

**MINISTRY OF TRANSPORT  
CIVIL AVIATION AUTHORITY OF VIETNAM**



**SAFETY OVERSIGHT MANUAL – THE ESTABLISHMENT AND  
MANAGEMENT OF A STATE’S SAFETY  
(GM 4.1)**

*Issued here with Decision 326/QĐ-CHK dated 07 /02/2024*

**First Edition**

**Tháng 02/2024**

**VERSION RECORDS**

<b>Version No.</b>	<b>Subject</b>	<b>Source</b>	<b>Section affected</b>	<b>Approved by (Date)</b>	<b>Effective date</b>
1.0	Original Version	ICAO Doc 9734 part A – 2017	All	Director General 326/QĐ-CHK (dated 07/02/2024 )	February 2024

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## **FOREWORD**

### **1. BACKGROUND**

1.1. Pursuant to Article 11, Clause 2 of the Decree No. 66/2015/ND-CP dated 12th August 2015 on the Civil Aviation Authority stipulating the function and responsibility of the Civil Aviation Authority of Viet Nam (CAAV) in guiding the implementation of Standards and Recommended Practices of ICAO;

1.2. Pursuant to Article 8, Clause 10 of the Decree No. 0/52021/ND-CP dated 25th January 2021 on the management and operation of airport and aerodrome stipulating the function and responsibility in providing guidance on and issue professional instructions related to management and operation of airports/aerodromes in line with regulations of law and regulations of ICAO (including: documents providing guidelines for airport/aerodrome design; documents providing guidelines for operation and assurance of security and safety at airports/aerodromes).

1.3 This safety oversight manual – the establishment and management of a state’s safety is issued by CAAV specifying the details of provisions to be met by the AO organizations, originators related. The details in this Manual are based on those stipulated in ICAO Doc 9137 – part 1 [as in force and amended from time to time by the Council of the International Civil Aviation Organization (ICAO)] and with such modifications as may be determined by CAAV to be applicable in Viet Nam.

1.4. Amendments to this document are the responsibility of the Airport Management Department - CAAV. Readers should forward advice of errors, inconsistencies or suggestions for improvement to this Manual to the addressee stipulated below.

### **2. SCOPE AND PURPOSE**

This manual relates to the responsibilities, functions and duties of ICAO Member States with respect to aviation safety oversight in compliance with their obligations as signatories to the Convention on International Civil Aviation (the “Chicago Convention”). It is directed at State authorities and intended as a guide to assist States in establishing and managing an effective and sustainable State safety oversight system through the implementation of the eight critical elements of such a system.

The manual adopts the definition of “safety oversight” as stated in Annex 19 to the Chicago Convention - Safety Management (Second edition, July 2016):

“a function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.”

The manual focuses on the eight critical elements identified as the essential components of a State safety oversight system. These critical elements are as follows:

CE-1 - Primary aviation legislation;

CE-2 - Specific operating regulations;

CE-3 - State system and functions;

CE-4 - Qualified technical personnel;

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

CE-6 - Licensing, certification, authorization and approval obligations;

CE-7 - Surveillance obligations; and

CE-8 - Resolution of safety issues.

The first edition of this manual, prepared with the assistance of the Safety Oversight Audit Study Group, addressed a safety oversight system as related to Annex 1 - Personnel Licensing, Annex 6 - Operation of Aircraft and Annex 8 - Airworthiness of Aircraft. The second edition addressed the transition to the comprehensive systems approach covering all safety-related provisions in all safety-related Annexes to the Convention. This third edition was developed to reflect the adoption of Amendment 1 to Annex 19 to the Chicago Convention - Safety Management (Second Edition, July 2016) as well as to provide additional guidance.

To keep this manual relevant and accurate, suggestions for improving it in terms of format, content or presentation are welcome. Any such recommendation or suggestion will be examined and, if found suitable, will be included in the next edition of the manual. Regular revision will ensure that the manual remains both pertinent and accurate. Comments concerning this manual should be addressed to:

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## **ABBREVIATIONS AND ACRONYMS**

Some common abbreviations and acronyms used in this manual and in the USOAP activities are as follows:

AIP - Aeronautical Information Publication

ANS - Air navigation services

ATS - Air traffic service

CAA - Civil aviation authority, civil aviation administration or an appropriate State aviation regulatory body

CE - Critical element of a safety oversight system

CMA - Continuous Monitoring Approach

EFOD - Electronic Filing of Differences

ICAO - International Civil Aviation Organization

OLF - (USOAP) Online Framework

RSOO - Regional safety oversight organization

SARPs - Standards and Recommended Practices

SSC - Significant Safety Concern

SSO - State safety oversight (system)

SSP- State safety programme

USOAP - Universal Safety Oversight Audit Programme

## **Chapter 1 INTRODUCTION**

### **1.1 OBJECTIVES OF THE MANUAL**

1.1.1 This manual has been designed to emphasize the responsibilities, functions and duties for safety oversight of an ICAO Member State and to provide information and guidance to government decision makers on the establishment and management of an effective and sustainable State safety oversight (SSO) system through implementation of the eight critical elements (CEs) of such a system.

1.1.2 In this manual, the term “State” refers to the authority that is signatory to the Chicago Convention and which normally establishes a Civil Aviation Authority (CAA) and other aviation-related authorities. The “State” also appoints a Head of the CAA with powers to exercise authority over civil aviation activities in the State, as established.

1.1.3 Annex 19 - *Safety Management* (Second Edition, July 2016) defines safety oversight as:

“a function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations”.

*Note.- In the first (1999) and second (2006) editions of Doc 9734, Part A, safety oversight was defined as follows:*

*“a function by means of which States ensure effective implementation of the safety-related Standards and Recommended Practices (SARPs) and associated procedures contained in the Annexes to the Convention on International Civil Aviation and related ICAO documents.”*

1.1.4 Under the ICAO Universal Safety Oversight Audit Programme (USOAP), the eight CEs of an SSO system have been used to assess the State’s capability for safety oversight as well as for aircraft accident and incident investigation (with the exception of CE-6 and CE-7 which do not apply to that area). This is in line with Note 3 of Appendix 1 to Annex 19, which states that “the SSO system CEs are applied, as appropriate, to authorities performing safety oversight functions as well as authorities performing investigation of accidents and incidents or other State safety management activities”.

1.1.5. Note 1 of Chapter 3 of Annex 19 also states that “the State safety oversight (SSO) system critical elements (CEs) found in Appendix 1 constitute the foundation of an SSP (State safety programme).” These CEs are expressly addressed by this manual, while other aspects of the State safety management responsibilities are covered in the *Safety Management Manual (SMM)* (Doc 9859).

### **1.2 ABOUT THE MANUAL**



1.2.1 The responsibilities, functions, duties and related guidance described in this manual are derived from various sources, including the Chicago Convention and its Annexes, Procedures for Air Navigation Services (PANS) and guidance material published by ICAO to assist its Member States in the implementation of the SARPs.

1.2.2 This manual also incorporates the experiences and lessons learned by ICAO from the safety oversight audits, validation missions and other activities conducted since the inception of USOAP in 1999.

### **1.3 ICAO REFERENCE DOCUMENTS**

The ICAO documents referred to in the manual and other ICAO reference publications are listed in the Appendix and provide additional guidance for the oversight of individuals and organizations performing an aviation activity.

### **1.4 DEFINITIONS AND TERMINOLOGY**

***Aerodrome.*** A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

***Aerodrome certificate.*** A certificate issued by the appropriate authority under applicable regulations for the operation of an aerodrome.

***Aerodrome manual.*** A manual that forms part of the safety assurance in an application for an aerodrome certificate, containing material required by a State's certification requirements as well as material for use by aerodrome operational personnel in the execution of their duties.

***Aeronautical Information Publication (AIP).*** A publication issued by or with the authority of a State and containing aeronautical information of a lasting character essential to air navigation.

*Note.- The AIP includes details of aerodrome certification conditions and exemptions/ exceptions granted by the State aviation authority in relation to aerodrome certification requirements.*

***Aeronautical study.*** A study of an aeronautical problem to identify possible solutions and select a solution that is suitable and provides an acceptable level of safety.

***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.

***Air navigation services (ANS).*** Services provided to air traffic during all phases of operations including air traffic management (ATM), communication, navigation and surveillance (CNS), meteorological services for air navigation (MET), search and rescue (SAR) and aeronautical information services (AIS).

***Air operator certificate (AOC).*** A certificate authorizing an operator to carry out specified commercial air transport operations.

***Air traffic.*** All aircraft in flight or operating on the manoeuvring area of an aerodrome.

***Air traffic service (ATS).*** A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service).

***Audit.*** A systematic, independent and documented process for obtaining evidence and evaluating it objectively to determine the extent to which requirements and audit criteria are fulfilled.

***Authorized person.*** A person authorized in writing by the Director General of Civil Aviation or equivalent official to act under the provision in which the expression occurs.

***Cabin crew member.*** A crew member who performs, in the interest of safety of passengers, duties assigned by the operator or the pilot-in-command of the aircraft, but who shall not act as a flight crew member.

***Certified aerodrome.*** An aerodrome whose operator has been granted an aerodrome certificate.

***Civil aviation authority (CAA).*** The governmental entity or entities, however titled, that are directly responsible for the regulation of all aspects of civil air transport, technical (i.e. air navigation and aviation safety) and economic (i.e. the commercial aspects of air transport).

***Commercial air transport operation.*** An aircraft operation involving the transport of passengers, cargo or mail for remuneration or hire.

***Crew member.*** A person assigned by an operator to duty on an aircraft during a flight duty period.

***Dangerous goods.*** Articles or substances which are capable of posing a risk to health, safety, property or the environment and which are shown in the list of dangerous goods in the *Technical Instructions for the Safe Transport of Dangerous Good by Air* (Doc 9284) or which are classified according to those Instructions.

***Flight crew member.*** A licensed crew member charged with duties essential to the operation of an aircraft during a flight duty period.

***General aviation operation.*** An aircraft operation other than a commercial air transport operation or an aerial work operation.

***Human Factors principles.*** Principles which apply to aeronautical design, certification, training, operations and maintenance, and which seek safe interface

between the human and other system components by proper consideration to human performance.

**Human performance.** Human capabilities and limitations which have an impact on the safety, security and efficiency of aeronautical operations.

**Inspection.** An examination of specific activities, products or services of an aviation licence, certificate, approval or authorization holder (or applicant) performed by civil aviation inspectors to confirm compliance with requirements for the licence, certificate, approval or authorization already issued (or being issued) by the State.

**Inspector.** A qualified person authorized by the State to carry out oversight activities for civil aviation.

**Investigator (of an accident or incident).** A person charged, on the basis of his or her qualifications, with the responsibility to participate in the conduct and control of an investigation.

**Legislation.** Generic term used to include primary aviation legislation and specific operating regulations, as defined in Critical Elements 1 and 2 of a State safety oversight system, respectively.

**(USOAP CMA) Online Framework.** A suite of web-integrated applications, grouped under different modules, enabling States to access, submit and obtain information and data as part of ICAO's continuous monitoring and reporting of safety-related information and documentation under the USOAP continuous monitoring approach.

**Operations manual.** A manual containing procedures, instructions and guidance for use by operational personnel in the execution of their duties.

**Operator.** The person, organization or enterprise engaged in or offering to engage in the operation of an aircraft, aerodrome or associated aviation activity.

**Public use (aerodrome).** An aerodrome licensed to be available to all persons on equal terms and conditions for the take-off or landing of aircraft.

**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 oversight.** A function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations.

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

***Service provider.*** An organization providing aviation products and/or services. The term thus encompasses approved training organizations, aircraft operators, approved maintenance organizations, organizations responsible for type design or manufacture of aircraft, engines or propellers, air traffic service providers and other air navigation service providers and aerodrome operators.

***Significant Safety Concern.*** Within the context of safety oversight, this refers to any condition, practice, or violation that occurs when a State allows the holder of a licence, certificate, approval or authorization to exercise the privileges attached to the licence, certificate, approval or authorization without the holder meeting the minimum requirements established by the State and by the Standards set forth in the Annexes to the Chicago Convention and resulting in an immediate safety risk to international civil aviation.

***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, engine or propeller.

***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 of Registry.*** The State on whose register the aircraft is entered.

***Surveillance.*** The activities through which the State proactively verifies through inspections, audits and other activities that aviation licence, certificate, authorization or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State.

## Chapter 2: SAFETY OVERSIGHT: AN OBLIGATION

### 2.1 BACKGROUND

2.1.1 The lack of, or insufficient, State safety oversight was identified to be a common problem in States and one reason for their inability to comply fully with national and international requirements for civil aviation safety. Safety oversight ensures that the national aviation industry complies with the applicable safety-related legal framework to provide a level of safety equal to, or better than, that defined by the SARPs. As such, an individual State's responsibility for safety oversight is the foundation upon which safe global aircraft operations are built. A lack of appropriate safety oversight in one Member State therefore threatens the health of international civil aircraft operations.

2.1.2 In 1992, recognizing that "the safety standards drawn up under the Chicago Convention require effective government oversight for their effective implementation", the 29th Session of the ICAO Assembly adopted Resolution A29-13: *Improvement of Safety Oversight*, which reaffirmed each individual State's responsibility for safety oversight as one of the tenets of the Chicago Convention and called on Member States to reaffirm their safety oversight obligations under the Chicago Convention.

2.1.3 In 1998, the 32nd Session of the ICAO Assembly adopted Resolution A32-11 to direct the establishment of a Universal Safety Oversight Audit Programme (USOAP) comprising regular, mandatory, systematic and harmonized safety audits. It also called for the application of the Programme to all Contracting States, together with the implementation of greater transparency and increased disclosure in the release of audit results.

2.1.4 The following year, in 1999, USOAP was launched to conduct safety audits related to Annex 1- *Personnel Licensing*, Annex 6 - *Operation of Aircraft* and Annex 8 - *Airworthiness of Aircraft*.

2.1.5 In 2001, recognizing the success achieved by USOAP, the 33rd Session of the ICAO Assembly adopted Resolution A33-8 to endorse the expansion of USOAP to Annex 11 - *Air Traffic Services* and Annex 14 - *Aerodromes* as well as to other safety-related fields, such as aircraft accident and incident investigation addressed in Annex 13 - *Aircraft Accident and Incident Investigation*. Furthermore, responding to USOAP audit findings on the difficulties experienced by several States in the implementation of ICAO SARPs and the CEs of an SSO system, the Assembly adopted Resolution A33-9 which called for using all the expertise of the Organization, to the extent possible within budgetary constraints, to provide

assistance to the States in need.

2.1.6 In 2005, the 35th Session of the ICAO Assembly resolved, through Resolution A35-6, to expand USOAP to cover all safety-related Annexes by adopting a comprehensive systems approach in conducting safety oversight audits in all Contracting States and to reflect the CEs of a safety oversight system in the safety oversight audit reports. Due to its expanded coverage, Assembly Resolution A35-6 superseded Assembly Resolution A33-8.

2.1.7 In 2010, acknowledging the successful implementation of the USOAP comprehensive systems approach and its contribution to aviation safety, the ICAO Assembly at its 37th Session adopted Resolution A37-5 “to evolve the USOAP to a continuous monitoring approach (CMA), which will incorporate the analysis of safety risk factors and be applied on a universal basis in order to assess States’ oversight capabilities”.

2.1.8 Assembly Resolution A37-5 further directed the Secretary General to, among other things:

a) “ensure that the CMA continues to maintain as core elements the key safety provisions contained in Annex 1 - *Personnel Licensing*, Annex 6 - *Operation of Aircraft*, Annex 8 - *Airworthiness of Aircraft*, Annex 11 - *Air Traffic Services*, Annex 13 - *Aircraft Accident and Incident Investigation* and Annex 14 - *Aerodromes*”;

b) “develop criteria for the sharing of Significant Safety Concerns (SSCs) with interested stakeholders and assess how the information on SSCs could be shared with the public in a form which would allow them to make an informed decision about the safety of air transportation”; and

c) “make all safety oversight-related information generated by the CMA available to all Contracting States through the ICAO restricted website”.

2.1.9 Since January 2013, USOAP has transitioned to a CMA, evolving towards an information- driven, risk-based and results-oriented programme that includes the following tools and elements:

a) the online framework (OLF) and its multiple tools, applications and modules;

b) supporting documentation and guidance material;

c) upgrading of the USOAP CMA quality management system;

d) documentation of processes and procedures;

e) training of auditors and experts;

f) on-site activities in States;

g) off-site (validation) activities;

- h) mandatory information requests; and
- i) development and expansion of agreements with relevant partners to foster coordination and cooperation.

*Note.- More detailed information about USOAP, specifically the policy, procedures and guidance on the management and conduct of programme activities under the CMA, can be found in the Universal Safety Oversight Audit Programme Continuous Monitoring Manual (Doc 9735).*

2.1.10 Annex 6 - *Operation of Aircraft, Part I -International Commercial Air Transport - Aeroplanes* and Part III - *International Operations - Helicopters* first introduced the eight CEs as an Appendix to an Annex to the Chicago Convention, in recognition of the importance of highlighting the need for States to address these elements at the level of SARPs for air operators. With the initial adoption of Annex 19 in 2013, the applicability of the eight CEs as SARPs was extended more generally to the full range of civil aviation operations addressed by the Annexes to the Chicago Convention. In the first amendment to Annex 19 adopted in 2016, the eight CEs were integrated with the State safety programme (SSP) elements in Chapter 3, “State Safety Management Responsibilities”, to create a streamlined set of provisions. The relationship between an SSO system and an SSP is underlined by the statement that “...the State safety oversight system critical elements ... constitute the foundation of a State’s SSP” (Annex 19, Chapter 3, Note 1 refers).

## **2.2 STATES’ SAFETY OVERSIGHT RESPONSIBILITY**

2.2.1 While recognizing the fundamental principle that every State has complete and exclusive sovereignty over the airspace above and within its territory, the Chicago Convention also establishes the privileges and obligations of all Contracting States on civil aviation activities. It is the articles of the Chicago Convention and its 19 Annexes, covering the entire spectrum of civil aviation operations, that underpin the safety oversight responsibility of Contracting States.

2.2.2 The responsibility of Contracting States to regulate and supervise all their aviation activities to ensure the safe, efficient and regular operation of air services is underscored in particular by three articles of the Chicago Convention.

2.2.3 Article 37 of the Chicago Convention specifies that “each contracting State undertakes to collaborate in securing the highest practical degree of uniformity in regulations, standards, procedures and organization in relation to aircraft, personnel, airways and auxiliary services in all matters in which such uniformity will facilitate and improve air navigation”. This uniformity is achieved by integrating the SARPs adopted and amended by ICAO into the national legal framework and

practices of the Contracting States and by implementing them in a timely manner for the safety, regularity and efficiency of air navigation worldwide.

2.2.4 Article 12 of the Chicago Convention requires its Contracting States to implement and enforce the SARPs contained in the Annexes to the Convention. It explicitly states that:

“Each contracting State undertakes to adopt measures to insure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, shall comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under this Convention...Each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable.”

2.2.5 Under Article 38 of the Convention, a Contracting State “shall give immediate notification to the International Civil Aviation Organization of the differences between its own practice and that established by the international standard” in case:

- a) it finds it impracticable to comply with any international standard or procedure; or
- b) it finds it impracticable to bring its own regulations or practices into full accord with any international standard or procedure after amendment of the latter; or
- c) it deems it necessary to adopt regulations or practices differing from those established by international standard.

### **2.3 STATE SAFETY OVERSIGHT (SSO) SYSTEM**

2.3.1 An effective and sustainable SSO system is characterized by the following:

- a) the promulgation and timely amendment of national legislation and guidance to industry, as well as their effective implementation by service providers that is verified by the State in a continuous and systemic manner;
- b) a well-balanced allocation of responsibilities between the State and the industry for civil aviation safety;
- c) the continuous allocation of the necessary financial and human resources for the State authorities to effectively carry out their responsibilities, functions and activities; and
- d) the maintenance of harmonious relationships, including communication and consultation between the State and the civil aviation industry, while maintaining



effective and clearly separate functional roles.

2.3.2 To discharge its safety oversight responsibilities, each State should enact primary aviation legislation to provide for the development and promulgation of specific operating regulations which should be consistent with the provisions adopted by ICAO, including the Annexes to the Chicago Convention.

2.3.3 A balanced safety oversight system is one in which both the State and the aviation industry share responsibilities for the safe, regular and efficient conduct of civil aviation activities. This relationship should be established in the primary aviation legislation and specific operating regulations and put into practice as a matter of policy and methodology of the CAA.

2.3.4 When the State is both the regulatory authority and service provider (e.g. an air traffic service (ATS) provider, aerodrome operator, air operator, manufacturer or maintenance organization), the requirements of the Convention will be met, and public interest be best served, by a clear separation of functions and responsibilities between the regulatory authority and the service provider. The approval, certification and continued surveillance procedures should be followed as though the service provider were a non-governmental entity.

## **2.4 STATE COMMITMENT TO AVIATION SAFETY**

2.4.1 Over the years, ICAO and its Member States have collaborated to develop uniform SARPs and procedures for the safe and orderly development of international civil aviation as well as for sound and economical international air transport services. United by a common cause and commitment, ICAO and its Member States have been able to confront crucial issues and, to a great degree, overcome the challenges encountered. Through the years, however, the challenges faced by the aviation community in general and State CAAs in particular have grown in number and complexity. This, in turn, requires stronger and heightened State commitment to aviation safety.

2.4.2 A number of factors that are in play underline the importance of renewed commitment and political will on the part of governments:

a) an increased involvement of non-traditional sectors in civil aviation, necessitating a significantly heightened attention to matters of aviation safety within the context of wider policy initiatives;

b) increasing globalization of civil aviation itself, exemplified by foreign and multi-national ownership and alliances of airlines, joint marketing arrangements, multinational approaches to both technical and economic regulations, along with increasing interaction between domestic and international civil aircraft operations;

c) an increasing demand for flights and for the infrastructure and services that such demand generates. The growth of air transport is surpassing the capacity of many aerodromes and airspace utilization, causing authorities to reconsider concepts, processing methods and facilities. This presents the challenge of providing additional capacity while maintaining or even improving safety levels;

d) increasingly intense social, economic, political, environmental and other pressures on civil aviation policy, particularly at the national and regional levels. Such pressures can result from rapid changes to socio-economic systems, which can have global effects (for example, rising expectations by society of safety levels). These pressures can also lead to conflicts such as those between safety and environmental obligations. In meeting environmental obligations, those relating to safety should not be compromised;

e) aviation safety is essential to ensure the healthy development of the air transport sector, which is a catalyst for sustainable development. Air transport impacts tourism and trade. It serves as the main mode of transportation to deliver humanitarian relief and response to crises and public health emergencies. It generates other socio-economic benefits which help eradicate poverty by creating jobs and enhancing air connectivity.

2.4.3 Responding to these pressures and to the increased complexity and cost of aviation systems places significant financial constraints on CAAs throughout the world. These constraints have a significant bearing on the fundamental objectives of the Chicago Convention, as it has been observed that they are the root cause of non-implementation of the international Standards adopted by ICAO.

2.4.4 Information available to ICAO shows that a number of Member States have experienced difficulties in carrying out their safety oversight responsibilities for many diverse reasons. Nevertheless, the obligation remains with individual States, and the successful resolution of difficulties requires a solid and transparent commitment from governments. State authorities responsible for safety oversight should therefore be provided with the necessary resources, both human and financial, to enable them to effectively fulfil their safety oversight responsibilities. These elements should be taken into account and prioritized by States when crafting their national development plans and air transport sector strategic plans.

2.4.5 Political will and budgetary resource allocation are essential to the establishment and sustainability of an SSO system and to ensuring Member States' compliance with ICAO SARPs. Many States face the challenge of the initial investment costs for building an effective and sustainable civil aviation safety

oversight system. However, the socio-economic benefits and contributions of aviation to a State's sustainable development can offset such costs. Thus, States need to find a balance between the cost of establishing and sustaining their CAA and the ability of the industry and stakeholders to contribute to the funding of such a system.

## **2.5 CRITICAL ELEMENTS OF A STATE SAFETY OVERSIGHT SYSTEM**

2.5.1 The CEs are essentially the safety defence tools of an SSO system needed for the effective and sustainable implementation of a safety-related policy and associated procedures. To establish and implement an effective and sustainable SSO system, ICAO Member States are required to implement eight CEs. The effective implementation of the CEs is an indication of a State's capability for safety oversight.

2.5.2 The eight CEs of an SSO system are interconnected and complement each other. CE-1 to CE-5 are presented as the "Establishment CEs", while CE-6 to CE-8 are the "Implementation CEs". They are as follows:

The "*Establishment CEs*":

CE-1 - Primary aviation legislation; CE-2 - Specific operating regulations; CE-3 - State system and functions; CE-4 - Qualified technical personnel ;

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

The "*Implementation CEs*":

CE-6 - Licensing, certification, authorization and approval obligations; CE-7 Surveillance obligations; and

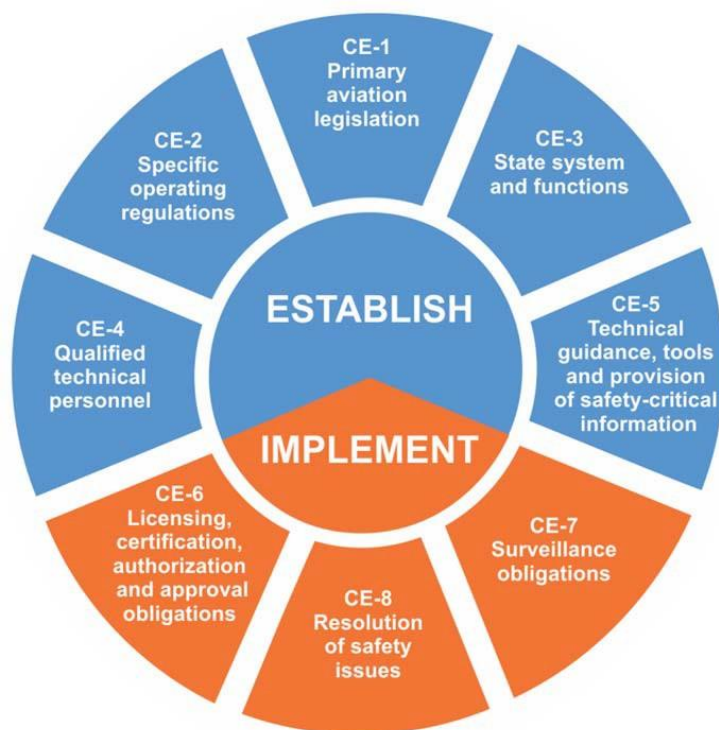
CE-8 Resolution of safety issues.

*Note.- It should be noted that there are some implementation aspects related to CE-2 to CE-5, e.g. the implementation of a process for amending regulations (part of CE-2) and the implementation of training programmes and training plans (CE-4).*

2.5.3 Further elaboration of the eight CEs, including their definitions as outlined in Annex 19, can be found in Chapter 3 of this manual.

## Chapter 3

### CRITICAL ELEMENTS OF A STATE SAFETY OVERSIGHT SYSTEM



**Figure 3-1. Eight critical elements of a State safety oversight system.**

#### **3.1 PRIMARY AVIATION LEGISLATION (CE-1)**

*Note.- Throughout this manual, the term “legislation” is used as a generic term to include primary aviation legislation and specific operating regulations.*

*CE-1. Primary aviation legislation.* The promulgation of a comprehensive and effective aviation law, commensurate with the size and complexity of the State’s aviation activity and consistent with the requirements contained in the Convention on International Civil Aviation, to enable the oversight and management of civil aviation safety and the enforcement of regulations through the relevant authorities or agencies established for that purpose. The aviation law shall provide personnel performing safety oversight functions access to the aircraft, operations, facilities, personnel and associated records, as applicable, of individuals and organizations performing an aviation activity.

3.1.1 “Primary aviation legislation” is a legislative instrument known as the “civil aviation act” or “civil aviation law” that is applicable to all individuals and

organizations subject to the laws of the State concerned. The Chicago Convention, in most of its Articles, refers to a State's national laws and regulations relating to the admission to or departure from its territory of aircraft engaged in international civil aviation. It refers to State legislation relating to the operation and navigation of such aircraft while within its territory, the registration of aircraft in the State, and the flight and manoeuvring of aircraft, including the certification of airworthiness and licensing of personnel. The Convention also refers to State legislation on the provision of air navigation services (ANS) and aerodromes to facilitate international air navigation. Finally, under the Convention, States are called on to legislate to enable the investigation of accidents.

3.1.2 While the Convention, in some of its Articles, refers to “regulations” (instruments that may be interpreted as subsidiary legislation) that could be *satisfactorily implemented* without having to establish primary aviation legislation at a national level, it also requires States to align such “regulations” with those provided by the Annexes to the Convention. Article 12 further stipulates that “each contracting State undertakes to insure the prosecution of all persons violating the regulations applicable”.

3.1.3 For example, legislative provisions are necessary to address the treatment of obstacles, equipment and activities affecting navigable airspace. Such provisions should, in particular, require individuals and organizations to notify and request approval from the CAA when:

- a) proposing the construction or alteration of a structure, light or equipment that could pose a hazard in navigable airspace; and
- b) engaging in activities that could pose a hazard in navigable airspace.

In addition, the provisions should allow the CAA to impose modifications to or the elimination of the construction or activity in order to safeguard navigable airspace.

3.1.4 Implementation of the requirements contained in the Convention and the thousands of Annex provisions requires that a State establish aviation legislation at the appropriate level, taking into consideration the State's legal framework. By inference, the Articles of the Convention referring to a State's legislation require that the State promulgate primary aviation legislation, as needed, to serve as the legal basis for the safety oversight activities in the State.

3.1.5 Primary aviation legislation should enable the government and its administration, through the establishment of an empowered CAA, to proactively and effectively regulate and supervise civil aviation activities, notably in relation to:

- a) the qualifications and competency of aviation personnel, by using a

personnel licensing system (e.g. issuance/validation, renewal, suspension or revocation/cancellation of licences and certificates of competency, as appropriate); and

b) The operation of aircraft and support functions by using a system for the registration, issuance/validation, renewal, suspension, and revocation/cancellation of licences, certificates, authorizations and approvals, as appropriate. These support functions include:

- airworthiness inspection and airworthiness engineering, as appropriate; issuance of airworthiness directives and design approvals; and approval of manufacturing and maintenance organizations;

- ATS and other ANS including meteorological and search and rescue services;

and

- aerodrome development, design, and operation and certification.

3.1.6 Primary aviation legislation is the key to effective and sustainable safety oversight by the State. In particular, it empowers the designated authorities to promulgate and amend, as needed, specific operating regulations. It also provides empowerment, such as granting the necessary access and inspection powers to the State's inspectors. When a State establishes an autonomous CAA, this needs to be based on provisions in the primary legislation.

3.1.7 Primary legislation should also contain the legal basis for enforcement, including the ability to impose operating restrictions, suspend or revoke licences, certificates, authorizations or approvals as well as impose financial penalties.

3.1.8 With respect to aircraft accident and incident investigation, CE-1 is used to address the necessary legislative provisions which should be promulgated by the State. Such provisions should provide, in particular, for the establishment of an independent accident investigation authority, the assurance of independence in the conduct of accident and serious incident investigations, the empowerment of investigators, and the protection of certain accident and incident investigation records. In addition, provisions requiring the immediate notification of accidents and serious incidents should also be included in the State's primary legislation.

## **3.2 SPECIFIC OPERATING REGULATIONS (CE-2)**

**CE-2. *Specific operating regulations.*** The promulgation of 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.

### 3.2.1 General requirements

3.2.1.1 Specific operating regulations should be comprehensive, clear, consistent and up to date.

3.2.1.2 The State's specific operating regulations should conform with the Annexes to the Chicago Convention. Annexes contain SARPs which have been agreed upon by Member States. SARPs are designed to provide the minimum necessary and desirable requirements to be met by all Member States, regardless of the size and complexity of their civil aviation activity. However, Annexes are not written in a manner that supports transposing the SARPs verbatim into a State's regulations. Therefore, it is the responsibility of States to develop regulations which contain sufficient details that are consistent with their legal frameworks, including the non-aviation areas.

3.2.1.3 It is also the responsibility of a State to develop and implement a process to ensure the timely amendment of the specific operating regulations, as necessary, in order to keep pace with the amendments to the Annexes to the Convention. The system in place should ensure that the regulations are issued at the appropriate level, as provided for by the State's primary legislation. It should also ensure that the overall legislation is consistent and, in particular, that regulations are repealed when replaced by new ones.

3.2.1.4 The State's own regulations govern all relevant aspects of its civil aviation activities, including, among others, requirements leading to the issuance or validation of licences, ratings, certificates and approvals, as appropriate. At the same time, the State should bear in mind its obligation under Article 37 of the Convention (See Chapter 2, Section 2.2. on States' Safety Oversight Responsibility).

3.2.1.5 The State's regulations need to be formulated in legal phraseology. They should also be written in such a way that they can be easily understood and used by the industry as well as by the staff of the licensing, certificating and approving authority in the execution of their day-to-day activities.

### 3.2.2 Adopting or adapting regulations from other States or regional organizations

3.2.2.1 ICAO Member States have the option of adopting the specific operating regulations of another Member State or those developed by a regional safety oversight organization (RSOO). Even though the unilateral adoption of the specific operating regulations of another State or an RSOO may have some advantages, such as enhanced exchange of operating crew and aircraft, it should be done only after ensuring that the regulations have been updated to include the

relevant ICAO SARPs and that they are aligned with the primary aviation legislation of the adopting State. The State should also take into consideration the differences between its aviation environment and that of the State from which it intends to adopt the regulations.

3.2.2.2 A State with a limited aviation environment should be careful not to place undue burden on its aviation industry and its technical personnel by adopting excessively restrictive specific operating regulations. A better option would be to begin with the specific operating regulations of a State that is similar (e.g. same language, similar size and level of complexity of aviation systems) and then adapt these specific operating regulations to conform to the local aviation environment while ensuring consistency with the Annexes to the Chicago Convention.

3.2.2.3 A State should at all times ensure the overall consistency of the legal framework in place, taking care to avoid contradictions and/or inconsistencies between provisions contained in different regulations in force.

### 3.2.3 Differences between national regulations and Annex Standards

3.2.3.1 Article 38 of the Convention lays down the conditions under which a State “shall give immediate notification to the International Civil Aviation Organization of the differences between its own practice and that established by the international standard”. Whether such differences result in implementing lower or higher standards than those required by ICAO, the Council of ICAO is obligated to make an immediate notification to all other States of the difference which exists between one or more features of an international Standard and the corresponding regulations and practices of the notifying State.

3.2.3.2 States are strongly encouraged to use the Electronic Filing of Differences (EFOD) system that is hosted within the USOAP OLF for the filing of differences to ICAO.

3.2.3.3 Significant differences should also be made public in the State’s Aeronautical Information Publication (AIP). Information regarding significant differences is found in the *Aeronautical Information Services Manual* (Doc 8126).

3.2.3.4 It should be noted that, in some instances, the filing of differences with respect to international Standards may mean that a State cannot then continue to do business as usual. Article 40 of the Convention infers that if standards implemented by a State are lower than those required by ICAO, aircraft, air operators or personnel with licences or certificates issued or rendered valid by that State cannot participate in international air navigation, except with the permission of the State or States whose territory is entered. The responsibility to obtain such permission rests with the



individual or civil aviation organization whose licence or certificate has been so issued or rendered valid, although a State may also request blanket permission on behalf of its licence or certificate holders.

#### 3.2.4 Aircraft registration and airworthiness

3.2.4.1 The State's specific operating regulations related to the registration of aircraft should, at a minimum, conform to the Standards of Annex 7 - *Aircraft Nationality and Registration Marks*. To make the aircraft eligible for international operations, the State of Registry must ensure that the issuance of its airworthiness certificate is in compliance with the detailed and comprehensive airworthiness code applicable to the type of aircraft. The Chicago Convention stipulates that every aircraft of a Contracting State, engaged in international air navigation, shall carry a Certificate of Registration and a Certificate of Airworthiness (Article 29). It also states that the Certificate of Airworthiness shall be issued or rendered valid by the State in which the aircraft is registered (Article 31). Furthermore, the Convention indicates that Contracting States shall recognize as valid the Certificate of Airworthiness issued or rendered valid by the State of Registry, provided that the requirements under which the Certificate was issued or rendered valid are equal to or above the minimum Standards which may be established by ICAO (Article 33).

3.2.4.2 Minimum airworthiness Standards are contained in Annex 8 - *Airworthiness of Aircraft*. However, the technical specifications in Annex 8 include only broad Standards which define, for application by competent State authorities, the complete international basis for the recognition of Certificates of Airworthiness (issued by the State of Registry) for the purpose of flight of aircraft of other States into or over their territories. Thus, it is necessary that each State develop its own comprehensive specific airworthiness operating regulations consistent with the provisions of Annex 8 or adopt and implement appropriate airworthiness operating regulations developed by another Contracting State.

3.2.4.3 In the development of national airworthiness operating regulations, consideration must be given to the fact that the State of Registry has the ultimate responsibility for ensuring that every aircraft on its register conforms to the approved type design in accordance with the airworthiness code that it has adopted or accepted for that class of aircraft. Furthermore, the State of Registry has the responsibility of ensuring that every aircraft on its register is maintained in an airworthy condition throughout its service life. Although the methods of discharging the foregoing State airworthiness responsibilities may vary, and in some cases may involve the transfer of certain tasks to authorized organizations or other States, such arrangements do not

relieve the State of Registry from its overall responsibility, except when a transfer agreement is concluded under the provisions of Article 83 *bis* of the Chicago Convention.

3.2.4.4 The State of the Operator, when different from the State of Registry, also has the responsibility to ensure that the operator takes all necessary actions to keep its aircraft in an airworthy condition. If a transfer agreement in terms of Article 83 *bis* is in place between such States, the oversight functions and duties of such States with respect to specific aircraft must be clearly allocated.

*Note.- Guidance on the transfer of oversight functions and duties under an Article 83 bis agreement is found in the Manual on the Implementation of Article 83 bis of the Convention on International Civil Aviation (Doc 10059).*

### 3.2.5 Air operator certification and surveillance

3.2.5.1 With respect to the certification and surveillance of an air operator, a State's specific operating regulations should provide a framework of regulatory requirements, and they should also allow the operator the flexibility to develop instructions for the guidance of personnel on the details essential to the conduct of the operation. This helps to facilitate the development of the operating standards and techniques best suited to particular circumstances and conditions. It should however be recognized that, while the scope of the specific operating regulations will need to be extensive, it may not be feasible or desirable to attempt to cover every conceivable operational detail.

3.2.5.2 The State's specific operating regulations must require the operator to submit to the CAA detailed operating instructions and procedures governing the conduct of operations as a basis for certification and the conduct of operations. As required by Annex 6 - *Operation of Aircraft*, Part I - *International Commercial Air Transport - Aeroplanes* and Part III - *International Operations - Helicopters*, the operating instructions and procedures must be submitted in the form of an operations manual and a maintenance control manual containing at least the material specified in Annex 6, Parts I and III, and any other material that the CAA may require.

### 3.2.6 Provision of air navigation services and aerodromes

3.2.6.1 Each State undertakes to adopt measures to ensure that every aircraft flying over or manoeuvring within its territory complies with the specific operating regulations relating to the flight and manoeuvre of aircraft therein. The Chicago Convention requires States to provide, in their territories, the necessary ANS and aerodromes to facilitate international air navigation.

3.2.6.2 To provide the necessary ANS and aerodromes, States are required to

adopt and apply appropriate standard systems of communications procedures, codes, markings, signals, lighting and other operational practices and rules, as well as to ensure the publication of appropriate aeronautical charts.

3.2.6.3 SARPs adopted from time to time and related to the provision of services to the aviation industry are defined in the following Annexes to the Chicago Convention:

*Annex 2 - Rules of the Air*

*Annex 3 - Meteorological Service for International Air Navigation*

*Annex 4 - Aeronautical Charts*

*Annex 10 - Aeronautical Telecommunications*

*Annex 11 - Air Traffic Services Annex 12 - Search and Rescue Annex 14 - Aerodromes*

*Annex 15 - Aeronautical Information Services*

*Annex 19 - Safety Management*

3.2.7 Exemptions and exceptions

3.2.7.1 Compliance with the State's regulatory requirements is obligatory. However, on some occasions, there might be instances where full compliance is not feasible. In those instances, exemptions or exceptions may be granted by the State. Such measures must be supported by appropriate, robust and documented safety risk assessments or aeronautical studies and imposition of limitations, conditions or mitigation measures, as appropriate.

3.2.7.2 Exemptions and exceptions should not be used to overcome an unpopular requirement or to suggest that compliance with a requirement is optional. The use of the exemption and exception mechanisms needs to be the exception, not the norm.

3.2.7.3 Any exception or exemption should only be granted on the basis of a robust rationale. Therefore, the issuance of exceptions or exemptions that are not supported by safety risk assessments or aeronautical studies and by thorough reviews by the competent authority is *not acceptable*. A safety risk assessment or aeronautical study should be developed by the service provider to demonstrate whether an equivalent level of safety or an alternative acceptable means of compliance can be achieved. Review and acceptance of such an assessment or study should be performed by the CAA at the appropriate level.

3.2.7.4 All cases involving the granting of exceptions and exemptions should be fully documented and the outcome should be published as appropriate, such as on the CAA website, in the AIP and/or in safety assurance documents (e.g. the

aerodrome manual or the air operator's operations manual held by the regulator and service provider). The publication should include references to relevant limitations, conditions or mitigation measures, as appropriate. Furthermore, the service provider needs to regularly review any exceptions or exemptions with a view to removing the need for such exceptions or exemptions, where possible, as well as check the validity and robustness of any mitigating measures in place. The regulator also needs to assess, before granting an exception or exemption, whether the exception or exemption would lead to differences from SARPs and, if so, ensure that the State notifies ICAO of the differences.

### **3.3 STATE SYSTEM AND FUNCTIONS (CE-3)**

**CE-3. *State system and functions.*** The establishment of relevant authorities or government agencies, as appropriate, supported by sufficient and qualified personnel and provided with adequate financial resources for the management of safety. The State authorities or agencies shall have stated safety functions and objectives to fulfil their safety management responsibility.

#### **3.3.1 Establishing a State civil aviation system**

3.3.1.1 For a State to fulfil its obligations as outlined in the Chicago Convention, the national legislation should provide for an appropriately organized, funded and empowered civil aviation system, structured to effectively fulfil the tasks that it is expected to undertake. In practice, it is necessary that the State establish an appropriate and practical organization and employ the needed personnel, including technical personnel and support staff, to carry out its safety oversight functions and duties.

3.3.1.2 Since aviation activities and requirements differ from State to State, so do their respective civil aviation systems and organizations; it is therefore not appropriate to suggest a one-size-fits-all model as guidance for Member States. Some larger States may feel it necessary and efficient, as well as effective, to establish regional offices as well as a Headquarters office. In such cases, processes should exist to ensure effective management and communication with the main office and necessary access to library and other common documents, as well as standardization, taking account of any appropriate regional differences. It should be noted, however, that the scope of authority and responsibility of a civil aviation system should not vary substantially from State to State, and that whatever the size of the CAA, it should always ensure that a proper system of checks and balances is maintained.

3.3.1.3 In deciding upon the required organizational structure of the civil aviation system, a State should assess its requirements as outlined in several Annexes

to the Convention and associated guidance material, keeping in view the size and complexity of aviation activity in the State. The State should ensure that the established structure addresses all the technical areas applicable, with respect to functions related to safety oversight, safety data collection and processing, and accident and incident investigation. These functions should be clearly defined without overlap, along with the coordination mechanisms between the authorities involved, when applicable.

3.3.1.4 In some States, an Aviation Medical Unit is attached to the section in charge of personnel licensing. However, several States have found it necessary to establish a separate Aviation Medicine Section within the Flight Safety Standards Department or equivalent, working in close coordination with the section in charge of personnel licensing.

3.3.1.5 In case of multiple authorities responsible for safety oversight, the State should clearly define the responsibilities, functions and duties of each authority with respect to safety oversight specifically, and the coordination mechanisms among them.

3.3.1.6 In States where the size of the aviation industry is relatively small and the level of complexity relatively low, the State may be able to fulfil its responsibilities in a cost-effective manner through arrangements with other States or an RSOO.

### 3.3.2 Staffing requirements

3.2.1 To effectively fulfil its responsibilities, a State civil aviation system needs to be properly organized and staffed with qualified personnel capable of accomplishing the required wide range of technical duties involved in safety oversight. Furthermore, they should also enjoy employment conditions which are competitive compared to those offered by the industry in the State. In that respect, Annex 19 established the following Recommended Practice: “States should take necessary measures, such as remuneration and conditions of service, to ensure that qualified personnel performing safety oversight functions are recruited and retained”.

3.2.2 All State technical personnel authorized to perform licensing, certification, approval and/or surveillance functions, as applicable, need to possess appropriate credentials (with the empowering legislation indicated) identifying them as technical experts employed by the State authorities, with the right to unlimited and unrestricted access to aircraft, aviation-related documents, aerodromes, ATS and other relevant facilities and the associated inspection powers, as applicable and as

provided by the State's primary legislation. They also need to be provided with guidance that addresses ethics, personal conduct and the avoidance of actual or perceived conflicts of interest in the performance of official duties.

3.2.3 It is essential that a State apply a methodology to determine its staffing needs for personnel performing safety oversight functions, taking into account the size and complexity of aviation activities in the State. Particular attention should be paid to ensure that the determined staffing needs enable adequate coverage of all the technical disciplines required for effective safety oversight in the various areas.

3.2.4 The cost of recruiting and retaining qualified technical personnel who satisfactorily meet the requirements of the profession represents a significant financial commitment and may require revisions to long-standing policies and regulations regarding remuneration for qualified technical personnel. In order to recruit and retain appropriately qualified personnel who combine professionalism and integrity, it is essential that the State authorities become a competitive employer. Furthermore, States should have appropriate recruitment policies, terms of employment and practices in place.

3.2.5 It is recognized that some States (particularly those where the level of commercial air transport activity is low) may not be in a position to meet their staffing requirements due to a lack of qualified local personnel or the inability to obtain the necessary budgetary allocations. In some States, particularly when the State is also a service provider, personnel from the service provider are designated by the CAA to carry out fundamental CAA inspection functions. Such an arrangement should be *avoided* as it does not provide independent technical supervision and may lead to perceived or actual conflicts of interest. However, when properly controlled by the CAA, the designation of qualified service provider personnel to assist in some inspection functions can be acceptable in terms of safety and is generally economically beneficial to both the State and the service provider. In such cases, the designated service provider personnel, when performing their designated duties, need to be kept under the supervisory and technical control of the CAA.

3.2.6 For those States which have determined that it is not feasible to maintain a full range of CAA technical staff to carry out the complete CAA safety oversight function, one option is to establish a small, technically competent and experienced nucleus of CAA technical personnel. To augment this nucleus and thus be able to carry out its full safety oversight responsibilities, the CAA should consider entering into agreement with other States or with an RSOO for assistance, on a part-time or

cooperative basis, in performing certain detailed tasks requiring specialized skills and experience. Alternatively, or in combination with the foregoing, the CAA could also consider the employment of a competent commercial organization that would supply qualified personnel, as needed, to perform the required inspection functions in an advisory capacity for the CAA.

3.2.7 Regardless of the arrangements that a State makes, it is in no way relieved of its ultimate responsibility for the safe, regular and efficient conduct of aviation within its jurisdiction. It is essential that agreements or contracts for the enforcement of inspection responsibilities and duties be explicit in their requirements.

### 3.3.3 Delegation of safety oversight functions and activities

3.3.3.1 States without sufficient resources or competencies might consider delegating specific safety oversight functions and activities to an RSOO, a regional accident and incident investigation organization or another State. States may also consider delegating activities to other recognized entities — like trade associations, industry representative organizations or other bodies that may collect and analyse data on their behalf, provide training or conduct surveillance and monitoring activities.

3.3.3.2 Although a State may delegate specific functions and activities, it will still need sufficient personnel to interact with the delegated entity and to process information provided by that entity. States should also consider the establishment of appropriate technical and administrative processes to ensure that the delegated functions are carried out effectively. With respect to surveillance activities, the State should ensure that it retains access to surveillance records with the relevant documented outcomes.

3.3.3.3 States should note that the ultimate responsibility for safety oversight remains with the States themselves, regardless of the safety oversight-related functions and activities that they may choose to delegate. The only exception to this is the transfer of responsibility from a State, as the State of Registry, to another State, as the State of the Operator, under the provisions of Article 83 *bis* of the Chicago Convention.

3.3.3.4 More information on the delegation of safety oversight functions and activities can be found in the *Safety Oversight Manual* (Doc 9734), Part B - *The Establishment and Management of a Regional Safety Oversight Organization* and the *Manual on Regional Accident and Incident Investigation Organization* (Doc 9946).

### 3.3.4 Establishment of service providers

3.3.4.1 Whether or not the provision of ANS and/or the operation of aerodromes is vested outside the CAA, States have to ensure effective and independent safety oversight by the CAA in its role as the regulator. A clear separation of functions and responsibilities between the regulatory authority and the service provider needs to be established, including mechanisms to avoid perceived, potential or actual conflicts of interest.

3.3.4.2 The regulatory authority and service providers should not overlap in structure, responsibility or function. In particular, for the regulatory authority to be able to take effective and independent actions, including enforcement action, if necessary, the regulatory authority and service provider should not report to the same higher level management, unless the State can demonstrate that a “functional” separation has robust checks and balances, and there is no possibility of conflict of interest, including when enforcement action is taken.

## **3.4 QUALIFIED TECHNICAL PERSONNEL (CE-4)**

**CE-4. *Qualified technical personnel.*** The establishment of minimum qualification requirements for the technical personnel performing safety-related functions and the provision of appropriate initial and recurrent training to maintain and enhance their competence at the desired level. States shall implement a system for the maintenance of training records for technical personnel.

### 3.4.1 Initial qualification and experience requirements for technical personnel

3.4.1.1 The tasks and activities involved in aviation safety oversight include a wide range of audits, inspections, evaluations, analyses and other interventions. Effective implementation of these tasks requires the intervention of sufficiently qualified personnel during the various stages of the process.

3.4.1.2 Guidance for the minimum qualifications of civil aviation inspectors is provided to States in the *Manual on the Competencies of Civil Aviation Safety Inspectors* (Doc 10070). The manual in particular elaborates on the need for entry level and/or qualification requirements for civil aviation inspectors in the different domains that are involved in licensing, certification and surveillance activities, including those who perform tasks and functions on behalf of the CAA. It is therefore imperative that States ensure that staff, prior to being recruited, have the minimum qualifications and experience required for the position to be filled.

3.4.1.3 The satisfactory execution of the various functions of the civil aviation inspectorate depends to a large extent on the qualifications, experience, competence and dedication of individual inspectors. In addition to the vital importance of



technical competency in performing certification, inspection and surveillance functions, it is critical that inspectors possess a high degree of integrity, be impartial in carrying out their tasks, be tactful, have a good understanding of human nature and possess good communication skills. Considering the specialized and sensitive nature of the civil aviation inspector's mission, it is vitally important that the qualifications, previous experience and personal characteristics of each person employed, whether directly or on contract, to perform licensing, certification and surveillance duties be verified and carefully evaluated before selections are made.

3.4.1.4 A civil aviation inspector should be fully qualified, with specific regulatory skills, and demonstrate a minimum appropriate level of technical knowledge. The qualifications of a civil aviation inspector should ideally match the qualifications of those who are being inspected. For example, licensing examiners involved in conducting examinations and tests should possess qualifications and experience similar to or above those of the applicants being tested or examined. However, it is not expected that, in all cases, an inspector would possess the same experience as the personnel being inspected.

3.4.1.5 The organization with safety oversight responsibility should be organizationally competent; this may require a team of inspectors with a mix of disciplines. As a team, they should be as knowledgeable, qualified and experienced in the appropriate areas of qualification and experience as the organization being inspected. The maintenance of licences and other skills or qualifications and of an acceptable level of proficiency and knowledge of civil aviation activities, limitations, equipment, systems, operations, etc. will permit civil aviation inspectors to better assess the knowledge, techniques and overall competence of the civil aviation personnel and service providers.

3.4.1.6 In the case of medical assessors, it is essential that they be suitably qualified and experienced in the practice of aviation medicine, at least to the level of the physicians responsible for the medical examinations to be conducted. Inspection of the Medical Section of the CAA, the aviation medicine clinic accredited to the CAA for extended health examinations of licence holders, and the network of designated medical examiners should be conducted with due respect for the appropriate confidentiality involved. In many smaller States, the only available competent medical assessors are most likely to be the physicians who are already part of the system to be inspected. Consequently, in many cases, an agreement should be reached whereby medical assessors can be appointed from or made available by other Member States, possibly on the basis of mutual exchange.

*Note.- Guidance on medical assessment and procedures is found in the Manual of Procedures for Establishment and Management of a State's Personnel Licensing System (Doc 9379).*

#### 3.4.2 Training of technical personnel

*Note.- Guidance on training and qualification of inspectors is found in the Manual on the Competencies of Civil Aviation Safety Inspectors (Doc 10070).*

3.4.2.1 To ensure that technical personnel receive the required training in an effective manner and maintain their competency, a robust training system needs to be established and implemented by the State authorities. This system should be based on a documented training policy established and signed at the management level of the State authorities.

3.4.2.2 The training policy should commit to provide all necessary training to all technical personnel in all areas, including initial training (e.g. induction and basic training), on-the-job training (OJT), recurrent training and specialized or advanced training. Furthermore, the training policy should require the establishment of a training programme for each technical staff position and training plans for each technical staff member.

3.4.2.3 The State authorities also need to provide the necessary financial resources and time for their technical personnel to receive the required training.

3.4.2.4 A training programme should be developed for each technical staff position. The training programme should include all the training required for the incumbent of the position to acquire and maintain the necessary competencies for the position as well as to effectively perform the related safety oversight functions and activities. The required training includes initial training, OJT, recurrent training and all the specialized training necessary for that technical position, with the minimum content for each type of training, as applicable.

3.4.2.5 For each technical staff member, a periodic training plan should be developed based on the training programme established for the staff member's position. The training plan should detail the type of training to be provided during a specified timeframe as well as the training priorities. As a principle, a staff member can only be authorized to perform safety oversight duties in the area or subject where the staff member has satisfactorily completed the required training and maintains the required competence.

3.4.2.6 Training of the State's technical personnel is not limited to strictly professional elements, such as the maintenance of competency and currency. In particular, it is essential that civil aviation inspectors also be provided with training

on subjects such as applicable CAA regulations, inspectors' skills, knowledge, duties and responsibilities, and CAA procedures for the implementation and enforcement of requirements.

3.4.2.7 Technical personnel should satisfactorily complete OJT before being assigned safety oversight-related tasks and responsibilities. OJT should be provided by experienced, senior technical staff in the subject area or task, and should follow a structured process, such as observing, working under supervision, competence assessment and authorization, etc. It is important to ensure that staff are only authorized to perform tasks after having been assessed as qualified. The completion of the OJT, including the competency assessment, should be properly documented.

3.4.2.8 The State's technical personnel represent the authority and, as such, require the continuing development of knowledge and skills related to their respective responsibilities. This should be accomplished through periodic training and refresher courses in all the disciplines for which the technical personnel are responsible. Participation in seminars and workshops organized by ICAO and international and regional aviation-related organizations can also enable the State's technical personnel to widen their horizons and share experience with experts from other Member States. Additional studies, such as courses in technical report writing and supervisory training, will also assist technical personnel in improving their effectiveness and efficiency.

3.4.2.9 Periodic practical and theoretical specialized (technical) training will enable the State's technical personnel to achieve and maintain a high level of knowledge and expertise and thus undertake their duties and responsibilities in a more effective and efficient manner.

3.4.2.10 The State authorities should establish and implement a system for the maintenance of training records for their technical personnel. This includes records of the OJT received, reflecting the various phases of the OJT completed (i.e. observation, performance of tasks under supervision and final assessments) as well as the assessment of competence of the personnel.

### **3.5 TECHNICAL GUIDANCE, TOOLS AND PROVISION OF SAFETY-CRITICAL INFORMATION (CE-5)**

*CE-5. Technical guidance, tools and provision of safety-critical information.* The provision of 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. States shall provide technical guidance to the aviation industry on the implementation of relevant regulations.

3.5.1 The provision of sufficient guidance material serves two purposes. The first is to provide guidance to technical personnel on how to accomplish their specific functions and activities. The second is to enable management to ensure that safety oversight functions and activities are carried out in an effective and standardized manner.

3.5.2 States need to develop and publish their own technical guidance material. Technical guidance material from ICAO, another State or an RSOO can be used as a base in the preparation of the State's guidance material, which should be customized as needed, in particular to reflect the national legislation, organization and practices. Such guidance material should address all activities of the State's aviation authority and all the tasks performed by its staff.

3.5.3 In general, procedures for a specific task or activity should address the following question:

*Who does what, how, when and in coordination with whom? Note.- This list is indicative and not exhaustive.*

**WHO:**

- a) Define, as clearly as possible, the entities (e.g. CAA department or job position concerned) in charge of each task.
- b) Define who has the authority to decide, particularly with respect to enforcement aspects.
- c) Define who has the authority to approve the results, reports, etc. or to sign letters, reports, licences, certificates, etc.

**WHAT:**

- a) Define each step of the process and each task to be performed.
- b) Indicate the expected result (report, licence, certificate, etc.).
- c) When applicable, indicate (and attach to the procedure) the template to be used or the format of the result.
- d) As necessary, establish the link with other procedures.

**HOW:**

- a) Provide the necessary practical details and methodology, as applicable, for each task.
- b) Indicate the sequence of actions.
- c) Indicate the type of documents to be reviewed and how.
- d) Describe ways and means to ensure the traceability of the activity

(including the documents, often copies thereof, to be retained).

e) Refer to applicable checklists or forms used for the conduct of the activity at the points in the procedure where they are to be used.

WHEN:

a) If the procedure is part of a process, the step of the process at which the said procedure takes place.

b) For repetitive action (e.g. continuing surveillance), the periodicity and the maximum interval between two actions.

c) The maximum time period for completion of each task or the deadline for completion of each step.

IN COORDINATION WITH WHOM - If external entities participate in the activity, they need to be identified as clearly as possible.

3.5.4 Procedures may be supplemented, as appropriate, by checklists and/or test methods. The checklist should focus on specific aspects related to verification and each result or document to be obtained.

3.5.5 It may be useful to develop guidance for some items of the checklists as necessary, describing:

a) what is to be verified;

b) by which method (e.g. whether this item calls for a document review or a physical inspection);

c) the type of results to be obtained (e.g. physical measurement, test results to be recorded, copy of a service provider's document, interview evaluation); and

d) how completed checklists and related documents should be filed.

3.5.6 In general, procedures are compiled in the form of an inspector's handbook, which should be presented in a logical and user-friendly manner and include references to appropriate checklists and templates.

3.5.7 Inspectors and staff should be provided with the necessary tools, such as transportation as applicable, offices, telephones and other communication facilities, to enable the effective accomplishment of their tasks. Access to the Internet to supplement a technical or an electronic library is a necessity in today's world of information and communication technology.

3.5.8 States should also develop guidance for the industry to explain how the regulatory provisions should be implemented within the State. It may also include templates and standard format for documents to be established by each service provider concerned.

3.5.9 To foster safety in the aviation operational environment, the supply and

speedy dissemination of safety-critical information, such as notice to airmen (NOTAM) and airworthiness directives, are essential. Regular amendment and updating of publications such as aeronautical maps and other aviation-related publications are also important measures for ensuring a safe operating environment.

3.5.10 With respect to aircraft accident and incident investigation, CE-5 is used to address not only the establishment of guidance material by the State, but also the effective implementation of such guidance material during investigation-related activities.

### **3.6 LICENSING, CERTIFICATION, AUTHORIZATION AND APPROVAL OBLIGATIONS (CE-6)**

*CE-6. Licensing, certification, authorization and approval obligations.* The implementation of documented processes and procedures to ensure that individuals and organizations performing an aviation activity meet the established requirements before they are allowed to exercise the privileges of a licence, certificate, authorization or approval to conduct the relevant aviation activity.

#### **3.6.1 General considerations**

3.6.1.1 The Chicago Convention requires Contracting States to issue licences and certificates, as applicable, to aircraft, organizations and personnel engaged in international air navigation. For example, Article 31 states that “every aircraft engaged in international navigation shall be provided with a certificate of airworthiness issued or rendered valid by the State in which it is registered”.

3.6.1.2 Article 32 a) provides for the licensing of operating personnel. It states that “the pilot of every aircraft and the other members of the operating crew of every aircraft engaged in international navigation shall be provided with certificates of competency and licenses issued or rendered valid by the State in which the aircraft is registered”.

3.6.1.3 The Convention also provides for the recognition by other Contracting States of licences and certificates issued by a Contracting State (Article 33). This recognition “as valid” is achieved only if “the requirements under which such certificates or licences were issued or rendered valid are equal to or above the minimum standards which may be established from time to time pursuant to this Convention”.

3.6.1.4 Certification and licensing are State functions, enabling a State to comply with the provisions of the Convention and its related Annexes. These functions cover a number of disciplines and functional areas. The activities involved in certification and licensing are such that they usually require the establishment of

a robust organization, with specific sections (offices) and effective coordination. The organization will vary from State to State, depending in particular on the size and complexity of civil aircraft operations. It is also possible, depending on the number of licences, ratings, certificates and approvals issued, to combine several activities within a single section of the CAA.

3.6.1.5 Under an effective licensing/certification/approval system, all necessary evaluations are effectively performed by qualified personnel, based on national requirements and following a formal and comprehensive process. This personnel may be from the CAA, or in case not all required specialties and competencies exist within the CAA (as happens frequently in the area of aerodromes), the evaluations may also be performed by external specialists through an appropriate delegation of functions. In such cases, the CAA should formally designate the specialists after verification of their competence and of the absence of possible conflicts of interest. The CAA should also approve the specialists' working methodologies, define deliverables and validate results of evaluations. The outcomes of the evaluations should be properly documented and recorded, with all the pertinent records and evidence kept by the CAA.

3.6.1.6 Checklists used in the evaluation process should be properly completed and recorded. Completed checklists, together with associated records, should document the results of all the verifications performed. For each checklist item, the inspectors should document the relevant detailed references (e.g. specific references in a manual) and facilities/equipment/other aspects reviewed on site. Copies of documentation reviewed should be kept, as needed (e.g. annotated manuals) as well as minutes or reports of on-site audits/inspections conducted or tests performed. Such records are necessary to prove the effectiveness and ensure traceability of the certification/licensing/approval activities performed. They are also required to allow for an appropriate follow-up, as necessary. All records should be appropriately filed by the CAA.

3.6.1.7 The certification file should include, but not be limited to, the following:

- a) certification application and associated documents;
- b) service provider manual;
- c) audit/inspection files;
- d) corrective action plans and evidence of implementation;
- e) if applicable, exception or exemption files (including safety studies and their assessment by the authority); and

f) copy of the certificate (and associated specifications, if applicable), licence, authorization or approval.

### 3.6.2 Personnel licensing

3.6.2.1 Whether the licensing functions are discharged by a fully developed personnel licensing office or are outsourced, the final responsibility remains with the CAA. As applicable and in compliance with national legislation and procedures, licensing activities should include, but are not limited to, the following:

- a) approval of training courses;
- b) approval of the use of simulation training devices and the authorization for their use, in order to gain the experience or demonstrate the skill required for the issue of a licence or rating;
- c) approval, designation and supervision of individuals or organizations (including medical examiners) delegated to perform specific tasks on behalf of the personnel licensing office, if applicable;
- d) assessment and approval of applications for licences and ratings;
- e) assessments of medical fitness relating to licence requirements;
- f) issue of licences and ratings; and
- g) validation and conversion of licences and ratings issued by other States.

3.6.2.2 The complete documentation for each licence issuance or renewal needs to be maintained confidentially and should include all correspondence, applications, assessments, examination results, medical reports, and other licensing documentation. They should be filed as required by the State's document retention policies.

### 3.6.3 Certificates and approvals

3.6.3.1 Annexes 1, 6, 8 and 14 require the certification or approval, as applicable, of approved training organizations, air operators, aircraft maintenance organizations and international aerodromes. In addition, specific aspects (extended diversion time operations, operating minima, training programmes, etc.) should be formally approved by the CAA.

*Note. - Guidance material on certification and approval is listed in the Appendix to this manual.*

3.6.3.2 Granting of certificates and approvals remains the responsibility of the State, even if the State may have delegated some tasks to external entities.

3.6.3.3 As applicable and in compliance with national legislation and procedures, certification and approval activities should follow a comprehensive, formal and documented process, including, but not limited to, the following:



- a) dealing with expression of interest, including coordination with other concerned authorities;
- b) initial review of the documentation submitted by the service provider, including key personnel's competence and operating procedures;
- c) on-site audits and/or inspections to verify technical aspects and assess the service provider's organization, competence and implementation of its operating procedures;
- d) if necessary, assessment of exemption request and supporting documents (e.g. aeronautical studies) with on-site inspections as needed, resulting in the granting (or denial) of exemptions with corresponding mitigation measures (follow-up is covered by CE-7);
- e) assessment of the corrective action plans submitted by the service provider to resolve findings and non-compliances and acceptance (or rejection) of corrective actions, mitigation measures and associated timelines;
- f) issuance of the certificate or approval, with indication of operating conditions (and limitations, if applicable);
- g) renewal or continuing validity of the certificates after appropriate supervision; and
- h) transfer or surrender of certificates.

3.6.3.4 Unsatisfactory conditions identified by CAA technical experts during the certification or approval process should be brought immediately to the attention of the applicant for corrective action. All non-compliances should be identified and duly documented by the CAA, and they should be resolved to its satisfaction or addressed by corrective action plans (with mitigation measures, as applicable) accepted by the authority, prior to the issuance of a certificate or approval.

3.6.3.5 Although some States require the certification of ATS providers and other ANS providers, such certification is not mandatory according to ICAO provisions. In this context, in the ANS area, CE-6 addresses how the State ensures that the service providers effectively comply with the safety-related national legislation. This would apply, for example, to the requirements related to radar separation minima or requirements related to the training and qualification of the personnel of ANS providers.

### **3.7 SURVEILLANCE OBLIGATIONS (CE-7)**

**CE-7. *Surveillance obligations.*** The implementation of documented surveillance processes, by defining and planning inspections, audits and monitoring activities on a continuous basis, to proactively ensure that aviation licence,

certificate, authorization and 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.

3.7.1 The maintenance of continued safe operations demands that a State establish and implement an effective and sustainable control and supervision system to ensure ongoing compliance by the licence, rating, certificate, approval or authorization holders.

3.7.2 Surveillance activities are carried out by a State to proactively verify that aviation licence, certificate, authorization or approval holders continue to meet the established requirements and function at the level of competency and safety required by the State. These activities include the conduct of on-site inspections (announced and unannounced visits), the review of documents submitted by the service providers, meetings with concerned parties and analyses of available safety information.

3.7.3 States should establish and implement, in each area, a surveillance programme which should include, at a minimum, the elements below, which may be adapted if the State is using a risk-based method:

- a) the types of surveillance activities (e.g. audits, inspections, tests, safety events analyses);
- b) the timeframe or frequency of the activities;
- c) items to be covered or scope of the activities; and
- d) related methodology/procedures, job aids and guidance on how the activity should be conducted, starting from the notification of the service provider, if applicable, to the closure of the deficiencies identified during the activities.

*Note.- Inspections include scheduled, unscheduled and unannounced inspections.*

3.7.4 For each individual or organization approved to carry out aviation activities, a periodic surveillance plan should be developed based on the applicable surveillance programme. The surveillance plan should detail the type of activities to be performed and the specified timeframe as well as the scope of each activity, as applicable. In case of a certified operator, it should be ensured that all the areas covered by the certification are reviewed within a defined time period. The timeframe and frequency of surveillance activities may be adapted for each operator, based on the information available.

3.7.5 ICAO publishes guidance on inspection periodicity in a number of documents. In the case of an air operator, an approved maintenance organization, an

approved training organization, an aerodrome operator or ANS provider, regardless of the method used for surveillance, all significant aspects of the operating procedures, safety measures, facilities and equipment should be reviewed within a defined timeframe specified by the State. In addition to scheduled inspections, random or unannounced inspections should be conducted, as needed, for example, to verify the correction of identified deficiencies or to follow up on reported safety events, whistle-blower reports and significant changes.

3.7.6 The methodologies for the various types of surveillance activities should cover the phases related to preparation, conduct, reporting and follow-up. Appropriate procedures, templates and job aids should be developed and used for each phase, as needed. The methodologies should include provisions for classifying the findings resulting from the surveillance activity, based on their severity, as this classification will determine the type of follow-up and enforcement action by the CAA, along with the related timelines.

3.7.7 Throughout all phases of the surveillance programme, the standards of an organization's capability and competence should be equal to or exceed those required at the time of original certification, licensing, approval or authorization. Accordingly, the CAA technical personnel should carry out surveillance activities in a thorough manner and require the organization to convincingly demonstrate that:

a) its functions and tasks are being conducted in accordance with the applicable requirements; and

b) as a consequence, the privileges granted with the initial issuance of the licence/certificate/ approval/authorization should continue.

3.7.8 The CAA should establish and implement, for each area, a system for record-keeping and filing. Records should include, but not be limited to, the following:

a) completed checklists, evaluation reports and associated documentation, including, as applicable, safety assessments;

b) minutes of meetings conducted as part of surveillance; and

c) follow-up reports on the implementation of corrective action plans.

3.7.9 The effective and timely completion of the surveillance programme is highly dependent on the availability of sufficient qualified staff covering all areas of expertise required and on the authority vested in the CAA and its inspectors.

### **3.8 RESOLUTION OF SAFETY ISSUES (CE-8)**

**CE-8. Resolution of safety issues.** The use of a documented process to take appropriate actions, up to and including enforcement measures, to resolve identified

safety issues. States shall ensure that identified safety issues are resolved in a timely manner through a system which monitors and records progress, including actions taken by individuals and organizations performing an aviation activity in resolving such issues.

#### 3.8.1 Identification of safety issues

3.8.1.1 An effective and sustainable safety oversight system should provide for the identification of non-compliances and other safety issues and for their effective and timely resolution.

3.8.1.2 Safety issues identified by the State include, but are not limited to, the following:

- a) non-compliances and other deficiencies identified by the CAA;
- b) analyses of reported safety events;
- c) negative safety trends; and
- d) results (including safety recommendations) of aircraft accident and incident investigations.

3.8.1.3 The State should ensure that all stakeholders of the aviation community report all the safety events that they are aware of, through the State's mandatory reporting system established by the legislation.

3.8.1.4 Data collected from the various stakeholders should be recorded in an integrated database using a standardized format and a common taxonomy (if possible, one that is compatible with the European Coordination Centre for Accident and Incident Reporting Systems (ECCAIRS) format) to facilitate thorough analysis of the collected data and events.

*Note.- Details on the establishment and operation of mandatory and voluntary safety reporting systems, safety analysis and on the protection of safety data, safety information and related sources are provided in the Safety Management Manual (SMM) (Doc 9859).*

#### 3.8.2 Follow-up of safety issues

3.8.2.1 Should the surveillance activities reveal that the licence/rating/certificate/approval holder has failed or is unable to meet or maintain the required standards, the CAA should:

- 1) Promptly advise the licence/rating/certificate/approval holder of the deficiency observed.
- 2) Provide deadlines for the submission of the corrective action plan to be taken by the service provider.
- 3) Verify that corrective actions and related timeframes are appropriate,

before formal acceptance of the corrective action plan.

4) Initiate appropriate follow-up to verify the effective implementation of the corrective actions.

3.8.2.2 Additional inspections may also be conducted whenever problems repeatedly occur in a particular area.

### 3.8.3 Enforcement

3.8.3.1 Effective and timely actions taken by the industry should result in the effective resolution of safety issues. However, in the absence of a resolution, the CAA should take the appropriate enforcement measures, such as the imposition of limitations, the suspension or revocation of certificates/licences/ approvals, or the imposition of financial penalties. The CAA should be empowered by the State's primary legislation to take these enforcement measures, which should be commensurate with the safety risks caused by non-compliances or violations. If, after careful review of all circumstances involved and coordination within the CAA, there is a need to suspend or revoke the licence/rating/certificate/approval holder's privileges, the CAA should officially inform the licence/rating/certificate/approval holder in writing, summarizing both the proposed action and the reasons for said action.

3.8.3.2 Based on the State's legislation and procedures, the CAA should establish and implement clear, comprehensive and detailed enforcement policies and procedures for use by its staff. Such policies and procedures should enable an effective, proportional, gradual and consistent approach to enforcement within the CAA.

3.8.3.3 If the licence/rating/certificate/approval holder does not correct the deficiency within the established deadlines, the CAA should take appropriate and progressive enforcement measures to ensure prompt correction of deficiencies.

### 3.8.4 Follow-up of safety recommendations

3.8.4.1 Accident and incident investigations also play a crucial role in the identification of deficiencies and safety issues. Safety recommendations can be issued in the course of or at the completion of an investigation.

3.8.4.2 To ensure that safety recommendations are appropriately taken into account, a State should establish and implement a structured process for follow-up of the recommendations. This process should include, among other things:

a) coordination between the authorities involved, in particular, the CAA and the investigation authority;

b) communication process with the entity or entities affected by the

recommendation;

c) indication of timelines; and

d) procedures to monitor the progress of the actions taken in response to the safety recommendation until their full implementation, with documented traceability.

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## **APPENDIX**

### **REFERENCES**

The following ICAO documents referred to in this manual and other ICAO reference publications provide additional guidance for the oversight of individuals and organizations performing an aviation activity.

Conventions and Related Acts

*Convention on International Civil Aviation* (Doc 7300)

*Protocol Relating to an Amendment to the Convention on International Civil Aviation (Article 83 bis)* (Doc 9318)

Annexes to the Convention on International Civil Aviation Annex 1 - *Personnel Licensing*

Annex 2 - *Rules of the Air*

Annex 3 - *Meteorological Service for International Air Navigation*

Annex 4 - *Aeronautical Charts*

Annex 5 - *Units of Measurement to be Used in Air and Ground Operations*

Annex 6 - *Operation of Aircraft*

Part I - *International Commercial Air Transport - Aeroplanes*

Part II - *International General Aviation - Aeroplanes*

Part III - *International Operations - Helicopters* Annex 7 - *Aircraft Nationality and Registration Marks* Annex 8 - *Airworthiness of Aircraft*

Annex 10 - *Aeronautical Telecommunications*

Volume I (*Radio Navigation Aids*)

Volume II - *Communication Procedures including those with PANS status*

Annex 11 - *Air Traffic Services*

Annex 12 - *Search and Rescue*

Annex 13 - *Aircraft Accident and Incident Investigation*

Annex 14 - *Aerodromes*

Volume I - *Aerodrome Design and Operations*

Volume II - *Heliports*

Annex 15 - *Aeronautical Information Services*

Annex 16 - *Environmental Protection*

Volume I - *Aircraft Noise*

Volume II - *Aircraft Engine Emissions*

Annex 18 - *The Safe Transport of Dangerous Goods by Air*

Annex 19 - *Safety Management*

Assembly Resolutions  
*Assembly Resolutions in Force (as of 6 October 2016)* (Doc 10075)  
Procedures for Air Navigation Services  
*ATM - Air Traffic Management* (Doc 4444) *OPS - Aircraft Operations* (Doc 8168) *TRG - Training* (Doc 9868)  
*AGA - Aerodromes* (Doc 9981)  
Manuals and Circulars  
*Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335)  
*Manual of Procedures for Establishment and Management of a State's Personnel Licensing System* (Doc 9379)  
*Manual of Criteria for the Qualification of Flight Simulation Training Devices* (Doc 9625)  
*Safety Oversight Manual* (Doc 9734)  
*Part B - The Establishment and Management of a Regional Safety Oversight Organization Universal Safety Oversight Audit Programme Continuous Monitoring Manual* (Doc 9735)  
*Manual of Aircraft Accident and Incident Investigation* (Doc 9756)  
*Airworthiness Manual* (Doc 9760)  
*Manual on Certification of Aerodromes* (Doc 9774)  
*Manual on the Approval of Training Organizations* (Doc 9841)  
*Safety Management Manual (SMM)* (Doc 9859)  
*Manual on Regional Accident and Incident Investigation Organization* (Doc 9946) *Manual on Accident and Incident Investigation Policies and Procedures* (Doc 9962) *Manual for the Oversight of Fatigue Management Approaches* (Doc 9966) *Performance-Based Navigation (PBN) Operational Approval Manual* (Doc 9997) *Cabin Crew Safety Training Manual* (Doc 10002)  
*Manual on Notification and Publication of Differences* (Doc 10055) (Provisional Edition on-line)  
*Manual on the Implementation of Article 83 bis of the Convention on International Civil Aviation* (Doc 10059)  
*Manual on the Investigation of Cabin Safety Aspects in Accidents and Incidents* (Doc 10062)  
*Manual on the Competencies of Civil Aviation Safety Inspectors* (Doc 10070) *Manual on the Establishment of Minimum Cabin Crew Requirements* (Doc 10072)



*Manual on Information and Instructions for Passenger Safety (Doc 1008)*

