Civil Aviation Organization

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Safety Data Collection and Processing Systems**

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ABBREVIATIONS AND SYMBOLS
(used in this Annex)

Abbreviations

ADREP	Accident/Incident data reporting
AIS	Aeronautical information services
ATS	Air traffic services
CNS	Communications, navigation and surveillance
CVR	Cockpit voice recorder
MET	Meteorological services
SAR	Search and rescue
SARPs	Standards and recommended practices
SDCPS	Safety data collection and processing systems
SMM	Safety management manual (Doc 9859)
SMP	Safety management panel
SMS	Safety management system
SSP	State safety programme

PUBLICATIONS
(referred to in this Annex)

Convention on International Civil Aviation (Doc 7300)

Annexes to the Convention on International Civil Aviation

Annex 1 — *Personnel Licensing*

Annex 6 — *Operation of Aircraft*

Part I — *International Commercial Air Transport — Aeroplanes*

Part II — *International General Aviation — Aeroplanes*

Part III — *International Operations — Helicopters*

Annex 8 — *Airworthiness of Aircraft*

Annex 11 — *Air Traffic Services*

Annex 13 — *Aircraft Accident and Incident Investigation*

Annex 14 — *Aerodromes*

Volume I — *Aerodrome Design and Operations*

Manuals

Airworthiness Manual (Doc 9760)

Manual of Civil Aviation Medicine (Doc 8984)

Manual of Procedures for Establishment of a State's Personnel Licensing System (Doc 9379)

Manual of Procedures for Operations Inspection, Certification and Continued Surveillance
(Doc 8335)

Manual on Certification of Aerodromes (Doc 9774)

Manual on the Approval of Training Organizations (Doc 9841)

Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM, Doc 4444)

Procedures for Air Navigation Services — ICAO Abbreviations and Codes (PANS-ABC,
Doc 8400)

Safety Management Manual (SMM) (Doc 9859)

Safety Oversight Manual, Part A — The Establishment and Management of a State's Safety Oversight System (Doc 9734)

ANNEX 19 — SAFETY MANAGEMENT

FOREWORD

Historical background

The provisions in this Annex have been developed in response to Recommendations provided by the Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (Montréal, 20 to 22 March 2006) (DGCA/06) and the High-level Safety Conference (Montréal, 29 March to 1 April 2010) (HLSC/2010) regarding the need for an Annex dedicated to safety management. The Air Navigation Commission (186-8), having determined these issues to be of sufficient scope and importance, agreed to establish the Safety Management Panel (SMP) to provide recommendations for the development of this Annex.

The Standards and Recommended Practices (SARPs) in this Annex are intended to assist States in managing aviation safety risks. Given the increasing complexity of the global air transportation system and its interrelated aviation activities required to assure the safe operation of aircraft, this Annex supports the continued evolution of a proactive strategy to improve safety performance. The foundation of this proactive safety strategy is based on the implementation of a State safety programme (SSP) that systematically addresses safety risks.

Effective SSP implementation is a gradual process, requiring time to mature fully. Factors that affect the time required to establish an SSP include the complexity of the air transportation system as well as the maturity of the aviation safety oversight capabilities of the State.

This Annex consolidates material from existing Annexes regarding SSP and safety management systems (SMSs), as well as related elements including the collection and use of safety data and State safety oversight activities. The benefit of drawing together this material into a single Annex is to focus States' attention on the importance of integrating their safety management activities. It also facilitates the evolution of safety management provisions.

Certain State safety management functions required in Annex 19 may be delegated to a Regional Safety Oversight Organization or a Regional Accident and Incident Investigation Organization on behalf of the State.

This Annex that contains SARPs related to responsibilities and processes underlying the safety management by States was first adopted by the Council on XX XXXX 201X pursuant to the provisions of Article 37 of the Convention on International Civil Aviation (Chicago 1944) and designated as Annex 19 to the Convention. The SARPs were based on provisions for safety management initially adopted by the Council in Annexes 1; 6; Parts I, II and III; 8; 11; 13 and 14, Volume I; and on recommendations of the first special meeting of the SMP (Montréal, 13 to 17 February 2012).

Table A shows the origin of subsequent amendments together with a list of the principal subjects involved and the dates on which the Annex and the amendments were adopted by the Council, when they became effective and when they became applicable.

Action by Contracting States

Notification of differences. The attention of Contracting States is drawn to the obligation imposed by Article 38 of the Convention by which Contracting States are required to notify the Organization of any differences between their national regulations and practices and the International Standards contained in this Annex and any amendments thereto. Contracting States are invited to extend such notification to any differences from the Recommended Practices contained in this Annex, and any amendments thereto when the notification of such differences is important for the safety of air navigation. Further, Contracting States are invited to keep the Organization currently informed of any differences which may subsequently occur or of the withdrawal of any differences previously notified. A specific request for notification of differences will be sent to Contracting States immediately after the adoption of each Amendment to this Annex.

Attention of States is also drawn to the provision of Annex 15 related to the publication of differences between their national regulations and practices and the related ICAO Standards and Recommended Practices through the Aeronautical Information Service, in addition to the obligation of States under Article 38 of the Convention.

Promulgation of information. The establishment and withdrawal of and changes to facilities, services and procedures affecting aircraft operations provided in accordance with the Standards and Recommended Practices specified in this Annex should be notified and take effect in accordance with the provisions of Annex 15.

Status of Annex components

An Annex is made up of the following component parts, not all of which, however, are necessarily found in every Annex; they have the status indicated.

1.—*Material comprising the Annex proper*

- a) *Standards and Recommended Practices* adopted by the Council under the provisions of the Convention. They are defined as follows:

Standard: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as necessary for the safety or regularity of international air navigation and to which Contracting States will conform in accordance with the Convention; in the event of impossibility of compliance, notification to the Council is compulsory under Article 38.

Recommended Practice: Any specification for physical characteristics, configuration, matériel, performance, personnel or procedure, the uniform application of which is recognized as desirable in the interest of safety, regularity or efficiency of international air navigation, and to which Contracting States will endeavour to conform in accordance with the Convention.

- b) *Appendices* comprising material grouped separately for convenience but forming part of the Standards and Recommended Practices adopted by the Council.
- c) *Definitions* of terms used in the Standards and Recommended Practices which are not self-

explanatory in that they do not have accepted dictionary meanings. A definition does not have an independent status but is an essential part of each Standard and Recommended Practice in which the term is used, since a change in the meaning of the term would affect the specification.

- d) *Tables* and *Figures* which add to or illustrate a Standard or Recommended Practice and which are referred to therein, form part of the associated Standard or Recommended Practice and have the same status.

It is to be noted that some Standards in this Annex incorporate, by reference, other specifications having the status of Recommended Practices. In such cases, the text of the Recommended Practice becomes part of the Standard.

2.— *Material approved by the Council for publication in association with the Standards and Recommended Practices*

- a) *Forewords* comprising historical and explanatory material based on the action of the Council and including an explanation of the obligations of States with regard to the application of the Standards and Recommended Practices ensuing from the Convention and the Resolution of Adoption;
- b) *Introductions* comprising explanatory material introduced at the beginning of parts, chapters or sections of the Annex to assist in the understanding of the application of the text;
- c) *Notes* included in the text, where appropriate, to give factual information or references bearing on the Standards or Recommended Practices in question but not constituting part of the Standards or Recommended Practices;
- d) *Attachments* comprising material supplementary to the Standards and Recommended Practices or included as a guide to their application.

Selection of language

This Annex has been adopted in six languages — English, Arabic, Chinese, French, Russian and Spanish. Each Contracting State is requested to select one of those texts for the purpose of national implementation and for other effects provided for in the Convention, either through direct use or through translation into its own national language, and to notify the Organization accordingly.

Editorial practices

The following practice has been adhered to in order to indicate at a glance the status of each statement: *Standards* have been printed in light face roman; *Recommended Practices* have been printed in light face italics, the status being indicated by the prefix **Recommendation**; *Notes* have been printed in light face italics, the status being indicated by the prefix *Note*.

The following editorial practice has been followed in the writing of specifications: for Standards the operative verb “shall” is used, and for Recommended Practices the operative verb “should” is used.

Any reference to a portion of this document, which is identified by a number and/or title, includes all subdivisions of that portion.

Table A. Amendments to Annex 19

<i>Amendment</i>	<i>Source(s)</i>	<i>Subject(s)</i>	<i>Adopted Effective Applicable</i>
1st Edition	Secretariat; first special meeting of the Safety Management Panel (SMP/SM/1)		XX XX XXXX XX XX XXXX XX XX XXXX

INTERNATIONAL STANDARDS AND RECOMMENDED PRACTICES

CHAPTER 1. DEFINITIONS

When the following terms are used in the Standards and Recommended Practices for Safety Management, 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.

Note 1.— For statistical uniformity only, an injury resulting in death within thirty days of the date of the accident is classified, by ICAO, as a fatal injury.

Note 2.— An aircraft is considered to be missing when the official search has been terminated and the wreckage has not been located.

Note 3.— The type of unmanned aircraft system to be investigated is addressed in 5.1 of Annex 13.

Note 4.— Guidance for the determination of aircraft damage can be found in Attachment G of Annex 13.

Aeroplane. A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Aircraft. Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Helicopter. A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more power-driven rotors on substantially vertical axes.

Note.— Some States use the term “rotorcraft” as an alternative to “helicopter”.

Incident. An occurrence, other than an accident, associated with the operation of an aircraft which affects or could affect the safety of operation.

Note.— The types of incidents which are of interest for safety-related studies include the incidents listed in Annex 13, Attachment C.

Industry codes of practice. Guidance material developed by an industry body, for a particular sector of the aviation industry to comply with the requirements of the International Civil Aviation Organization's Standards and Recommended Practices, other aviation safety requirements and the best practices deemed appropriate.

Note.— Some States accept and reference industry codes of practice in the development of regulations to meet the requirements of Annex 19, and make available, for the industry codes of practice, their sources and how they may be obtained.

Operational personnel. Personnel involved in aviation activities who are in a position to report safety information.

Note.— Such personnel include, but are not limited to: flight crews; air traffic controllers; aeronautical station operators; maintenance technicians; personnel of aircraft design and manufacturing organizations; cabin crews; flight dispatchers, apron personnel and ground handling personnel.

Safety. The state in which risks associated with aviation activities, related to, or in direct support of the operation of aircraft, are reduced and controlled to an acceptable level.

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountabilities, 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 performance target. The planned or intended objective for safety performance indicator(s) over a given period.

Safety risk. The predicted probability and severity of the consequences or outcomes of a hazard.

Serious injury. An injury which is sustained by a person in an accident and which:

- a) requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received; or
- b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- c) involves lacerations which cause severe haemorrhage, nerve, muscle or tendon damage; or
- d) involves injury to any internal organ; or
- e) involves second or third degree burns, or any burns affecting more than 5 per cent of the body surface; or
- f) involves verified exposure to infectious substances or injurious radiation.

State of Design. The State having jurisdiction over the organization responsible for the type design.

State of Manufacture. The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

State of the Operator. The State in which the operator's principal place of business is located or, if there is no such place of business, the operator's permanent residence.

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

CHAPTER 2. APPLICABILITY

The Standards and Recommended Practices contained in this Annex shall be applicable to safety management functions related to, or in direct support of, the safe operation of aircraft.

Note 1.— Safety management provisions for States are contained in Chapter 3 and relate to a State safety programme.

Note 2.— Safety management provisions for specified aviation service providers and operators are in Chapter 4 and relate to safety management systems (SMSs). Supplementary safety management provisions specific to individual service providers or operators are contained in other Annexes, as referenced in this Annex.

CHAPTER 3. STATE SAFETY MANAGEMENT RESPONSIBILITIES

Note 1.— This Chapter outlines the safety management responsibilities of the State, through compliance with SARPs, the conduct of its own safety management functions and the surveillance of SMSs implemented in accordance with the provisions in this Annex.

Note 2.— Safety management system provisions pertaining to specific types of aviation activities are addressed in the relevant Annexes.

Note 3.— Basic safety management principles applicable to the medical assessment process of licence holders are contained in Annex 1. Guidance is available in the Manual of Civil Aviation Medicine (Doc 8984).

3.1 State safety programme (SSP)

3.1.1 Each State shall establish an SSP for the management of safety in the State, in order to achieve an acceptable level of safety performance in civil aviation. The SSP shall include the following components:

- a) State safety policy and objectives;
- b) State safety risk management;
- c) State safety assurance; and
- d) State safety promotion.

Note 1.— The SSP established by the State is commensurate with the size and the complexity of its aviation activities.

Note 2.— A framework for the implementation and maintenance of an SSP is contained in Attachment A, and guidance on a State safety programme is contained in the Safety Management Manual (SMM) (Doc 9859).

3.1.2 The acceptable level of safety performance to be achieved shall be established by the State.

Note.— Guidance on defining an acceptable level of safety performance is contained in the Safety Management Manual (SMM) (Doc 9859).

3.1.3 As part of its SSP, each State shall require that the following service providers under its authority implement an SMS:

- a) approved training organizations in accordance with Annex 1 that are exposed to safety risks related to aircraft operations during the provision of their services;
- b) operators of aeroplanes or helicopters authorized to conduct international commercial air transport, in accordance with Annex 6, Part I or Part III, Section II, respectively;

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.

- c) approved maintenance organizations 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;
- d) organizations responsible for the type design or manufacture of aircraft, in accordance with Annex 8;
- e) air traffic services (ATS) providers in accordance with Annex 11; and

Note.— The provision of AIS, CNS, MET and/or SAR services, when under the authority of an ATS provider, are included in the scope of the ATS provider's SMS. When the provision of AIS, CNS, MET and/or SAR services are wholly or partially provided by an entity other than an ATS provider, the related services that come under the authority of the ATS provider, or those aspects of the services with direct operational implications, are included in the scope of the ATS provider's SMS.

- f) operators of certified aerodromes in accordance with Annex 14.

3.1.4 As part of its SSP, each State shall require that international general aviation operators of large or turbojet aeroplanes in accordance with Annex 6, Part II, Section III, implement an SMS.

Note.— International general aviation operators are not considered to be service providers in the context of this Annex.

3.2 State safety oversight

Each State shall establish and implement a safety oversight system in accordance with Appendix 1.

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.— The term “service provider” refers to those organizations listed in Chapter 3, 3.1.3.

4.1 General

4.1.1 Except as required in 4.2, 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 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.

4.1.3 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.

4.1.4 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.

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

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

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

Note.— The provision of AIS, CNS, MET and/or SAR services, when under the authority of an ATS provider, are included in the scope of the ATS provider’s SMS. When the provision of AIS, CNS, MET and/or SAR services are wholly or partially provided by an entity other than an ATS provider, the related services that come under the authority of the ATS provider, or those aspects of their services with direct operational implications, are included in the scope of the ATS provider’s SMS.

4.1.8 The SMS of an operator of a certified aerodrome, in accordance with Annex 14, 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 general aviation is contained in the Safety Management Manual (SMM) (Doc 9859) and industry codes of practice.

4.2.1 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.

4.2.2 **Recommendation.**— *The SMS should as a minimum include:*

- a) a process to identify actual and potential safety hazards and assess the associated risks;*
 - b) a process to develop and implement remedial action necessary to maintain an acceptable level of safety; and*
 - c) provision for continuous monitoring and regular assessment of the appropriateness and effectiveness of safety management activities.*
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CHAPTER 5. SAFETY DATA COLLECTION, ANALYSIS AND EXCHANGE

Note.— The objective of these specifications is to support safety management activities by collection and analysis of safety data and by a prompt and secure exchange of safety information, as part of the SSP.

5.1 Safety data collection

Reporting systems

5.1.1 Each State shall establish a mandatory incident reporting system to facilitate collection of information on actual or potential safety deficiencies.

5.1.2 Each State shall establish a voluntary incident reporting system to facilitate collection of information on actual or potential safety deficiencies that may not be captured by the mandatory incident reporting system.

5.1.3 **Recommendation.**— *Subject to Standard 5.3.1, State authorities responsible for the implementation of the SSP should have access to appropriate information available in the incident reporting systems referenced in 5.1.1 and 5.1.2 to support their safety responsibilities.*

Note 1.— State authorities responsible for the implementation of the SSP include accident investigation authorities.

Note 2.— Each State is encouraged to establish other safety data collection and processing systems to collect safety information that may not be captured by the incident reporting systems mentioned in 5.1.1 and 5.1.2 above.

5.2 Safety data analysis

5.2.1 Each State shall establish and maintain a safety database to facilitate the effective analysis of information on actual or potential safety deficiencies obtained, including that from its incident reporting systems, and to determine any actions required for the enhancement of safety.

Note.— The term “safety database” may refer to a single or multiple database(s) and may include the accident and incident database. Provisions on an accident and incident database are included in Annex 13 – Aircraft Accident and Incident Investigation. Additional guidance on a safety database is also included in the Safety Management Manual (SMM) (Doc 9859).

5.2.2 **Recommendation.**— *Each State should, following the identification of preventive actions required to address actual or potential safety deficiencies, implement these actions and establish a process to monitor implementation and effectiveness of the responses.*

Note.— Additional information on which to base preventive actions may be contained in the Final Reports on investigated accidents and incidents.

5.2.3 **Recommendation.**— *The database systems should use standardized formats to facilitate data exchange.*

Note.— *Each State is encouraged to use an ADREP-compatible system.*

5.3 Safety data protection

Note.— *Attachment B contains legal guidance for the protection of information from safety data collection and processing systems.*

5.3.1 A voluntary incident reporting system shall be non-punitive and afford protection to the sources of the information.

Note 1.— *A non-punitive environment is fundamental to voluntary reporting.*

Note 2.— *Each State is encouraged to facilitate and promote the voluntary reporting of events that could affect aviation safety by adjusting their applicable laws, regulations and policies, as necessary.*

Note 3.— *Guidance related to both mandatory and voluntary incident reporting systems is contained in the Safety Management Manual (SMM) (Doc 9859).*

5.3.2 **Recommendation.**— *States should not make available or use safety data referenced in 5.1 or 5.2 for other than safety-related purposes, unless exceptionally, an appropriate authority determines in accordance with their national legislation, the value of its disclosure or use in any particular instance, outweighs the adverse impact such action may have on aviation safety.*

5.4 Safety information exchange

5.4.1 **Recommendation.**— *If a State, in the analysis of the information contained in its database, identifies safety matters considered to be of interest to other States, that State should forward such safety information to them as soon as possible.*

5.4.2 **Recommendation.**— *Each State should promote the establishment of safety information sharing networks among users of the aviation system and should facilitate the free exchange of information on actual and potential safety deficiencies.*

Note.— *Standardized definitions, classifications and formats are needed to facilitate data exchange. Guidance material on the specifications for such information-sharing networks are available from ICAO.*

APPENDIX 1. STATE SAFETY OVERSIGHT SYSTEM

(See Chapter 3, 3.2)

Note 1.— Guidance on the critical elements of a system that enables a State to discharge its responsibility for safety oversight is contained in the Safety Oversight Manual, Part A, The Establishment and Management of a State’s Safety Oversight System (Doc 9734).

Note 2.— The term “relevant authorities or agencies” is used in a generic sense to include all authorities with aviation safety oversight responsibility which may be established by the State as separate entities, such as: Civil Aviation Authorities, Airport Authorities, ATS Authorities, Accident Investigation Authority, and Meteorological Authority.

Note 3.— See Appendix 5 to Annex 6, Part I and Appendix 1 to Annex 6, Part III for provisions specific to the safety oversight of air operators.

Note 4.— Within the context of this appendix the term “service provider” refers to those organizations listed in Chapter 3, 3.1.3.

1. Primary aviation legislation

1.1 The State shall promulgate a comprehensive and effective aviation law, consistent with the size and complexity of the State’s aviation activity and with the requirements contained in the Convention on International Civil Aviation, that enables the State to regulate civil aviation and enforce regulations through the relevant authorities or agencies established for that purpose.

1.2 The aviation law shall provide personnel performing safety oversight functions access to the aircraft, operations, facilities, personnel and associated records, as applicable, of service providers.

2. Specific operating regulations

The State shall promulgate regulations to address, at a minimum, national requirements emanating from the primary aviation legislation, for standardized operational procedures, products, services, equipment and infrastructures in conformity with the Annexes to the Convention on International Civil Aviation.

Note.— The term “regulations” is used in a generic sense and includes but is not limited to instructions, rules, edicts, directives, sets of laws, requirements, policies, and orders.

3. State system and functions

3.1 The State shall establish relevant authorities or agencies, as appropriate, supported by sufficient and qualified personnel and provided with adequate financial resources. Each State authority or agency shall have stated safety functions and objectives to fulfil its safety management responsibilities.

3.2 **Recommendation.**— *The State should take necessary measures, such as remuneration and conditions of service, to ensure that qualified personnel performing safety oversight functions are recruited and retained.*

3.3 The State shall ensure that personnel performing safety oversight functions are provided with guidance that addresses ethics, personal conduct and the avoidance of actual or perceived conflicts of interest in the performance of official duties.

3.4 **Recommendation.**— *The State should use a methodology to determine its staffing requirements for personnel performing safety oversight functions, taking into account the size and complexity of the aviation activities in that State.*

Note.— *In addition, Appendix 5 to Annex 6, Part I, and Appendix 1 to Annex 6, Part III, require the State of the Operator to use such a methodology to determine its inspector staffing requirements. Inspectors are a subset of personnel performing safety oversight functions.*

4. Qualified technical personnel

4.1 The State shall establish minimum qualification requirements for the technical personnel performing safety oversight functions and provide for appropriate initial and recurrent training to maintain and enhance their competence at the desired level.

4.2 The State shall implement a system for the maintenance of training records.

5. Technical guidance, tools and provision of safety-critical information

5.1 The State shall provide appropriate facilities, comprehensive and up-to-date technical guidance material and procedures, safety critical information, tools and equipment, and transportation means, as applicable, to the technical personnel to enable them to perform their safety oversight functions effectively and in accordance with established procedures in a standardized manner.

5.2 The State shall provide technical guidance to the aviation industry on the implementation of relevant regulations.

6. Licensing, certification, authorization and/or approval obligations

The State shall implement documented processes and procedures to ensure that personnel and organizations performing an aviation activity meet the established requirements before they are allowed to exercise the privileges of a licence, certificate, authorization and/or approval to conduct the relevant aviation activity.

7. Surveillance obligations

The State shall implement documented surveillance processes, by defining and planning inspections, audits, and monitoring activities on a continuous basis, to proactively assure that aviation licence, certificate, authorization and/or approval holders continue to meet the established requirements. This includes the surveillance of personnel designated by the Authority to perform safety oversight functions on its behalf.

8. Resolution of safety issues

8.1 The State shall use a documented process to take appropriate corrective actions, up to and including enforcement measures, to resolve identified safety issues.

8.2 The State shall ensure that identified safety issues are resolved in a timely manner through a system which monitors and records progress, including actions taken by service providers in resolving such issues.

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 a SMS is contained in the Safety Management Manual (SMM) (Doc 9859).

Note 2.— Within the context of this appendix, the term “service provider” refers to those organizations listed in Chapter 3, 3.1.3.

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 and responsibility
 - 1.2 Safety accountabilities
 - 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 and responsibility

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;

- 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.

1.2 Safety accountabilities

The service provider shall:

- a) identify the accountable executive who, irrespective of other functions, has ultimate responsibility and accountability, on behalf of the organization, for the implementation and maintenance of the 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 accountabilities of all members of management, irrespective of other functions, as well as of employees, with respect to the safety performance of the SMS;
- d) document and communicate safety responsibilities, accountabilities 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 an effective SMS.

1.4 Coordination of emergency response planning

The service provider shall ensure that an 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 an SMS implementation plan, formally endorsed by the organization that defines the organization's approach to the management of safety in a manner that meets the organization's safety objectives.

1.5.2 The service provider shall develop and maintain SMS documentation that describes its:

- a) safety policy and objectives;
- b) SMS requirements;
- c) SMS processes and procedures;
- d) accountabilities, responsibilities and authorities for SMS processes and procedures; and
- e) SMS outputs.

1.5.3 The service provider shall develop and maintain an SMS manual as part of its SMS documentation.

2. Safety risk management

2.1 Hazard identification

2.1.1 The service provider shall develop and maintain a process that ensures that hazards associated with its aviation products or services are identified.

2.1.2 Hazard identification shall be based on a combination of reactive, proactive and predictive methods of safety data collection.

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.

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.

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.

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 the effectiveness of its SMS processes to enable continuous improvement of the overall performance 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 safety actions are taken; and
 - d) explains why safety procedures are introduced or changed.
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ATTACHMENT A. FRAMEWORK FOR A STATE SAFETY PROGRAMME (SSP)
(See Chapter 3, 3.1.1)

This attachment introduces a framework for the implementation and maintenance of an SSP by a State. An SSP is a management system for the management of safety by the State. The framework includes the four components as established in Chapter 3, 3.1.1 in this Annex and its related eleven elements as outlined hereunder. The implementation of an SSP is commensurate with the size and complexity of the State's aviation system and necessitates coordination among the authorities responsible for individual elements of civil aviation functions in the State. The SSP framework introduced in this attachment, and the SMS framework specified in Appendix 2, must be viewed as complementary, yet distinct, frameworks. This attachment also includes a brief description of each element of the framework.

Note.— Within the context of this attachment the term “service provider” refers to those organizations listed in Chapter 3, 3.1.3.

1. State safety policy and objectives
 - 1.1 State safety legislative framework
 - 1.2 State safety responsibilities and accountabilities
 - 1.3 Accident and incident investigation
 - 1.4 Enforcement policy
2. State safety risk management
 - 2.1 Safety requirements for the service provider's SMS
 - 2.2 Agreement on the service provider's safety performance
3. State safety assurance
 - 3.1 Safety oversight
 - 3.2 Safety data collection, analysis and exchange
 - 3.3 Safety-data-driven targeting of oversight of areas of greater concern or need
4. State safety promotion
 - 4.1 Internal training, communication and dissemination of safety information
 - 4.2 External training, communication and dissemination of safety information

1. State safety policy and objectives

1.1 State safety legislative framework

The State has promulgated a national safety legislative framework and specific regulations, in compliance with international and national standards, that define how the State will conduct the management of safety in the State. This includes the participation of State aviation organizations in specific activities related to the management of safety in the State, and the establishment of the roles, responsibilities and relationships of such organizations. The safety legislative framework and specific regulations are periodically reviewed to ensure they remain relevant and appropriate to the State.

1.2 State safety responsibilities and accountabilities

The State has identified, defined and documented the requirements, responsibilities and accountabilities regarding the establishment and maintenance of the SSP. This includes the directives to plan, organize, develop, maintain, control and continuously improve the SSP in a manner that meets the State's safety objectives. It also includes a clear statement about the provision of the necessary resources for the implementation of the SSP.

1.3 Accident and incident investigation

The State has established an independent accident and incident investigation process, the sole objective of which is the prevention of accidents and incidents, and not the apportioning of blame or liability. Such investigations are in support of the management of safety in the State. In the operation of the SSP, the State maintains the independence of the accident and incident investigation organization from other State aviation organizations.

1.4 Enforcement policy

The State has promulgated an enforcement policy that establishes the conditions and circumstances under which service providers are allowed to deal with, and resolve, events involving certain safety deviations, internally, within the context of the service provider's SMS, and to the satisfaction of the appropriate State authority. The enforcement policy also establishes the conditions and circumstances under which to deal with safety deviations through established enforcement procedures.

2. State safety risk management

2.1 Safety requirements for the service provider's SMS

The State has established the controls which govern how service providers will identify hazards and manage safety risks. These include the requirements, specific operating regulations and implementation policies for the service provider's SMS. The requirements, specific operating regulations and implementation policies are periodically reviewed to ensure they remain relevant and appropriate to the service providers.

2.2 Agreement on the service provider's safety performance

The State has agreed with individual service providers on the safety performance of their SMS. The agreed safety performance of an individual service provider's SMS is periodically reviewed to ensure it remains relevant and appropriate to the service providers.

3. State safety assurance

3.1 Safety oversight

The State has established mechanisms to ensure effective monitoring of the eight critical elements of the safety oversight function. The State has also established mechanisms to ensure that the identification of hazards and the management of safety risks by service providers follow established regulatory controls (requirements, specific operating regulations and implementation policies). These mechanisms include inspections, audits and surveys to ensure that regulatory safety risk controls are appropriately integrated into the service provider's SMS, that they are being practised as designed, and that the regulatory controls have the intended effect on safety risks.

Note.— Guidance on the implementation of this element is contained in the Safety Management Manual (SMM) (Doc 9859).

3.2 Safety data collection, analysis and exchange

The State has established mechanisms to ensure the capture and storage of data on hazards and safety risks at both an individual and aggregate State level. The State has also established mechanisms to develop information from the stored data, and to actively exchange safety information with service providers and/or other States as appropriate.

3.3 Safety-data-driven targeting of oversight of areas of greater concern or need

The State has established procedures to prioritize inspections, audits and surveys towards those areas of greater safety concern or need, as identified by the analysis of data on hazards, their consequences in operations, and the assessed safety risks.

4. State safety promotion

4.1 Internal training, communication and dissemination of safety information

The State provides training and fosters awareness and two-way communication of safety-relevant information to support, within the State aviation organizations, the development of an organizational culture that fosters an effective and efficient SSP.

4.2 External training, communication and dissemination of safety information

The State provides education and promotes awareness of safety risks and two-way communication of safety-relevant information to support, among service providers, the development of an organizational culture that fosters an effective and efficient SMS.

**ATTACHMENT B. LEGAL GUIDANCE FOR THE PROTECTION OF INFORMATION
FROM SAFETY DATA COLLECTION AND PROCESSING SYSTEMS**

(See Chapter 5, 5.3)

1. Introduction

1.1 The protection of safety information from inappropriate use is essential to ensure its continued availability, since the use of safety information for other than safety-related purposes may inhibit the future availability of such information, with an adverse effect on safety. This fact was recognized by the 35th Assembly of ICAO, which noted that existing national laws and regulations in many States may not adequately address the manner in which safety information is protected from inappropriate use.

1.2 The guidance contained in this Attachment is therefore aimed at assisting States enact national laws and regulations to protect information gathered from safety data collection and processing systems (SDCPS), while allowing for the proper administration of justice. The objective is to prevent the inappropriate use of information collected solely for the purpose of improving aviation safety.

1.3 Because of the different legal systems in States, the legal guidance must allow States the flexibility to draft their laws and regulations in accordance with their national policies and practices.

1.4 The guidance contained in this Attachment, therefore, takes the form of a series of principles that have been distilled from examples of national laws and regulations provided by States. The concepts described in these principles could be adapted or modified to meet the particular needs of the State enacting laws and regulations to protect safety information.

1.5 Throughout this Attachment:

- a) *safety information* refers to information contained in SDCPS established for the sole purpose of improving aviation safety, and qualified for protection under specified conditions in accordance with 3.1 below;
- b) *inappropriate use* refers to the use of safety information for purposes different from the purposes for which it was collected, namely, use of the information for disciplinary, civil, administrative and criminal proceedings against operational personnel, and/or disclosure of the information to the public;
- c) SDCPS refers to processing and reporting systems, databases, schemes for exchange of information, and recorded information and include:
 - 1) records pertaining to accident and incident investigations, as described in Annex 13, Chapter 5;
 - 2) mandatory incident reporting systems, as described in Chapter 5, Section 5.1;
 - 3) voluntary incident reporting systems, as described in Chapter 5, Section 5.1; and

- 4) 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.— Information on safety data collection and processing systems can be found in the Safety Management Manual (SMM) (Doc 9859).

2. General principles

- 2.1 The sole purpose of protecting safety information from inappropriate use is to ensure its continued availability so that proper and timely preventive actions can be taken and aviation safety improved.
- 2.2 It is not the purpose of protecting safety information to interfere with the proper administration of justice in States.
- 2.3 National laws and regulations protecting safety information should ensure that a balance is struck between the need for the protection of safety information in order to improve aviation safety, and the need for the proper administration of justice.
- 2.4 National laws and regulations protecting safety information should prevent its inappropriate use.
- 2.5 Providing protection to qualified safety information under specified conditions is part of a State's safety responsibilities.

3. Principles of protection

- 3.1 Safety information should qualify for protection from inappropriate use according to specified conditions that should include, but not necessarily be limited to whether the collection of information was for explicit safety purposes and if the disclosure of the information would inhibit its continued availability.
- 3.2 The protection should be specific for each SDCPS, based upon the nature of the safety information it contains.
- 3.3 A formal procedure should be established to provide protection to qualified safety information, in accordance with specified conditions.
- 3.4 Safety information should not be used in a way different from the purposes for which it was collected.
- 3.5 The use of safety information in disciplinary, civil, administrative and criminal proceedings should be carried out only under suitable safeguards provided by national law.

4. Principles of exception

Exceptions to the protection of safety information should only be granted by national laws and regulations when:

- a) there is evidence that the occurrence was caused by an act considered, in accordance with the law, to be conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct;
- b) an appropriate authority considers that circumstances reasonably indicate that the occurrence may have been caused by conduct with intent to cause damage, or conduct with knowledge that damage would probably result, equivalent to reckless conduct, gross negligence or wilful misconduct; or
- c) review by an appropriate authority determines that the release of the safety information is necessary for the proper administration of justice, and that its release outweighs the adverse domestic and international impact such release may have on the future availability of safety information.

5. Public disclosure

5.1 Subject to the principles of protection and exception outlined above, any person seeking disclosure of safety information should justify its release.

5.2 Formal criteria for disclosure of safety information should be established and should include, but not necessarily be limited to, the following:

- a) disclosure of the safety information is necessary to correct conditions that compromise safety and/or to change policies and regulations;
- b) disclosure of the safety information does not inhibit its future availability in order to improve safety;
- c) disclosure of relevant personal information included in the safety information complies with applicable privacy laws; and
- d) disclosure of the safety information is made in a de-identified, summarized or aggregate form.

6. Responsibility of the custodian of safety information

Each SDCPS should have a designated custodian. It is the responsibility of the custodian of safety information to apply all possible protection regarding the disclosure of the information, unless:

- a) the custodian of the safety information has the consent of the originator of the information for disclosure; or

- b) the custodian of the safety information is satisfied that the release of the safety information is in accordance with the principles of exception.

7. Protection of recorded information

Considering that ambient workplace recordings required by legislation, such as cockpit voice recorders (CVRs), may be perceived as constituting an invasion of privacy for operational personnel that other professions are not exposed to:

- a) subject to the principles of protection and exception above, national laws and regulations should consider ambient workplace recordings required by legislation as privileged protected information, i.e. information deserving enhanced protection; and
- b) national laws and regulations should provide specific measures of protection to such recordings as to their confidentiality and access by the public. Such specific measures of protection of workplace recordings required by legislation may include the issuance of orders of non-public disclosure.

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