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Manual on the Competencies of Civil Aviation Safety Inspectors

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International Civil Aviation Organization

AMENDMENTS

Amendments are announced in the supplements to the Catalogue of ICAO Publications; the Catalogue and its supplements are available on the ICAO website at www.icao.int. The space below is provided to keep a record of such amendments.

RECORD OF AMENDMENTS AND CORRIGENDA

AMENDMENTS				CORRIGENDA			
No.	Date applicable	Date entered	Entered by	No.	Date applicable	Date entered	Entered by

PURPOSE AND USE OF THIS MANUAL

This manual provides guidance to oversight Authorities and training organizations on the development and maintenance of a competent Civil Aviation Safety Inspectors (CASIs) workforce. It is one component of a suite of guidance materials and tools to support States in conducting effective oversight.

Effective Oversight

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Manual

Manual on CASIs

(Doc 10070)

Information

Organizational Structure Guidance

Determine the organizational structure that suits you best

Tool

Benchmarking

Compare what you've got with best practice

Tool

Resource Planning

Determine how many CASIs you need

TABLE OF CONTENTS

_____

TABLE OF FIGURES

LIST OF TABLES

_____

GLOSSARY

When the following terms are used in this manual, they have the following meanings:

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.

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

Air traffic services. 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).

Approved training organization (ATO). An organization approved by and operating under the supervision of a Contracting State in accordance with the requirements of Annex 1 to perform approved training.

Note.— The Contracting State is required to ensure that the ATO is included in the State's ongoing safety oversight programme.

Audit. A systematic and objective review of an entity's operation to verify compliance with aviation regulations, conformity with or adherence to required standards as well as CAA-approved documented policies, processes, and procedures.

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

Civil aviation safety inspector (CASI). A qualified person authorized by the State to carry out safety oversight activities for civil aviation.

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

Competency. A dimension of human performance that is used to reliably predict successful performance on the job.

Competency-based training and assessment. Training and assessment that are characterized by a performance orientation, emphasis on standards of performance and their measurement, and the development of training to the specified performance standards.

Compliance. The state of meeting those requirements mandated through regulation.

Conformity. The state of meeting established criteria, standards, specifications and desired outcomes.

Contracting State. A State, which is a party to the *Convention on International Civil Aviation* and has agreed on certain principles and arrangements in order that international civil aviation may be developed in a safe and orderly manner and that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically.

Director General of Civil Aviation. A designation that identifies the senior official who is the head of the State's Civil Aviation Authority.

Finding. A finding is a conclusion by audit personnel that demonstrates either non-compliance with a regulation or non-conformity with a specific standard.

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

****Hazard.*** A condition or an object with the potential to cause or contribute to an aircraft accident or incident.

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

Inspection. The basic activity of an audit, which involves detailed examination of specific activities, products or services.

Inspectorate. The grouping of all CASIs and their immediate operational managers regardless of where they are assigned within the CAA's organization.

****Instructional systems design (ISD).*** A formal process for designing training which includes analysis, design and production, and evaluation processes.

****Operational control.*** The exercise of authority over the initiation, continuation, diversion or termination of a flight in the interest of the safety of the aircraft and the regularity and efficiency of the flight.

****Operator.*** A person, organization or enterprise engaged in or offering to engage in an aircraft operation.

****Performance criteria.*** Simple, evaluative statements on the required outcome of the competency element and a description of the criteria used to judge whether the required level of performance has been achieved. A performance criterion consists of an observable behaviour, condition(s) and a competency standard.

****Quality.*** The totality of features and characteristics of a product or service that bear on its ability to satisfy stated or implied needs.

****Quality assurance (QA).*** All the planned and systematic actions necessary to provide adequate confidence that all aviation activities satisfy given standards and requirements, including the ones specified by the organization in relevant manuals.

****Quality management.*** A management approach focused on the means to achieve product or service quality objectives through the use of its four key components: quality planning; quality control; quality assurance; and quality improvement.

Risk assessment. The analysis of the consequences of the hazards that have been determined as threatening the capabilities of an organization or person(s). A safety risk analysis uses a conventional breakdown of risk into two components to define the level of safety risk: the probability of occurrence of a damaging event or condition, and the severity of the event or condition, should it occur to define the level of safety risk**.**

Safety management system (SMS). A systematic approach to managing safety, including the necessary organizational structures, accountability, responsibilities, policies and procedures.

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.

Significant safety concern. Occurs when the State allows the holder of an authorization or approval to exercise the privileges attached to it, although the minimum requirements established by the State and by the Standards set forth in the Annexes to the Convention are not met, resulting in an immediate safety risk to international civil aviation.

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

*These terms have been defined in other ICAO documents.

ABBREVIATIONS/ACRONYMS

AIS	Aeronautical information services
AMO	Approved maintenance organization
AOC	Air operator certificate
ATM	Air traffic management
ATO	Approved training organization
CAA	Civil Aviation Authority
CASI	Civil Aviation Safety Inspector
CNS	Communication, navigation and surveillance
DGCA	Director General of Civil Aviation
EDTO	Extended diversion time operations
GANP	Global Air Navigation Plan
GASP	Global Aviation Safety Plan
ISD	Instructional systems design
MEL	Minimum equipment list
MET	Meteorological services for air navigation
OECD	Organization of Economic Cooperation and Development

OJT	On-job training
PANS	Procedures for Air Navigation Services
PANS-TRG	Procedures for Air Navigation Services — Training
PBR	Performance-based regulations or performance-based regulatory
QA	Quality assurance
RA	Risk assessment
SARPs	Standards and Recommended Practices
SME	Subject-matter-expert
SMS	Safety management system
SSP	State's safety programme

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CHAPTER 1.   WHY WE NEED CIVIL AVIATION SAFETY INSPECTORS (CASIS)

This chapter describes the State obligations regarding oversight emphasizing the role of civil aviation safety inspectors (CASIs), their recruitment, the changing regulatory environment in which they work and how a competency-based approach can prepare CASIs for the future.

A CASI is a qualified person authorized by the State to carry out safety oversight activities. Safety oversight is a function performed by a State to ensure that individuals and organizations performing an aviation activity comply with safety-related national laws and regulations. For the purpose of this manual, CASIs will be understood to exclude authority personnel involved exclusively in the oversight of product design and type certification.

1.1. STATE OBLIGATIONS

There are two types of States' obligations with regard to oversight: those that relate to supporting international civil aviation and those that relate to supporting CASIs to effectively perform safety oversight functions on behalf of the CAA.

1.1.1. FULFILLING REGULATORY OBLIGATIONS TO SUPPORT INTERNATIONAL CIVIL AVIATION

The Convention and its supporting nineteen Annexes establish several key obligations for Contracting States. One of the obligations is oversight of various aviation entities and activities.

To accomplish these obligations, Annex 19 — *Safety Management*, Appendix 1 identifies eight critical elements (CE) (Figure 1):

Figure 1.   The eight critical elements of a State safety oversight system

Critical elements 4 and 5 are particularly related to the qualification of CASIs and the implementation of critical elements 6, 7 and 8. Of particular interest are the Standards associated to these critical elements 4 and 5 in Annex 19, namely:

"CE-4 Qualified technical personnel

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

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

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

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

States should ensure that their State Safety Programme manages the challenge of the growth of their aviation industry and maintains a safe operating environment. Each State should identify what investments need to be made in order for the State to continue to meet its international obligations under the Convention on International Civil Aviation and plan for the future air transportation system in accordance with Doc 10004, *2014-2016 Global Aviation Safety Plan* (GASP) and Doc 9750, *Global Air Navigation Plan* (GANP).

SAFETY OVERSIGHT AUDIT RESULTS FOR CE 4 AND CE 5

According to the report of the Universal Safety Oversight Audit Programme and Continuous Monitoring Approach consulted at the time of writing this manual, CE-4 remains the CE with the lowest effective implementation (EI) rate at the global level. The report indicates that:

- In the December 2013 to December 2015 period, all CEs from CE-1 to CE-5 have seen an increase of their EI. However, all CEs related to the actual implementation of the State's safety oversight system, i.e. CE-6, CE-7 and CE-8, have seen a decrease of their EI (Figure 2).
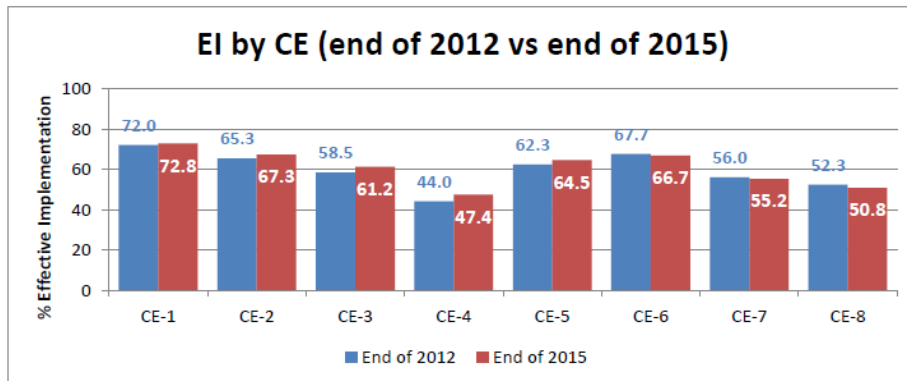

Figure 2.   Global rate of effective implementation of the eight critical elements of a State's safety oversight system in the years 2012 to 2015.

The EI decrease during this period resulted from a number of factors.

- One of them is the deterioration of the safety oversight system when the State had not been able to retain some of its qualified and experienced technical staff. In other States, the CAA had not been sufficiently staffed to effectively perform all necessary additional certification, surveillance and enforcement activities associated with a significant increase of their level of aviation activity. The limited qualified human resources available to States also impact the identification of differences with ICAO provisions. This requires sufficient understanding of the SARPs involved, which may be limited by the actual qualification and training of the State's personnel, by the complexity or formulation of some SARPs and by the inherent difficulty associated with the assessment of the level of compliance of national regulations and practices with SARPs.

- While some States manage to recruit adequately qualified experts, they may not be able to retain them. Once these experts receive significant training and accumulate experience, they are offered positions in the industry, in other States or in international or regional organizations which have more attractive employment conditions or compensation packages. The lack of or insufficient number of qualified inspectors remains the main obstacle to the implementation of an effective State safety oversight system, and is often the root cause of situations leading to the identification of Significant Safety Concerns (SSC) in the State by ICAO.

- Another difficulty for some States is to objectively estimate the CAA's staffing needs in the various aviation domains, based on the State's level of activity and complexity of the aviation system, as well as to estimate, obtain and train additional human resources when a significant increase in the State's level of aviation activity is observed or forecasted.

- Many States have not yet established a training policy. A training policy together with the availability of sufficient funds for the effective implementation of the training programmes are the building blocks of the CAA's training system. In the absence of such a policy, or when the training policy exists but is not comprehensive or appropriately implemented, States may lack or have insufficiently detailed training programmes for some or all of the CAA inspector positions; training records may be partially maintained (consisting mainly of a compilation of course completion certificates); and the on-the-job training (OJT) may not be performed by sufficiently qualified and experienced staff and/or may not be documented in the training records.

- The lack of sufficient financial resources remains the main obstacle to the provision of training, which results in the inspectorate and relevant staff not having the necessary qualifications.

1.1.2.   CAA OBLIGATIONS TO SUPPORT AN EFFECTIVE INSPECTORATE

The State must establish conditions that allow CASIs to discharge their duties. This requires the State to delegate specific powers of authority to CASIs supporting the accomplishment of their tasks. Some States codify the CASI's power of authority and degree of accountability into aviation law to enable CASIs to effectively carry out their assignments. Creating the conditions that allow CASIs to discharge their duties also requires the DGCA to:

- establish clear and comprehensive workplace policies and procedures;
- provide a safe working environment; and
- supply CASIs with adequate workplace resources.

These are discussed further below.

POLICY AND PROCEDURES

The CAA must have comprehensive documented policies and procedures which establish expected standards of service for all inspector-related tasks. Policies and procedures should at least explain departmental values, codes of conduct, operational procedures, and internal reporting and recordkeeping requirements.

CASIs decisions and actions can have significant consequences. There need to be safeguards protecting the CASIs. Procedures and other regulatory provisions should provide guidance to CASIs in discharging their duties. Adherence to them protects CASIs in case an authority action or decision is challenged. Other safeguards could include documented government policies providing the individual inspector with the full legal support and representation of the government when circumstances could lead to the CASI facing judicial prosecution.

The CAA may consider implementing a condensed operational procedures guide, similar to a checklist to support a uniform level of service. The tool can take different forms. It can be generic and provide the critical steps in conducting activities such as an audit or approving a licence application or it can be more detailed. ICAO guidance related to these operational procedures to help CAAs develop their own inspector guides can be found in Appendix C. CAAs should customize them to ensure that they are consistent with State regulatory requirements and CAA procedures.

A CAA training policy should clearly address the initial training of CASIs, as well as the periodic recurrent and specialized training necessary for CASIs to perform the tasks for which they are responsible. The CASI training lifecycle is described in Chapter 4.

SAFE WORKING ENVIRONMENT

The day-to-day operation of an inspectorate involves the provision of civil aviation regulatory services to a law-abiding community. However, there will be occasions when some entities will wilfully attempt to operate outside the regulatory boundaries. For this reason, DGCAs should have adequate security procedures in place, which track the whereabouts of each inspector and confirm that their personal well-being is not jeopardized. Although not a frequent occurrence, inspector's field work can put the individual in harm's way. In particular, the CAA should manage with due care surveillance activity at remote locations. As per 1.1.2, CASIs are empowered to carry out their assigned responsibilities. Without such authority, unscrupulous entities are free to be uncooperative and even belligerent when dealing with CASIs carrying out their duties.

The DGCA must develop and maintain a good working relationship with judicial bodies and police forces to ensure adequate powers of enforcement. This enables each group to effectively fulfil its responsibilities and to collaborate in bringing about a just and proper resolution of any serious offences.

In addition, CASIs are expected to undertake tasks in operational hazardous environments. As part of managing the health, safety and welfare of CASIs in the workplace, the CAA should determine what might cause harm to its inspectors and risk assessments should be undertaken to identify sensible risk control measures.

WORKSPACE AND EQUIPMENT

Inspectors and supporting staff should have suitable workspaces in CAA offices. The main point of entry to the building should lead to a reception area where the general public can seek assistance. Inspectors and stakeholders should have access to a sufficient number of meeting rooms close to the reception area. Inspector workspaces should be in a secure

area of the building that does not permit access to non-authorized visitors to ensure confidential information is not compromised. Similar security arrangements should also apply for the recordkeeping area of the CAA. If data or correspondence is electronically managed, a firewall should be in place to safeguard against unauthorized access or deliberate tampering.

Since much of an inspector's workload involves field work, the CAA should issue each CASI with sufficient equipment to effectively function away from the office. Ideally, the CASI should have easy access to all applicable CAA rules and guidance material while in the field. At the very least, there should be communication arrangements so that inspectors are able to obtain specific details of a regulatory provision and/or consult with subject-matter experts (SMEs) while outside the office.

CASIs should be readily identifiable to the public, law enforcement officials and employees of other government agencies. They should be provided with appropriate government-issued outerwear identifying them as aviation safety inspectors. They should be provided with an official government-issued photo identification that attests their role as aviation safety inspectors.

For enhanced security, CAAs may provide credentials with embedded biometric data to prevent unauthorized entry to restricted areas by holders of forged documents.

All inspectors should have access to a library containing all CAA policy and operational procedure documents and up-to-date copies of all ICAO Annexes, PANS and relevant manuals as well as copies of the latest versions of national aviation laws, regulations and standards. The library is an essential reference centre for inspectors; the library facility and its material should be secure and well-maintained.

REMUNERATION, CONDITIONS OF SERVICE AND STAFFING

As stated in Annex 19, Appendix 1:

"3.3   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.

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

The Safety Oversight Manual (Doc 9734), paragraph 3.4.2.1 further indicates that CASIs should enjoy remuneration and conditions of service consistent with their education, technical knowledge and experience and comparable to the industry staff whose activities they will inspect and supervise.

A CAA must consider the staffing necessary to cover all the expertise required to fulfil its responsibilities. Chapter 6, Part 1 of the *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (Doc 8335) provides guidelines on the initial employment requirements for inspectors. However, these recommendations in the strictest sense may not be the most appropriate under all circumstances and other valuable qualifications or experiences for the position should also be taken into account.

As stated in Annex 19, Appendix 1:

"3.5   **Recommendation.—** *States should use a methodology to determine their staffing requirements for personnel performing safety oversight functions, taking into account the size and complexity of the aviation activities in their State."*

For guidance on inspectorate manpower planning go to web…….

1.2. RECRUITING AND SELECTING CASIs

As the safety oversight audit results for CE 4 show, the ability of CAAs to recruit, train and retain an appropriate number of competent aviation professionals affects any State's capability to fulfil its obligations under the Convention. This includes conducting safety monitoring under a performance-based regulatory (PBR) approach or assessing safety assurance levels under a compliance approach system.

Traditionally, CASIs are technical specialists recruited from those sectors of the aviation industry that they will eventually oversee. While it is appreciated that some States with limited aviation activity have difficulty finding suitable CASI candidates, not acquiring the necessary competencies within the CAA inspectorate impacts safety. The DGCA should champion the acquisition and maintenance of a well-balanced CAA inspectorate suitably funded by the State to ensure aviation safety levels are not compromised.

When recruiting CASIs, the CAA should consider the factors that would attract an aviation professional to work for the CAA, beyond remuneration and conditions of service (See Annex 19, Appendix 1, paragraph 3.3). An additional recruitment strategy would be to highlight the benefits of belonging to a team of highly-trained professionals working towards creating a safer and more efficient air transportation system for the country and its citizens and the opportunity of further developing themselves professionally[1]. This approach will appeal to those who have a strong sense of personal ethics and values and who wish to "serve" or "give something back" to society. Some aviation professionals may also desire the potentially more regular hours in a CAA compared to shift work in the industry.

CAAs are responsible for determining the suitability of candidates and must be mindful that strengths in one area cannot always counterweigh deficiencies in another. To eliminate biases and reduce errors in the selection process, it is recommended that the CAA develop job specifications in order to identify the entry-level requirements (in terms of competency and experience) for the particular job. For an example of potential entry-level competencies, go to Appendix A.

CASIs should have a thorough understanding of the areas in which they will assess safety oversight of organizations or individuals. This can be achieved either by selecting CASI personnel at least as qualified as the personnel to be inspected or supervised, or by ensuring that the inspecting team possesses the necessary competencies for a safety oversight activity. In addition, a CASI should have experience compatible with the activities to certify or supervise.

For example, CAAs may recruit or designate personnel in the following disciplines:

- licenced aviation professionals: pilots, aircraft maintenance (technicians/engineers/mechanics) and air traffic controllers; and/or
- personnel from other technical specialities (e.g. cabin crew, flight dispatchers[2], ground handlers, aerodrome operators, dangerous goods personnel, etc.); and/or
- other subject-matter-experts (e.g. medical specialists, civil/aeronautical/chemical/aerospace engineers/technicians, business process specialists and financial analysts).

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[1] The CAA also needs to adopt internal policies that support this employment statement.

[2] Dispatchers may be licensed.

Increasing levels of responsibility should be delegated in recognition of the individual mastering competencies additional to those that a CAA considers necessary for the initial assignment as an inspector. New or enhanced competencies should be demonstrated prior to assuming increased responsibilities or being required to function within a performance-based regulatory environment.

In general, competent CASIs should be considered for openings of supervisors or operational managers of oversight activities. Ideally, CASIs who have demonstrated excellent performance within a CAA; who have the appropriate technical background; and who demonstrate the potential to master most of or all the competencies found in paragraph 3.3 should be appointed to supervisor or operational manager of oversight activities. If persons outside the inspectorate are also considered, they should have the technical background to supervise or operationally manage CASIs conducting oversight activities.

1.3   INFLUENCING FACTORS ON THE REGULATORY ENVIRONMENT

All stakeholders recognize the impact that the aviation industry has on global and national economies. The aviation industry supports $2.7 trillion (3.5 per cent) of the world's gross domestic product (GDP)[3]. Safety deficiencies pose a challenge to the growth of civil aviation, which in turn, has a detrimental effect on economic development.Therefore, the commitment to comply with basic international standards supporting safety should not be undermined by competing interests within the State.

However, over the past twenty-five years the aviation sector has been and continues to be transformed by a variety of factors, including:

- growth of the industry
- emerging technologies
- emerging business models
- increasing trend towards performance-based regulations

These transformations place an enormous strain on Contracting States' ability to perform effective safety oversight and to support the aviation industry as a national economic driver. These are further described below.

GROWTH OF THE INDUSTRY

By 2006, as the commercial air transportation system began to recover from the effects of a major downturn in air travel, almost twenty-eight million scheduled flights transported over two billion passengers in that year alone. Since then, air travel has been experiencing an average 4 to 5 per cent growth rate annually with some minor fluctuations due to variable economic conditions. Overall, forecasts predict those annual growth rates will be maintained beyond 2030. As of 2013, almost thirty-two million people worldwide were employed within the aviation industry. During that year commercial aviation moved close to two and a half billion people around the globe, and transported $6.4 trillion dollars of cargo representing 35 per cent of the annual world trade. By the year 2030 it is expected that over five billion passengers will be travelling on some fifty million scheduled flights annually. This represents close to a 100 per cent increase in the volume of commercial air travel within a sixteen-year period. The regional estimates of annual traffic growth rates reported by ICAO for the period 2010-2030 (*Global and Regional 20-year Forecasts* (Doc 9956)) presented in Table 1 below.

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[3] http://aviationbenefits.org/economic-growth/value-to-the-economy/

World traffic annual growth rates
(%)

	2010–2020	2020–2030	2010–2030
Africa	4.9%	4.5%	4.7%
Asia/Pacific	6.7%	5.8%	6.3%
Europe	4.3%	3.9%	4.1%
Latin America	6.0%	5.6%	5.8%
Middle East	5.4%	5.0%	5.2%
North America	2.9%	3.2%	3.0%
World	4.8%	4.6%	4.7%

Table 1.   Regional estimates of annual traffic growth rate for the period 2010 – 2030

The importance of safety oversight is unquestionable. However, it is also important to consider how safety oversight should be conducted in order to maintain an acceptable level of safety given the growth of the industry and the competition for expertise that may result in a smaller pool of CASIs. The data concerning the growth of the industry combined with the USOAP data regarding critical element 4 strongly suggest that strategies are needed not only to increase the number of CASIs, but also to increase the efficiency and effectiveness of safety oversight activities carried out by CASIs. The need to enhance the efficiency of CASI resources underlies the recommendation in Annex 19, which states that "3.4.1.2 **Recommendation**.— *States should establish procedures to prioritize inspections, audits and surveys towards those areas of greater safety concern or need"*.

EMERGING TECHNOLOGIES

Rapidly evolving technology continues to introduce radical changes in all elements of the air transportation system. These often have a significant impact on current regulatory frameworks and procedures. These changes challenge CAAs as they attempt to effectively include them into their safety oversight programme. Consider for example how CASIs perform oversight of remotely piloted aircraft operators, remote tower services, increased automation and the integration of advanced capabilities on the ground and in the air.

CHANGING BUSINESS MODELS

There is a growing need for CASIs to carefully consider the business models of regulated entities as the delineation of roles, responsibilities and obligations become more complex and difficult to track and oversee. For example:

- An increasing number of pilots are not directly hired by the air operator, thus lacking employment protection and exposing them to retaliation or discrimination.
- An increasing number of air operators operate from bases not located in the State where they are certified, making it difficult for that State of the Operator to track and oversee their operations.
- There is an increased dependency on wet-lease.
- An increasing number of air operators belonging to the same owner exchange aircraft and crews, thereby creating interoperability/interchangeability of aircraft across operators.
- There is an increased use of contracting/subcontracting safety-critical or core business related services: an increasing number of service providers are outsourcing more and more activities under their responsibility to entities that are not approved/certified and that are located in other countries.

- The emergence of complex governance structures in organizations is making oversight more complicated. For example, a single air navigation service provider is responsible for the Functional Airspace Blocks (FABS) in the upper airspace of Europe, areas extending over several States. Authorities have to adapt and cooperate.

In order to compensate for a shortage of locally qualified people or the inability to acquire sufficient budgetary funding allocations, States may need to consider changing their own business model. For example, they may augment the core group of CASIs with designated personnel trained and qualified to perform inspection/audit duties that are acquired through consignment agreements with other States or selected aviation service providers. In these instances, States must take special precautions to mitigate any likelihood of conflicts-of-interest when assigning inspection duties to temporary employees coming from organizations outside of the CAA. Regardless of the circumstances surrounding the CAA's level of funding or staffing, the State continues to assume full responsibility for meeting its safety obligations enshrined in the Chicago Convention and its Annexes.

INCREASING TREND TOWARDS PERFORMANCE-BASED REGULATIONS

Many States face regulatory oversight issues because of the high volume of regulations, the complexity of regulations, the heterogeneity of the regulated entities and the regulatory costs to aviation stakeholders and service providers. Research by the Organization of Economic Co-operation and Development (OECD) indicates that several of its member countries are implementing strategies to simplify their regulatory frameworks and reduce the impact of regulations on businesses in many sectors, including aviation.

Industry and regulators are examining existing provisions for civil aviation to determine if:

- they effectively address the issues that confront them;
- the original assumptions underlying them are still applicable; and
- there are more effective and efficient ways of achieving a regulatory outcome with limited resources.

Like any other regulatory tools, civil aviation regulations consist of rules that, if not complied with, can lead to consequences. All regulations share four dimensions: a regulator, a target, a command and a consequence.

The difference between a civil aviation regulation that is prescriptive or one that is performance-based lies in the nature of the command embedded in it. In a prescriptive approach, the command focuses on the "how things must be done" and on the means to achieve an outcome. Typically, compliance with the command is verified through measurable indicators. In a performance-based approach, the command focuses on "what needs to be achieved" or on the outcomes. This focus gives service providers flexibility in determining how they will achieve this outcome. This can in turn lead to better and less costly regulatory solutions. For example, performance-based regulations can improve the understanding of risks and the identification of mitigation measures; and can focus oversight activities on the areas of greater concern or need and make more effective use of inspectorate resources.

Compliance with the performance-based regulations cannot be verified only through quantitative indicators and a "one size fits all" approach. The effectiveness of the different components of the system(s) supporting the achievement of the outcome(s) identified in the regulation also needs to be assessed and verified.

With the introduction of performance-based regulations, CASIs will need to adopt a systemic approach to assessments. For example they will need to assess how safety accountabilities are discharged, how businesses are structured, how interfaces among service providers are managed, how safety risks are mitigated, how robust are a service provider's risk management and safety assurance processes. CASIs will require competencies that are transferable across a wide variety of contexts.

Below is a simple example illustrating the differences between a prescriptive regulation and a performance-based regulation:

Record keeping

Prescriptive: the following records [list] shall be kept for five years in a secure manner that ensures that they are protected from theft and alteration.

Performance-based: Records must be stored in a manner that ensures preservation and traceability throughout the entire lifecycle of the aircraft or component they refer to.

For the performance-based regulation for record-keeping above, CASIs would need to assess, among other things, the effectiveness of the systems a service provider has put in place to ensure traceability of the aircraft components. This assessment would go beyond verifying that records have been kept for five years in a secure place. In this case, CASIs have to make context-specific assessments about how the service provider manages record-keeping.

1.4   PREPARING CASIs FOR THE FUTURE

In order to comply with their oversight obligations, States need to ensure that: a) they have enough CASIs (tools are available on website xxx to support States in their CASI manpower planning process); and b) their CASIs are qualified and competent. This manual focuses on the latter in order to enhance the effectiveness of a State's oversight activities today and to better prepare for their oversight needs of the future.

The data collected through the USOAP protocol questions related to critical element 4 provides evidence about how well a CAA establishes and implements a training policy, maintains training records, ensures that inspectors meet minimum requirements, and if entities to whom CASI duties have been delegated achieve and maintain competency. Regardless of whether the CASIs are employed by the CAA or CASI functions are subcontracted out, the person performing the function of a CASI should be able to perform the required duties and tasks competently. Chapter 2 of this manual describes the duties and tasks of CASIs.

The authority needs to be able to train CASIs to perform these duties and tasks. There are two approaches to training:

1. Traditional approaches to training development involve the decomposition of jobs into tasks. A limitation of this approach is that each task must be taught and assessed. In complex systems or when jobs are evolving rapidly, as in the case of CASIs, it may not be possible to teach and assess each task. Moreover, trainees may demonstrate the ability to perform tasks in isolation without being competent in their job.
2. Competency-based training and assessment is a concept and methodology that was developed during the 1950s, became a mainstream concept during the 1980s and has been applied in many different contexts and professions. It is based on the concept that competencies are transferable across multiple and varied contexts. Typically, a limited number of competencies will be defined (as opposed to task lists which are comprehensive). These competencies will be demonstrated in the performance of a variety of tasks. Competencies can also be used to identify root causes of failure in the performance of a task. Competencies for CASIs associated with meeting the challenges of conducting oversight duties and tasks in increasingly complex and dynamic environments are discussed in Chapter 3.

Competency-based training and assessment can yield the following benefits:

- It ensures that CASIs achieve a level of performance that enables them to work independently and effectively.
- It supports decision-makers/managers in monitoring the ongoing competence of CASIs through the identification and collection of assessment evidence.
- It supports the early identification of performance gaps and the design of more effective training to close the performance gap.
- It supports the development of effective recruitment and selection tools.
- It supports a more accurate analysis of how CASIs tasks, techniques and methods will be affected by changes which, in turn, will support the development of more effective continuation training.

For more information concerning competency-related provisions refer to the *Procedures for Air Navigation Services – Training* (PANS-TRG, Doc 9868). The implementation of CASI competency-based training should only be envisaged once a functioning and adequately sized inspectorate is established.

Chapter 4 provides information on how competency-based training and assessments can support the different stages in a CASI career lifecycle.

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CHAPTER 2.   WHAT CASIs DO (DUTIES AND TASKS)

This chapter describes the CASIs' duties and tasks as they are presently structured and provides a brief description of the typical entry qualifications of CASI applicants and those required to perform CASI duties. A CASI is a qualified person authorized by the State to carry out safety oversight activities for civil aviation. CASIs' duties will necessarily evolve in order to adapt to the changing regulatory environment and the specific needs of their oversight organization. As a consequence, it is not possible to identify a standardized list of tasks for each CASI role as these are specific to the structure and the context of the oversight organization. For more information regarding an inspectorate organizational structure and examples of CASI tasks list, go to web [address].

2.1. AREAS OF ACTIVITY OF CASIs

CASIs are technical specialists traditionally recruited from those sectors of the aviation industry that they will eventually oversee, and who possess the appropriate technical qualifications and competencies. While not exhaustive and dependent upon the size and complexity of a State's aviation sector, CAAs will frequently be required to oversee some of the following areas of activities[4] or persons:

- air operators and general aviation operations;
- aerodromes and heliports;
- licensed personnel (e.g. pilots, air traffic controllers, maintenance engineer) and other aviation personnel (e.g. cabin crew, dispatchers[5], ATSEPs);
- manufacture and maintenance of aeronautical products;
- continuing airworthiness of aircraft;
- approved organizations and their approved services/programmes;
- provision of air navigation services (including meteorological services, aeronautical telecommunications, search and rescue services, navigation aids and airspace infrastructure, charts and the distribution of aeronautical information); and
- dangerous goods.

Within each of the relevant areas of activity, CAAs need CASIs who possess the appropriate technical qualifications and competencies to manage oversight activities associated with the State's air transportation system to a level dependent on its complexity. Normally, inspectors are assigned tasks according to their areas of technical expertise, experience levels and inspector qualifications. CASIs' principal operational duties will normally be focused on inspection, certification and on-going surveillance. For the purpose of this manual, CASIs will be understood to exclude authority personnel involved exclusively in the oversight of product design and type certification.

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[4] While CASIs may be assigned/seconded to assist in an accident or incident investigation as an adviser or an accredited representative, the State's requirement to investigate aircraft accidents or incidents is usually not included in this list of activities since typically investigative activities do not normally fall under the purview of the CAA, but are a function of the independent accident investigation authority of the State.

[5] Dispatchers may be licensed.

2.2. INSPECTOR ROLES, TYPICAL DUTIES AND ENTRY QUALIFICATIONS

In many domains involving complex certification, surveillance and audit activities, the CAA will appoint an inspection team led by a CASI to conduct the work on its behalf. The qualifications of the inspectors leading inspection teams, referred to as CASIs, are described in this manual. Generally, an inspection team consists of trained personnel, including CASIs authorized to assess the conformity and compliance of the organization or individual being inspected. For example, the team conducting the certification of an applicant for an air operator certificate would include at least an airworthiness CASI and a flight operations CASI, assisted by other team members (depending on the complexity of the proposed operations).

Although some of the inspection team members may have less experience and qualifications or not be licensed in the area they are inspecting, they will have successfully completed the appropriate CAA training to assist the team leader(s). For instance, these inspection team members may review documents submitted by an applicant for certification, in accordance with established procedures and checklists, and report to the CASI leading the team.

While States with a mature civil aviation oversight capability may have established their own inspectorate qualification background, the following examples provide a reasonable expectation of the various areas of activities of CASIs along with the associated qualifying experience desirable from applicants before they are trained as CASIs by the CAA.

The lists of duties reported below are to be considered non-exhaustive, as they largely depend on the internal organization of the CAA and on the size of the regulated industry.

However, the management of remediation and enforcement should be mentioned as it is a critical duty of CASIs and inspection teams. Depending on the scope of their delegated authority, CASIs will have varying levels of responsibility regarding remediation and enforcement. While all CASIs will address remediation in some shape or form, not all CASIs will address enforcement. In some CAAs, specialized senior inspectors manage enforcement and are trained in their national civil aviation enforcement policies and regulations as well as in their national judicial system. They must understand the escalation paths and the full range of available enforcement actions to reach the desired safety outcomes. Enforcement actions are implemented based on the recommendation of those specialized senior inspectors. When an enforcement decision is challenged or contested, these specialized inspectors are part of the team that represents the CAA in legal and court proceedings. See Figure 3 for an illustration of a CASI's progression to senior inspector.

2.2.1.   AERODROME AND HELIPORT CASI

For an aerodrome and heliport CASI, typical duties will include (anytime "aerodrome" is mentioned, it also includes "heliport"):

- verification of the aerodrome data in the aerodrome manual and aeronautical information publications;
- on-site verification and audits of aerodrome operating procedures;
- on-site checking and testing of aerodrome facilities and equipment;
- flying assessments and aeronautical studies at aerodromes in coordination with other inspectors;
- aerodrome development oversight;
- assessment of aerodrome emergency plans and associated testing;
- on site checking and testing of rescue and fire fighting services; and
- certification of aerodromes and heliports.

Qualifying experience should include a broad exposure to aerodrome ground operations. The applicant may be an engineer (civil or electrical) with adequate experience in aerodrome/heliport planning, operation or maintenance and should possess a sound knowledge of Annex 14 — *Aerodromes*, Volume I — *Aerodrome Design and Operations* and Volume II — *Heliports*, relevant ICAO manuals and national regulations and practices. Aerodrome/heliport management experience and knowledge of safety management systems are desirable. Other qualifications, experience and knowledge suitable for carrying out the duties of an aerodrome/heliport inspector may be considered, subject to any conditions that the CAA may have regarding the person's qualifications, experience and knowledge.

2.2.2. AIRWORTHINESS CASI

Note.– For the sake of completeness, this section deals also with the design and certification of aviation products, which will not be covered elsewhere in this manual.

For an airworthiness inspector, there are two specialities:

1.   continuing airworthiness CASI, including oversight of manufacturers; and
2.   airworthiness inspector in charge of aircraft and aviation products design and certification.

This manual considers only the continuing airworthiness inspector as a CASI. The second speciality is mentioned for reference only.

CONTINUING AIRWORTHINESS CASI, INCLUDING OVERSIGHT OF MANUFACTURERS

For a continuing airworthiness CASI, typical duties may include:

- oversight of commercial air transport operators' maintenance control, including inspections/audits;
- oversight of general aviation operators' maintenance control;
- approval of MEL and specific approvals for special operations authorizations (e.g. extended diversion time operations (EDTO), low visibility operations (e.g. CAT II/III) - in coordination with flight operations inspectors);
- aircraft maintenance programme approval and surveillance;
- issuance and renewal of certificates of airworthiness;
- support for aircraft export/import and registration;
- approval of modifications and repairs, either based on a supplemental type certificate or involving minor repairs;
- approval and surveillance of maintenance organizations;
- approval and surveillance of manufacturing organizations;
- approval and surveillance of maintenance training organizations;
- assessment of training programmes; and
- assessment of applicants for an aircraft maintenance (technician/engineer/mechanic) licence or rating.

The airworthiness CASI applicant should generally hold an aircraft maintenance technician licence or a similar qualification in an approved maintenance organization. Knowledge of quality and safety management systems is desirable, as is relevant experience in the provision of maintenance training and checking.

2.2.3. FLIGHT OPERATIONS CASI

Flight dispatch CASI duties may be undertaken by a flight operations CASI or by a CASI dedicated to flight dispatch. For a flight operations CASI, typical duties may include the list below:

- oversight of commercial air transport operators' flight operations, including in-flight inspections;
- inspection of general aviation operations;
- approval of MEL and specific approvals for special operations authorizations (e.g. EDTO, CAT II/III - in coordination with airworthiness CASIs);
- approval and inspection of training organizations;
- approval and inspection of flight crew training programmes;
- qualification and approval of flight simulation training devices; and
- assessment of applicants for a flight crew licence or rating.

The flight operations inspector applicant should hold or have held a pilot licence/rating at least equal to the licence/rating for which assessments are conducted and have relevant experience in the aircraft operations subject to oversight. Knowledge of safety management systems is desirable, as is relevant experience in the provision of flight training and checking.

FLIGHT DISPATCH CASI

For a flight dispatch CASI, typical duties may include:

- inspection of the air operators' operational control, flight preparation, support and following, as well as post flight support, in coordination with flight operations CASIs;
- acceptance and inspection of flight operations officer/flight dispatcher training programmes; and
- assessment of applicants for a flight operations officer/flight dispatcher licence or qualification.

The flight dispatch inspector applicant should hold or have held a flight operations officer/flight dispatcher licence (or equivalent qualification) and have relevant flight dispatch experience in international commercial air transport operations. Experience in the provision of flight operations officer/flight dispatcher training and checking is desirable.

2.2.4. AIR NAVIGATION SERVICES CASI

For an Air Navigation Services CASI, typical duties may include:

- oversight of air traffic services providers, including acceptance of their SMS;
- oversight of meteorological services providers within the State, and of the provision of meteorological services by providers from other States (e.g. the world area forecast system or the tropical cyclone advisory centres);
- oversight of aeronautical information service providers and their management of information;
- inspection of the communication, navigation and surveillance (CNS) infrastructure and its effectiveness;
- approval of airspace structure changes and flight procedures conceived by a design organization;
- oversight of search and rescue coordination;
- approval of air traffic control training organizations and programmes;
- approval of other air traffic services training programmes;
- qualification and approval of air traffic control simulation training devices; and
- assessment of applicants for an air traffic controller licence or rating (or equivalent qualification).

The air navigation services inspector applicant should hold or have held an air traffic controller licence (or equivalent qualification) and have relevant experience in the duties assigned by the CAA. Knowledge of safety management systems is desirable, as is relevant experience in the provision of air traffic services training and checking. Depending on the airspace complexity in the State, other technical qualifications may be relevant for inspectors charged with the evaluation of the aeronautical information management, CNS infrastructure, the airspace structure and the design of flight procedures.

2.2.5. CABIN SAFETY CASI

For a cabin safety CASI, typical duties may include:

- review and approval of the air operators' cabin emergency equipment and procedures, in coordination with flight operations CASIs;
- approval and inspection of cabin crew members' safety training programmes, including procedures, facilities and equipment; and
- conduct of en-route inspections for cabin safety.

The cabin safety inspector applicant should have relevant cabin crew experience in international commercial air transport operations. Experience in the provision of cabin crew safety training and knowledge of safety management systems as related to cabin safety is desirable.

2.2.6. DANGEROUS GOODS CASI

For a dangerous goods CASI, typical duties may include:

- specific approval for the transport of dangerous goods by commercial air transport operators, including the dangerous goods procedures and training programmes;
- approval of the dangerous goods procedures and training programmes of commercial air transport operators that are not approved to transport dangerous goods;
- inspection of the conformity of operations with regard to dangerous goods; and
- investigation of dangerous goods incidents and accidents.

The dangerous goods inspector applicant should have relevant experience in commercial air transport operations involving dangerous goods. Experience in the provision of dangerous goods training is desirable.

2.3. ICAO TOOL TO RECOGNIZE CIVIL AVIATION SAFETY INSPECTORS

An ICAO initiative is being developed to recognize civil aviation safety inspectors at a global level to help States carry out their safety obligations as required by the Convention and its supporting nineteen Annexes. When available, the programme would ensure that the civil aviation safety inspectors who have successfully gone through the programme are identified by ICAO to be proficient in describing the intent of relevant ICAO provisions and are familiar with related ICAO guidance material and tools that support them.

The programme to be identified as an ICAO civil aviation safety inspector is outlined in Appendix D of this document.

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CHAPTER 3.   HOW CASIs DO THEIR JOB (COMPETENCIES)

Part I, paragraph 6.2.6 of Doc 8335, *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* (5th edition), describes the sensitive environment in which CAA inspectors perform their duties. On the selection process, the manual advises:

> *"The satisfactory execution of the various functions of the CAA inspectorate depends on the qualifications, experience, competence and dedication of individual inspectors. In addition to the crucial importance of technical competency in performing certification, inspection and surveillance functions, it is likewise critical that inspectors possess a high degree of integrity, are impartial in carrying out their tasks, are tactful, have a good understanding of human nature and are able to get along well with people. Persons subject to oversight by inspectors are often apprehensive and sensitive to perceived intrusions by CAA representatives into what they consider their own domain. Such apprehension or resentment can usually be reduced or overcome when the inspectors responsible for oversight take care to explain that their objective is to assist rather than hinder and that their oversight activities are being carried out in the interest of enhancing safety. Considering the specialized and sensitive nature of the CAA inspector's mission, it is essential that the qualifications, previous experience and personal characteristics of each person to be employed to perform inspection and oversight duties be verified and carefully evaluated before selections and appointments are made."*

This chapter describes the competencies that CASIs should demonstrate in performing the functions of "the specialized and sensitive nature of the CAA inspector's mission". The CASI competencies are a means for assisting the authority to choose the best people for the job now and in the future and in determining acceptable levels of performance for CASIs during different stages of their careers.

3.1. WHAT ARE CASI COMPETENCIES?

The CASI competencies are used to reliably predict successful performance of CASIs in the performance of their duties and tasks. This is especially useful as CASIs need to adapt to a changing regulatory environment. Over the course of their careers, CASIs will find themselves in unusual and frequently complex situations. Depending upon the circumstances, they can be called upon to act as an observer, analyst, investigator[6], auditor, mediator, negotiator, technical expert, judge or even as a witness. Technical expertise alone does not prepare a person to function competently in such an environment.

The concept of competencies is helpful in several human resource planning processes, including selection and recruitment; training and assessment; and career and succession planning. In this manual, we focus on selection and recruitment, and training and assessment. More information on general provisions on how to design and develop competency-based training and assessment can be found in Part I, Chapter 2 of the PANS-TRG (Doc 9868).

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[6] investigation resulting from a finding or an observation of an infraction.

3.2. ASSUMPTIONS UNDERLYING THE ICAO CASI COMPETENCY FRAMEWORK

The CASI competency framework in paragraph 3.3 below presents the ICAO competency framework for CASIs. ICAO competency frameworks are developed by ICAO and present a set of competencies for a given aviation discipline. Each competency has an associated description and observable behaviours. It is a generic blueprint to guide the development and maintenance of a strong inspectorate workforce. The ICAO CASI competency framework should be adapted to the context of the oversight organization in which the CASIs work. A methodology for CAAs to adapt the ICAO competency framework into the adapted competency model for use in the development of the components of competency-based training and assessment for CASIs is provided in Part I, Chapter 2 of the PANS-TRG (Doc 9868).

The competency framework describes the competencies and associated observable behaviours that a very experienced CASI, leading multi-disciplinary inspection (or certification) teams addressing complex oversight issues, will demonstrate at the highest competency standards as determined by the CAA. This competency framework conforms to the provisions of Doc 9868. This manual does not address competencies required in a management role as these are specific to each organization and beyond the scope of responsibilities of a CASI. As they pursue their career, CASIs should progress in demonstrating as many competencies as possible and to progressively higher competency standards as determined by the CAA.

While CASI applicants cannot demonstrate all the competencies below, they can provide evidence that they demonstrate some of them during the recruitment process. Although the evidence they provide cannot be directly linked to the inspectorate context in which they will eventually work, it can be indicative of future successful performance.

When hired, CASI candidates go through initial qualification training. Once initial training is successfully completed, CASIs will perform duties and tasks independently or as part of an inspection team. They should demonstrate the set of competencies and performance criteria that the CAA has determined to be the minimum level acceptable. It is understood that competencies demonstrated at the recruitment phase will be built upon and reinforced during the initial qualification training phase. As they gain experience and go through continuation training, it is expected that CASIs maintain and expand the competencies required for their role at increasingly demanding standards. In Appendix A, an example is provided of the competencies and associated observable behaviours that CASI candidates can demonstrate at the entry level. Appendix A also contains an example of the competencies and associated observable behaviours that CASIs should demonstrate at the completion of initial training.

Once initial training has been successfully completed, the CASI will need to receive periodic recurrent and specialized training on tasks for which the CASI is responsible. This is further discussed in Chapter 4.

Note.– In the ICAO CASI competency framework below, the term "stakeholder" refers to individuals and organizations as well as other interested parties performing an aviation activity.

3.3. THE ICAO CASI COMPETENCY FRAMEWORK

CAAs and training organizations electing to implement competency-based training and assessment for CASIs should use this ICAO competency framework as a basis to develop their adapted competency model to suit their context.

COMPETENCY: **ETHICS AND VALUES**

Description	Demonstrates integrity, transparency, openness, respect and fairness and considers the consequences when making a decision or taking action. Acts consistently in accordance with fundamental values of the civil aviation authority.
Observable Behaviours	• Treats others respectfully, fairly and objectively regardless of differences. • Answers questions truthfully without embellishment or attempt to cover up a lack of knowledge. • Maintains privacy and confidentiality when appropriate. • Manages professional relationships with appropriate role boundaries. • Adheres to professional codes of conduct when taking action and making decisions. • Takes responsibility for own actions. • Identifies and mitigates conflict of interest situations. • Acts with integrity. • Uses resources of the CAA and aviation entities in a cost-conscious manner. • Demonstrates the values of the CAA.

COMPETENCY: **COMMUNICATION**

Description	Effectively conveys, receives and understands information in oral, written and non-verbal modes.
Observable Behaviours	• Verifies that the recipient is prepared to receive information. • Confirms that information conveyed was received and accurately understood. • Listens actively and objectively without interrupting. • Checks own understanding of other's communication (e.g. repeats or paraphrases, asks additional questions). • Presents appropriate and accurate information in a clear, concise and compelling manner in all media. • Adapts content, style, tone and media of communication to suit the target audience including cultural considerations and to promote dialogue. • Understands other people's concerns. • Maintains open lines of communication with management, stakeholders and colleagues. • Communicates complex issues clearly and credibly with diverse audiences. • Delivers difficult or unpopular messages with clarity, tact and diplomacy.

COMPETENCY:	**PROBLEM SOLVING AND DECISION MAKING**
Description	**Solves issues of varied levels of complexity, ambiguity and risk. Makes timely decisions that take into account relevant facts, tasks, goals, constraints, risks and conflicting points of view.**
Observable Behaviours	• Collects related and sufficient information from a variety of sources in a timely manner. • Breaks down complex tasks into manageable parts. • Considers multiple possible causes of problems. • Identifies risks involved for different solutions to a problem. • Identifies interdependencies between various components of a problematic situation. • Develops solutions that address the situation in its entirety. • Takes steps to mitigate medium- to long-term impact of solutions when developing solutions to fix immediate issues. • Provides a rationale behind each decision. • Makes timely decisions based on applicable rules and procedures. • Responds decisively when inappropriate conduct is identified to affect positive change without delay.* • Recognizes scope of own authority for decision making and escalates to the appropriate level if necessary. • Demonstrates decisiveness when under pressure or faced with complex or sensitive situations. • Incorporates lessons learnt in future decisions.

COMPETENCY:	**INITIATIVE**
Description	**Identifies and addresses issues independently, proactively and persistently to achieve objectives.**
Observable Behaviours	• Seizes opportunities that arise. • Acts promptly in a crisis situation. • Deals with obstacles effectively. • Looks for ways to enhance efficiency and effectiveness. • Looks for resources to support objectives. • Anticipates and acts on potential issues. • Organizes personal workload to ensure excellence in productivity and quality of service.

COMPETENCY: **TECHNICAL EXPERTISE**

Description	**Applies and improves technical knowledge and skills to perform safety oversight duties in a specific aviation discipline.**
Observable Behaviours	• Applies technical knowledge and skills to correctly address a situation. • Accurately answers complex technical questions. • Keeps up to date on specialized technical knowledge and skills. • Recognizes trends in practice of one's own technical area and anticipates changes. • Interprets correctly and explains the intent of the applicable statute, regulation, or standard for a given context. • Evaluates efforts by stakeholders to demonstrate initial compliance with the regulations. • Develops and implements an effective programme to monitor continuing compliance of the regulations by stakeholders. • Contributes as a subject-matter expert to the development of regulations and guidance. • Consistently provides appropriate guidance to stakeholders and colleagues on how to implement performance-based regulations. • Applies appropriate procedures in accordance with the CAA standards. • Applies enforcement measures when necessary and in accordance with applicable regulations.*

COMPETENCY: **SYSTEMS THINKING**

Description	**Understands and determines how the various components of management systems interact and affect the overall system safety performance.**
Observable Behaviours	• Accurately evaluates the inter-relationship between policies, processes and procedures of the stakeholder's systems. • Accurately evaluates the inter-relationship between various systems including quality planning, quality control, and quality assurance of the stakeholder. • Determines the effectiveness of the implementation of continuous improvement, reactive and proactive processes. • Recognizes the essential components of a functional safety management system and their interoperability. • Determines whether the stakeholder's management systems are appropriate for the size and scope of the operation. • Accurately evaluates the inter-relationships between the management systems across various stakeholders. • Uses the appropriate set of metrics to measure and monitor regulatory and stakeholder safety performance. • Interprets findings from analysis of performance data. • Assesses if the stakeholder safety performance objectives achieve the desired safety performance. • Provides feedback on potential deficiencies of the regulatory framework. • Accurately determines whether the root cause(s) of deficiencies results from a single-point or systemic failure(s).*

COMPETENCY: RISK MANAGEMENT	
Description	**Demonstrates an effective approach to the oversight of a stakeholder considering its business model, risk profile and its availability of resources.**
Observable Behaviours	• Carries out comprehensive risk assessments of service providers using appropriate methodologies. • Makes strategic decisions based on risk assessment, principles, values and business cases. • Accurately determines on a timely basis trends, problem areas or hazards that may negatively impact safety. • Recognizes business practices or organizational cultures that are potential indicators of increased levels of risk. • Applies appropriate certification requirements and surveillance techniques according to changing levels of risk. • Evaluates appropriateness of safety cases submitted by service providers. • Evaluates appropriateness of risk assessments performed by stakeholders and actions taken to manage hazards to an acceptable level. • Identifies if appropriate remedial or enforcement action is required to address an issue at its root cause.* • Ensures that stakeholders implement remediation measures.*

COMPETENCY: LEADERSHIP AND TEAMWORK	
Description	**Collaborates up, down and across the organization to foster and promote a clear vision and common goals. Energizes others to achieve the goals and positive results.**
Observable Behaviours	• Gains the trust and confidence of others. • Promotes positive working relationships. • Encourages open discussion. • Facilitates resolution of conflicts. • Inspires others to collaborate and strive towards excellence. • Actively solicits constructive feedback. • Willingly adopts suggestion for improvement from others. • Directs the work of the team to adapt to circumstances. • Empowers team members to make decisions. • Identifies the required resources to support the team.

COMPETENCY: **CRITICAL THINKING**	
Description	**Analyses information in order to consistently achieve desired outcomes.**
Observable Behaviours	• Accurately analyses stakeholder performance data for trends. • Evaluates information with accuracy and objectivity. • Seeks additional detail or clarification from colleagues or stakeholders. • Synthesises data from a variety of sources appropriately. • Applies procedures appropriately. • Recognizes that different processes and procedures can lead to similar outcomes. • Analyses the thoroughness and effectiveness of all documented processes. • Determines if CAA employees understand and adhere to processes. • Determines if stakeholders understand and adhere to processes. • Assesses the efficiency and effectiveness of the implementation and maintenance of mandatory system-based programmes against operational requirements. • Distinguishes between lapses, negligence and reckless action.*

* Observable behaviours considered particularly important for remediation and enforcement tasks.

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CHAPTER 4.   CASI CAREER AND TRAINING LIFECYCLE

This chapter describes the different phases of a CASI's career lifecycle and associated training. A generic methodology to design competency-based training and assessment is described in the PANS-TRG and will therefore not be repeated in this manual. However, to support the development of CASI competency-based training and assessment (CBT&A) programmes, examples of the following components of a CBT&A can be found in Appendix B of this manual: training specifications, adapted competency model and evidence guide.

4.1.   CASI CAREER LIFECYCLE

As CASIs progress in their career, they develop and achieve a wider spectrum of the competencies identified in their CAA's adapted competency model. We can identify three phases in a CASI`s career, on the understanding that not all CASIs achieve or wish to carry out duties and tasks as a principal inspector. Training associated with these four different phases of a CASI's career supports the acquisition and maintenance of the competencies CASIs need to effectively perform their job. The four phases are depicted in Figure 3 below and are: recruitment, authorization, senior inspector and principal inspector.
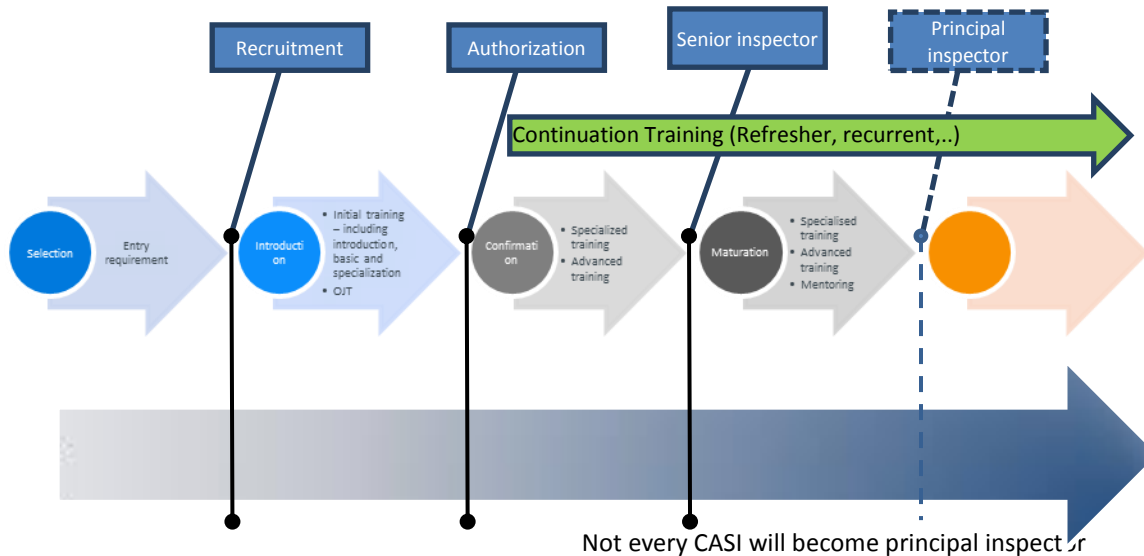
Figure 3.   Career progression of a successful CASI with associated training

Once CASI candidates have been recruited and have successfully completed their initial training, they enter the authorization phase and can perform basic authorization and inspection duties and tasks demonstrating the competencies that the CAA has identified and expects from a beginner CASI. As the qualified CASIs gain experience in the authorization phase, they may carry out the same duties and tasks but in increasingly complex operational contexts.

At the senior inspector phase, CASIs will demonstrate the full spectrum of the competencies described in Chapter 3. Senior inspectors will lead inspection teams, carry out duties and tasks associated with a highly complex operational context, and mentor other CASIs to support them in the acquisition and maintenance of competencies.

Principal inspectors perform duties and tasks that go beyond the scope of activities of CASIs as described in this manual. They are for example, directly involved in rule making and the resolution of complex regulatory issues.

4.2.   SUPPORTING CASI CAREER LIFECYCLE THROUGH TRAINING

As outlined in Figure 3 above, CASIs go through different types of training to support the acquisition and maintenance of competencies and to learn the evolving knowledge and skills they required to perform their job. These different types of training are described below.

4.2.1.   INITIAL TRAINING

At the end of the initial training, CASIs should have acquired the competencies identified by the CAA as necessary to perform the authorization phase duties and tasks. Initial training is typically organized as follows:

a) *Introduction.* At the end of this part of initial training, CASI candidates should have acquired the necessary underpinning knowledge of their State government, the CAA and its rulemaking processes as well as a common reference point necessary to support the acquisition of skills and knowledge in basic and specialization training.

b) *Basic.* By the end of the basic part of initial training, CASI candidates will have acquired the knowledge and skills necessary to perform the duties and tasks generic to CASIs regardless of their assigned area of specialization.

c) *Specialization.* By the end of specialization training, CASI candidates will be ready to undertake on-the job training and will have acquired all knowledge and skills necessary to perform the duties and tasks within their assigned area of specialization. They will also have demonstrated all the competencies identified by the CAA to perform successfully as a CASI.

d) *On-the-job training.* By the end of on-the-job training, CASIs will have demonstrated that they consistently apply all the competencies identified by the CAA and can work independently.

More detail on the content of the different initial training components is provided below.

INTRODUCTION

Ideally, the initial training programme for CASIs should commence soon after the new employees have had a chance to familiarize themselves with the workplace[7] and to establish a basic rapport with their new colleagues. In order to provide the trainees with a common baseline of knowledge of the working environment, the initial training programme should begin with an introduction, which covers:

a) general structure of the State's government (i.e. executive and legislative branches);
b) role of the public service;
c) mandate and current objectives of the CAA;
d) internal structure and functionality of the various CAA departments;
e) overview of ICAO's role and its Annexes; and
f) overview of aviation law and regulations (specific to the State).

The content of the introduction of the initial training programme will vary depending upon the complexities existing within the State and its CAA. At the end of this part of initial training, trainees should have an appropriate level of comprehension

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[7] Gaining insight into such things as employee benefits, hours of work, labour agreements and travel policies.

of the workings of the government, the CAA and the suggested topics listed above. This will ensure that trainees share a common perspective in order to assimilate CASI-specific knowledge and skills. For those who undergo specialization training outside of their home State, a well-structured introduction is particularly helpful in keeping the remainder of the training in the correct context.

BASIC

The basic component of initial training should be generic. At the end of this part of initial training, trainees should be able to understand, know and demonstrate use of a common set of principles, methodologies and service standards. This will benefit the CAA because it will facilitate the creation of effective multi-disciplinary task forces and audit teams whenever needed.

The basic component of initial training should address the following topics:

- a) departmental ethics/conduct and discipline;
- b) security aspects of the CASI work;
- c) the role of CASIs, their codified level of authority and degree of responsibility;
- d) overview of CAA-regulated entities and associated challenges[8];
- e) basics of human factors;
- f) certification and authorization policies, processes and procedures;
- g) surveillance and inspection policies, processes and procedures;
- h) audit policies, processes, and procedures;
- i) investigations and enforcement policies, processes and procedures;
- j) risk assessments;
- k) State safety programme;
- l) safety management systems; and
- m) quality assurance.

SPECIALIZATION

Finally, each trainee should complete the remainder of their training with colleagues that will have similar assignments (e.g. airworthiness inspector, air navigation services inspector or flight operations inspector). At this point, the material covered becomes very specific to the area of specialization and is normally starting from the recruitment competencies in the CASI's field of experience.

During specialization training, CASI candidates apply the knowledge and skills acquired during the basic phase. Often this can best be accomplished by introducing realistic, but hypothetical, scenario-based exercises, such as:

> **Scenario**: The CAA has received an application for an AOC from a new air operator that intends to operate a mixed fleet of aeroplanes for carrying both passengers and freight. The operator intends to have its own maintenance operation and to have a third-party conduct the training of all its personnel.

This scenario lends itself to many training exercises. For example, CASI candidates could demonstrate the knowledge and skills required to perform one or a combination of the following duties and tasks:

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[8] This raises CASI's awareness of the scope of the State's oversight responsibilities, the past, present and future challenges/risks to safety and the general well-being of the aviation industry.

- review and approve manuals;
- approve training programmes, including the approval of a third-party ATO;
- conduct an inspection;
- conduct a realistic risk assessment;
- approve a maintenance organization;
- assess an SMS or a QA programme;

Other topics may be addressed during specialization depending on the CASI's assignment, such as: dangerous goods, performance-based navigation, instructional systems design methodologies or personnel licensing. Course designers and training providers should review the applicable job specifications to ensure that the initial training programme meets the needs of each inspector.

During specialization training, the instructor should assess if the trainees demonstrate all the competencies at the level determined by the CAA for a CASI undertaking authorization phase duties and tasks.

ON-THE-JOB TRAINING

CAAs must institute an on-the-job training (OJT) programme for CASIs and assign experienced inspectors as guides and mentors. During OJT, the CAA should document and retain in the OJT trainee's file the achievement of competencies and their associated performance criteria. If well managed, OJT often results in growing levels of confidence, respect amongst colleagues and better standardization of service levels within the inspectorate.

OJT should be properly conducted requiring the input of significant CAA resources. The trainee is normally paid a salary during OJT and initially observes the CASI conducting the OJT performing inspections. The trainee gradually becomes more active in the inspections before finally conducting inspections under supervision. The CASI mentoring the OJT trainee will spend a significant portion of his time mentoring rather than performing inspection duties.

4.2.2.   CONTINUATION TRAINING

CAAs should develop and implement a well thought-out continuation training plan to ensure their inspectorate can effectively respond to the needs of the industry, particularly when rapid improvements in technology and methodologies arise, while making sure CASIs are effective in their safety oversight duties. The continuation training phase encompasses refresher and recurrent training that CASIs undertake to maintain and enhance their expertise and competencies.

Recognizing that knowledge and skills acquired during initial qualification training erode, as do the trade-related knowledge and skills that qualified the applicant for a CASI position, continuation training is necessary to maintain those knowledge and skills and also covers additional specialized topics/changes/improvements within the industry relevant to the CASI's assigned area of responsibility.

4.2.3.   REQUALIFICATION TRAINING

The DGCA must establish policies regarding the maintenance of inspector competencies and qualifications. This policy must address extended periods of absence from the inspectorate or from performing a specific function (e.g. audits or qualification checks) along with the re-training requirements to achieve and maintain the competencies to the level required. This is particularly important for those individuals who represent the temporary workforce that is brought in under service agreements.

4.2.4. ADVANCED TRAINING

The goal of advanced training is to enhance the competencies of experienced CASIs so they can effectively address challenging and complex oversight issues. These are competencies essential to effectively supervise the delivery of oversight programmes or lead multi-disciplinary inspection teams, including in performance-based regulatory environments.

There are significant differences between conducting a technical compliance audit and assessing the effectiveness of a system. While CASIs build knowledge during initial training regarding SMS and QA, this is insufficient to accurately assess an organization's system-based programmes. CASIs require a deep understanding of and exposure to organizational cultures, business practices and workforce dynamics in order to effectively conduct a process/outcomes assessment. This understanding comes from experience in the field and training. Individuals selected for senior inspector assignments should receive training that builds on their experience and competencies to lead detailed risk assessment exercises and determine effective risk control measures. At the end of advanced training, CASI senior inspectors should be able to analyze business governance processes and procedures and accurately assess their effectiveness in ensuring the highest levels of compliance and conformity in meeting outcome goals. Such CASIs should be able to determine a systemic or single-point failure that is preventing an organization from meeting requirements. Finally, at the successful completion of advanced training, the CASI should consistently be able to recommend mitigation and remediation measures that will have a lasting positive impact upon safety levels[9].

Training in the following areas can support the acquisition of competencies that CASIs should demonstrate as senior inspectors:

- programme management;
- organizational cultures and change management;
- quality management system implementation and audit techniques;
- dispute resolution;
- root cause analysis;
- corrective and preventive action plans; and
- conducting investigations and enforcement procedures.

There are many organizations that offer courses in these areas. The key is to find the right one that provides the quality of training that inspectors deserve since, ultimately, the competency levels of CASIs will determine the quality of the State's safety programme.

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[9] Only highly-experienced CASIs with successfully completed advanced training should be considered for investigative and/or enforcement duties.

APPENDIX A – EXAMPLES OF POTENTIAL ADAPTATION TO THE ICAO COMPETENCY FRAMEWORKS FOR ENTRY AND INITIAL TRAINING COMPETENCIES

When a CAA elects to use a competency-based approach for selection and training, it should use the ICAO competency framework to develop its *CASI adapted competency model* so that it suits its particular context. For more information on how to develop an adapted competency model, refer to Part I, Chapter 2 of the PANS-TRG (Doc 9868). The adapted competency model would include additional elements to the ICAO competency framework (i.e. the conditions and competency standards associated with the competencies and performance criteria) and may also include additional competencies or observable behaviours for the specific training context. The tables below present examples that do not include these additional elements as these would need to be included by the CAA when they carry out the adaptation process of the ICAO competency framework.

The items of the ICAO competency framework considered for an entry level CASI candidate or at the completion of initial training are in black. The items not used are shaded out.

EXAMPLE OF COMPETENCIES THAT A CASI CANDIDATE SHOULD DEMONSTRATE AT ENTRY LEVEL

COMPETENCY: **ETHICS AND VALUES**	
Description	**Demonstrates integrity, transparency, openness, respect and fairness and considers the consequences when making a decision or taking action. Acts consistently in accordance with fundamental values of the civil aviation authority.**
Observable Behaviours	• Treats others respectfully, fairly and objectively regardless of differences. • Answers questions truthfully without embellishment or attempt to cover up a lack of knowledge. • Maintains privacy and confidentiality when appropriate. • Manages professional relationships with appropriate role boundaries. • Adheres to professional codes of conduct when taking action and making decisions. • Takes responsibility for own actions. • Identifies and mitigates conflict of interest situations. • Acts with integrity. • Uses resources of the CAA and aviation entities in a cost-conscious manner. • Demonstrates the values of the CAA.

COMPETENCY: **COMMUNICATION**	
Description	**Effectively conveys, receives and understands information in oral, written and non-verbal modes.**
Observable Behaviours	• Verifies that the recipient is prepared to receive information. • Confirms that information conveyed was received and accurately understood. • Listens actively and objectively without interrupting. • Checks own understanding of other's communication (e.g. repeats or paraphrases, asks additional questions). • Presents appropriate and accurate information in a clear, concise and compelling manner in all media. • Adapts content, style, tone and media of communication to suit the target audience including cultural considerations and to promote dialogue. • Understands other people's concerns. • Maintains open lines of communication with management, stakeholders, and colleagues. • Communicates complex issues clearly and credibly with diverse audiences. • Delivers difficult or unpopular messages with clarity, tact and diplomacy.

COMPETENCY:	**PROBLEM SOLVING AND DECISION MAKING**
Description	**Solves issues of varied levels of complexity, ambiguity and risk. Makes timely decisions that take into account relevant facts, tasks, goals, constraints, risks and conflicting points of view.**
Observable Behaviours	• Collects related and sufficient information from a variety of sources in a timely manner. • Breaks down complex tasks into manageable parts. • Considers multiple possible causes of problems. • Identifies risks involved for different solutions to a problem. • Identifies interdependencies between various components of a problematic situation. • Develops solutions that address the situation in its entirety. • Takes steps to mitigate medium- to long-term impact of solutions when developing solutions to fix immediate issues. • Provides a rationale behind each decision. • Makes timely decisions based on applicable rules and procedures. • Responds decisively when inappropriate conduct is identified to affect positive change without delay.* • Recognizes scope of own authority for decision-making and escalates to the appropriate level if necessary. • Demonstrates decisiveness when under pressure or faced with complex or sensitive situations. • Incorporates lessons learnt in future decisions.

COMPETENCY:	**INITIATIVE**
Description	**Identifies and addresses issues independently, proactively and persistently to achieve objectives.**
Observable Behaviours	• Seizes opportunities that arise. • Acts promptly in a crisis situation. • Deals with obstacles effectively. • Looks for ways to enhance efficiency and effectiveness. • Looks for resources to support objectives. • Anticipates and acts on potential issues. • Organizes personal workload to ensure excellence in productivity and quality of service.

COMPETENCY: **TECHNICAL EXPERTISE**

Description	**Applies and improves technical knowledge and skills to perform safety oversight duties in a specific aviation discipline.**
Observable Behaviours	• Applies technical knowledge and skills to correctly address a situation. • Accurately answers complex technical questions. • Keeps up to date on specialized technical knowledge and skills. • Recognizes trends in practice of one's own technical area and anticipates changes. • Interprets correctly and explains the intent of the applicable statute, regulation, or standard for a given context. • Evaluates efforts by stakeholders to demonstrate initial compliance with the regulations. • Develops and implements an effective programme to monitor continuing compliance of the regulations by stakeholders. • Contributes as a subject-matter expert to the development of regulations and guidance. • Consistently provides appropriate guidance to stakeholders and colleagues on how to implement performance-based regulations. • Applies appropriate procedures in accordance with the CAA standards. • Applies enforcement measures when necessary and in accordance with applicable regulations.*

COMPETENCY: **SYSTEMS THINKING**

Description	**Understands and determines how the various components of management systems interact and affect the overall system safety performance.**
Observable Behaviours	• Accurately evaluates the inter-relationship between policies, processes and procedures of the stakeholder's systems. • Accurately evaluates the inter-relationship between various systems including quality planning, quality control, and quality assurance of the stakeholder. • Determines the effectiveness of the implementation of continuous improvement, reactive and proactive processes. • Recognizes the essential components of a functional safety management system and their interoperability. • Determines whether the stakeholder's management systems are appropriate for the size and scope of the operation. • Accurately evaluates the inter-relationships between the management systems across various stakeholders. • Uses the appropriate set of metrics to measure and monitor regulatory and stakeholder safety performance. • Interprets findings from analysis of performance data. • Assesses if the stakeholder safety performance objectives achieve the desired safety performance. • Provides feedback on potential deficiencies of the regulatory framework. • Accurately determines whether the root cause(s) of deficiencies results from a single-point or systemic failure(s). *

COMPETENCY:	**RISK MANAGEMENT**
Description	**Demonstrates an effective approach to the oversight of a stakeholder considering its business model, risk profile and its availability of resources.**
Observable Behaviours	• Carries out comprehensive risk assessments of service providers using appropriate methodologies. • Makes strategic decisions based on risk assessment, principles, values and business cases. • Accurately determines on a timely basis trends, problem areas or hazards that may negatively impact safety. • Recognizes business practices or organizational cultures that are potential indicators of increased levels of risk. • Applies appropriate certification requirements and surveillance techniques according to changing levels of risk. • Evaluates appropriateness of safety cases submitted by service providers. • Evaluates appropriateness of risk assessments performed by stakeholders and actions taken to manage hazards to an acceptable level. • Identifies if appropriate remedial or enforcement action is required to address an issue at its root cause.* • Ensures that stakeholders implement remediation measures.*

COMPETENCY:	**LEADERSHIP AND TEAMWORK**
Description	**Collaborates up, down and across the organization to fosters and promote a clear vision and common goals. Energizes others to achieve the goals and positive results.**
Observable Behaviours	• Gains the trust and confidence of others. • Promotes positive working relationships. • Encourages open discussion. • Facilitates resolution of conflicts. • Inspires others to collaborate and strive towards excellence. • Actively solicits constructive feedback. • Willingly adopts suggestion for improvement from others. • Directs the work of the team to adapt to circumstances. • Empowers team members to make decisions. • Identifies the required resources to support the team.

COMPETENCY: **CRITICAL THINKING**	
Description	**Analyses information in order to consistently achieve desired outcomes.**
Observable Behaviours	• Accurately analyses stakeholder performance data for trends. • Evaluates information with accuracy and objectivity. • Seeks additional detail or clarification from colleagues or stakeholders. • Synthesises data from a variety of sources appropriately. • Applies procedures appropriately. • Recognizes that different processes and procedures can lead to similar outcomes. • Analyses the thoroughness and effectiveness of all documented processes. • Determines if CAA employees understand and adhere to processes. • Determines if stakeholders understand and adhere to processes. • Assesses the efficiency and effectiveness of the implementation and maintenance of mandatory system-based programmes against operational requirements. • Distinguishes between lapses, negligence and reckless action.*

* Observable behaviours considered particularly important for remediation and enforcement tasks.

**EXAMPLE OF COMPETENCIES THAT A CASI SHOULD DEMONSTRATE
AT THE SUCCESSFUL COMPLETION OF INITIAL TRAINING**

COMPETENCY: **ETHICS AND VALUES**

Description	**Demonstrates integrity, transparency, openness, respect and fairness and considers the consequences when making a decision or taking action. Acts consistently in accordance with fundamental values of the civil aviation authority.**
Observable Behaviours	• Treats others respectfully, fairly and objectively regardless of differences. • Answers questions truthfully without embellishment or attempt to cover up a lack of knowledge. • Maintains privacy and confidentiality when appropriate. • Manages professional relationships with appropriate role boundaries. • Adheres to professional codes of conduct when taking action and making decisions. • Takes responsibility for own actions. • Identifies and mitigates conflict of interest situations. • Acts with integrity. • Uses resources of the CAA and aviation entities in a cost-conscious manner. • Demonstrates the values of the CAA.

COMPETENCY: **COMMUNICATION**

Description	**Effectively conveys, receives and understands information in oral, written and non-verbal modes.**
Observable Behaviours	• Verifies that the recipient is prepared to receive information. • Confirms that information conveyed was received and accurately understood. • Listens actively and objectively without interrupting. • Checks own understanding of other's communication (e.g. repeats or paraphrases, asks additional questions). • Presents appropriate and accurate information in a clear, concise and compelling manner in all media. • Adapts content, style, tone and media of communication to suit the target audience including cultural considerations and to promote dialogue. • Understands other people's concerns. • Maintains open lines of communication with management, stakeholders, and colleagues. • Communicates complex issues clearly and credibly with diverse audiences. • Delivers difficult or unpopular messages with clarity, tact and diplomacy.

COMPETENCY:	**PROBLEM SOLVING AND DECISION MAKING**
Description	**Solves issues of varied levels of complexity, ambiguity and risk. Makes timely decisions that take into account relevant facts, tasks, goals, constraints, risks and conflicting points of view.**
Observable Behaviours	• Collects related and sufficient information from a variety of sources in a timely manner. • Breaks down complex tasks into manageable parts. • Considers multiple possible causes of problems. • Identifies risks involved for different solutions to a problem. • Identifies interdependencies between various components of a problematic situation. • Develops solutions that address the situation in its entirety. • Takes steps to mitigate medium- to long-term impact of solutions when developing solutions to fix immediate issues. • Provides a rationale behind each decision. • Makes timely decisions based on applicable rules and procedures. • Responds decisively when inappropriate conduct is identified to affect positive change without delay.* • Recognizes scope of own authority for decision-making and escalates to the appropriate level if necessary. • Demonstrates decisiveness when under pressure or faced with complex or sensitive situations. • Incorporates lessons learnt in future decisions.

COMPETENCY:	**INITIATIVE**
Description	**Identifies and addresses issues independently, proactively and persistently to achieve objectives.**
Observable Behaviours	• Seizes opportunities that arise. • Acts promptly in a crisis situation. • Deals with obstacles effectively. • Looks for ways to enhance efficiency and effectiveness. • Looks for resources to support objectives. • Anticipates and acts on potential issues. • Organizes personal workload to ensure excellence in productivity and quality of service.

COMPETENCY: TECHNICAL EXPERTISE

Description	**Applies and improves technical knowledge and skills to perform safety oversight duties in a specific aviation discipline.**
Observable Behaviours	• Applies technical knowledge and skills to correctly address a situation. • Accurately answers complex technical questions. • Keeps up to date on specialized technical knowledge and skills. • Recognizes trends in practice of one's own technical area and anticipates changes. • Interprets correctly and explains the intent of the applicable statute, regulation, or standard for a given context. • Evaluates efforts by stakeholders to demonstrate initial compliance with the regulations. • Develops and implements an effective programme to monitor continuing compliance of the regulations by stakeholders. • Contributes as a subject-matter expert to the development of regulations and guidance. • Consistently provides appropriate guidance to stakeholders and colleagues on how to implement performance-based regulations. • Applies appropriate procedures in accordance with the CAA standards. • Applies enforcement measures when necessary and in accordance with applicable regulations.*

COMPETENCY: SYSTEMS THINKING

Description	**Understands and determines how the various components of management systems interact and affect the overall system safety performance.**
Observable Behaviours	• Accurately evaluates the inter-relationship between policies, processes and procedures of the stakeholder's systems. • Accurately evaluates the inter-relationship between various systems including quality planning, quality control, and quality assurance of the stakeholder. • Determines the effectiveness of the implementation of continuous improvement, reactive and proactive processes. • Recognizes the essential components of a functional safety management system and their interoperability. • Determines whether the stakeholder's management systems are appropriate for the size and scope of the operation. • Accurately evaluates the inter-relationships between the managements systems across various stakeholders. • Uses the appropriate set of metrics to measure and monitor regulatory and stakeholder safety performance. • Interprets findings from analysis of performance data. • Assesses if the stakeholder safety performance objectives achieve the desired safety performance. • Provides feedback on potential deficiencies of the regulatory framework. • Accurately determines whether the root cause(s) of deficiencies results from a single-point or systemic failure(s).*

COMPETENCY: RISK MANAGEMENT

Description	**Demonstrates an effective approach to the oversight of a stakeholder considering its business model, risk profile and its availability of resources.**
Observable Behaviours	• Carries out comprehensive risk assessments of service providers using appropriate methodologies. • Makes strategic decisions based on risk assessment, principles, values and business cases. • Accurately determines on a timely basis trends, problem areas or hazards that may negatively impact safety. • Recognizes business practices or organizational cultures that are potential indicators of increased levels of risk. • Applies appropriate certification requirements and surveillance techniques according to changing levels of risk. • Evaluates appropriateness of safety cases submitted by service providers. • Evaluates appropriateness of risk assessments performed by stakeholders and actions taken to manage hazards to an acceptable level. • Identifies if appropriate remedial or enforcement action is required to address an issue at its root cause.* • Ensures that stakeholders implement remediation measures.*

COMPETENCY: LEADERSHIP AND TEAMWORK

Description	**Collaborates up, down and across the organization to fosters and promote a clear vision and common goals. Energizes others to achieve the goals and positive results.**
Observable Behaviours	• Gains the trust and confidence of others. • Promotes positive working relationships. • Encourages open discussion. • Facilitates resolution of conflicts. • Inspires others to collaborate and strive towards excellence. • Actively solicits constructive feedback. • Willingly adopts suggestion for improvement from others. • Directs the work of the team to adapt to circumstances. • Empowers team members to make decisions. • Identifies the required resources to support the team.

COMPETENCY: **CRITICAL THINKING**	
Description	**Analyses information in order to consistently achieve desired outcomes.**
Observable Behaviours	• Accurately analyses stakeholder performance data for trends. • Evaluates information with accuracy and objectivity. • Seeks additional detail or clarification from colleagues or stakeholders. • Synthesizes data from a variety of sources appropriately. • Applies procedures appropriately. • Recognizes that different processes and procedures can lead to similar outcomes. • Analyses the thoroughness and effectiveness of all documented processes. • Determines if CAA employees understand and adhere to processes. • Determines if stakeholders understand and adhere to processes. • Assesses the efficiency and effectiveness of the implementation and maintenance of mandatory system-based programmes against operational requirements. • Distinguishes between lapses, negligence and reckless action.*

* Observable behaviours considered particularly important for remediation and enforcement tasks.

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APPENDIX B – EXAMPLES OF TRAINING SPECIFICATIONS, ADAPTED COMPETENCY MODELS AND EVIDENCE GUIDES

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Example of Training Specification and Adapted Competency Model for an ATM/ANS Audit Team Leader course

This example is for a classroom-based course that prepares already qualified ATM/ANS inspectors to start their OJT as an Audit Team Leader. This course is based on the European environment and regulations applicable to ATM/ANS. It could however apply in other environments and domains provided that the appropriate regulations are included. The trainee will be required to demonstrate an integrated performance of the competencies described in the model below. The course is designed so that all ATM/ANS inspectors, irrespective of their specialisation (e.g. ATS, CNS, Meteorology, AIS, ATFM and/or ASM) are able to complete the course.

As this is the specialisation 'team leader', it is expected that on successful completion of the course, the trainee will progress to OJT in the real environment. The competency model below takes into account that the course is both time- and classroom-based therefore only a limited number of performance criteria can be demonstrated. The adapted competency model for the OJT phase of this specialisation will include the complete set of competencies/performance criteria required for an audit team leader as the trainee will be exposed to considerably more conditions and consequently will be able to demonstrate the full range of competencies.

Training Specification

Purpose	
What is the purpose of the training?	Prepare qualified ATM/ANS inspectors to start OJT as Audit Team Leaders in their respective specialisations
State the phase/s of training.	Initial training – Specialization as an Audit Team Leader
What qualification, if any, will the trainee achieve on	Certificate of successful completion of the course, which enables the trainee to start the OJT phase

successful completion of the training?	
Tasks	
Describe the tasks associated with the purpose of the training	**Develop Audit Plan** • Define the audit plan (audit objectives, scope, audit criteria, resources, etc.) • Select audit team • Communicate the audit plan to the audit team and the audited Service Provider or Training Organization and/or Aeromedical Centre **Develop Audit Programme** • Define the roles and responsibilities of individual team members • Develop audit timetable • Confirm the logistics of audit • Communicate roles and responsibilities to the audit team and the audited organization **Carry out the Audit Programme** • Monitor the progress of the audit programme • Manage audit team • Manage deviations from the audit programme • Manage immediate safety concerns • Conducts opening meeting • Conduct debriefing sessions with audited organization, when required • Conducts audit team meetings • Conducts closing meeting including issuance of a summary statement **Develop Draft Audit Report** • Manages the development of the draft audit report • Prepare draft audit report • Finalize the audit report
Operational requirements	
Which procedures will be applied?	XYZ National Supervisory Authority (NSA) Handbook - Chapter 4 - Management of Audits
Describe the operational (or simulated) environment required to successfully achieve the purpose of the training	Simulated audit environment with the following operational characteristics - • One country with three ATM/ANS service providers • Separate met service provider • Separate CNS Provider • AIS provision is linked to the largest ATM/ANS provider • One military provider • CAA has full pool of inspectors with appropriate qualifications

Describe the nature of the audit necessary to achieve the training outcome	Comprehensive Audit of one ATM/ANS service provider with 4 units **Configuration of Audit Team**: 1 Team Leader + 3 team members **Size of audited organization team**: 2 Document available during training: • Previous audit reports (list of open findings prior to the audit) • List of occurrences reported in last 6 months • List of main changes implemented in last 6 months and to be implemented in the next 6 months • Organizational chart • Organizations Procedures Handbook/Manual • Completed Pre-audit questionnaire Templates available: • Audit Plan • Timetable • Audit Report
Which non-routine situations are necessary for successful completion of the training?	Training to include the following scenarios: • Significant number of ATCOs have medical certificates that have expired • Disagreement in the wording of a finding/non-conformity arises between two of the audit team members during audit team meeting • Audited organization challenges some of the findings/non-conformity of one of the team members • Conflict between audit team member and auditee (team member is acting outside of the scope of the regulations) • Audited organization delays proceeding so as to reduce the amount of auditing time (team is invited for long lunch during audit time) • Audited organization offers a 'gift' to the team to remove some findings/non-conformities • Audit Report will contain non-conformities that need to be communicated to audited organization. • Some team member interviews take more time than scheduled • Opening meeting starts 30 minutes late
Describe the working position configuration	Classroom or office environment

Technical requirements
List any specific operational (or simulated operation) systems and/or equipment that are necessary to achieve the training outcome	Availability of computers with word processing and spreadsheet applications (e.g. MS –Word and Excel)
Regulatory requirements	
Which rules and regulations are applicable?	Regulation 1035/2011 Common requirements for ANS Regulation 1034/2011 Safety Oversight Regulation 923/2012 Common Rules of the Air Regulation 2015/340 ATCO Licences and Certificates Regulation 482/2008 Software Safety Assurance System Regulation 1207/2011 Surveillance Performance & Interoperability (SPI) Regulation 73/2010 Aeronautical Data Quality
Are there any regulatory requirements that will affect the following aspects of the training: • Duration • Content • Assessment procedures • Course approval • Any other	• Assessment is to be carried out by at least one qualified ATM/ANS Senior Inspector and Assessor. • Assessment Procedures defined in XYZ NSA Training Manual Chapter 3 - Practical assessment to be applied
Organizational requirements	
Describe any organizational requirements that may impact the training?	Organization requires the training to include a customer-focussed orientation
Other requirements	
Other constraints	None

Adapted Competency Model

COMPETENCY: ETHICS AND VALUES	
Description	**Demonstrates integrity, transparency, openness, respect and fairness and considers the consequences when making a decision or taking action. Acts consistently in accordance with fundamental values of the civil aviation authority.**
Observable Behaviours	• Treats others respectfully, fairly and objectively regardless of differences. • Answers questions truthfully without embellishment or attempt to cover up a lack of knowledge. • ~~Maintains privacy and confidentiality when appropriate.~~ • Manages professional relationships with appropriate role boundaries. • Adheres to professional codes of conduct when taking action and making decisions. • Takes responsibility for own actions. • ~~Identifies and mitigates conflict of interest situations.~~ • Acts with integrity. • ~~Uses resources of the CAA and aviation entities in a cost-conscious manner.~~ • ~~Demonstrates the values of the CAA.~~

Possible support that would be included in the **Evidence Guide** for assessing the Ethics & Values competency:

- Speaks politely even during situations that require firm and decisive discussions
- Thanks auditors and audited organization for the work they have done
- Allocates assignments to the audit team in a balanced way
- Seeks advice from all members of the team
- Ensures that they do not duplicate or overlap their work with the role they have assigned to another team member
- Acknowledges own mistakes (if they happen)
- Doesn't blame others if there is a mistake during the audit
- Doesn't accept 'bribes'
- Doesn't give in to audited organization when undue pressure is applied (e.g. pressure to remove a finding when there is no good rationale to do so).

COMPETENCY: COMMUNICATION	
Description	**Effectively conveys, receives and understands information in oral, written and non-verbal modes.**
Observable Behaviours	- Verifies that the recipient is prepared to receive information. - Confirms that information conveyed was received and accurately understood. - Listens actively and objectively without interrupting. - Checks own understanding of other's communication (e.g. repeats or paraphrases, asks additional questions). - Presents appropriate and accurate information in a clear, concise and compelling manner ~~in all media~~ using verbal communication. - Adapts content, style and tone ~~and media of communication~~ to suit the target audience including ~~cultural considerations and to~~ promotion of dialogue. - Understands other people's concerns. ~~Maintains open lines of communication with management, stakeholders and colleagues.~~ ~~Communicates complex issues clearly and credibly with diverse audiences~~. - Delivers difficult or unpopular messages with clarity, tact and diplomacy.

COMPETENCY: PROBLEM SOLVING AND DECISION MAKING	
Description	Solves issues of varied levels of complexity, ambiguity and risk. Makes timely decisions that take into account relevant facts, tasks, goals, constraints, risks and conflicting points of view.
Observable Behaviours	• Collects related and sufficient information from a variety of sources in a timely manner. • ~~Breaks down complex tasks into manageable parts.~~ • Considers multiple possible causes of problems. • Identifies risks involved for different solutions to a problem. • ~~Identifies interdependencies between various components of a problematic situation~~. • Develops solutions that address the situation and root causes ~~in its entirety~~. • ~~Takes steps to mitigate medium- to long-term impact of solutions when developing solutions to fix immediate issues.~~ • Provides a rationale behind each decision, if appropriate. • ~~Makes timely decisions based on applicable rules and procedures~~. • Responds decisively when inappropriate conduct is identified to affect positive change without delay.* • ~~Recognizes scope of own authority for decision making and escalates to the appropriate level if necessary~~. • Demonstrates decisiveness when under pressure or faced with ~~complex or~~ sensitive situations. • ~~Incorporates lessons learnt in future decisions.~~

~~COMPETENCY: INITIATIVE~~	
Description	~~Identifies and addresses issues independently, proactively and persistently to achieve objectives.~~
Observable Behaviours	• ~~Seizes opportunities that arise.~~ • ~~Acts promptly in a crisis situation.~~ • ~~Deals with obstacles effectively.~~ • ~~Looks for ways to enhance efficiency and effectiveness.~~ • ~~Looks for resources to support objectives.~~ • ~~Anticipates and acts on potential issues.~~ • ~~Organizes personal workload to ensure excellence in productivity and quality of service.~~

COMPETENCY: TECHNICAL EXPERTISE	
Description	**Applies and improves technical knowledge and skills to perform safety oversight duties in a specific aviation discipline.**
Observable Behaviours	- Applies technical knowledge and skills to correctly address a situation, including knowledge of the regulations for which the audit is being conducted - Accurately answers complex technical questions. - Keeps up to date on specialized technical knowledge and skills. - Recognizes trends in practice of one's own technical area and anticipates changes. - Interprets correctly and explains the intent of the applicable statute, regulation, or standard and/or procedures for a given context. - Evaluates efforts by stakeholders to demonstrate initial compliance with the regulations. - Develops and implements an effective programme to monitor continuing compliance of the regulations by stakeholders. - Contributes as a subject-matter expert to the development of regulations and guidance. - Consistently provides appropriate guidance to stakeholders and colleagues on how to implement performance-based regulations. - Applies appropriate procedures in accordance with the CAA standards. - Applies enforcement measures when necessary and in accordance with applicable regulations.*

COMPETENCY: SYSTEMS THINKING	
Description	**Understands and determines how the various components of management systems interact and affect the overall system safety performance.**
Observable Behaviours	• Accurately evaluates the inter-relationship between policies, processes and procedures of the stakeholder's systems. • Accurately evaluates the inter-relationship between various systems including quality planning, quality control, and quality assurance of the stakeholder. • Determines the effectiveness of the implementation of continuous improvement, reactive and proactive processes. • Recognizes the essential components of a functional safety management system and their interoperability. • Determines whether the stakeholder's management systems are appropriate for the size and scope of the operation. • Accurately evaluates the inter-relationships between the management systems across various stakeholders. • Uses the appropriate set of metrics to measure and monitor regulatory and stakeholder safety performance. • Interprets findings from analysis of performance data. • Assesses if the stakeholder safety performance objectives achieve the desired safety performance. • Provides feedback on potential deficiencies of the regulatory framework. • Accurately determines whether the root cause(s) of deficiencies results from a single-point or systemic failure(s).*

COMPETENCY: RISK MANAGEMENT	
Description	~~Demonstrates an effective approach to the oversight of a stakeholder considering its business model, risk profile and its availability of resources~~.
Observable Behaviours	• ~~Carries out comprehensive risk assessments of service providers using appropriate methodologies.~~ • ~~Makes strategic decisions based on risk assessment, principles, values and business cases.~~ • ~~Accurately determines on a timely basis trends, problem areas or hazards that may negatively impact safety.~~ • ~~Recognizes business practices or organizational cultures that are potential indicators of increased levels of risk.~~ • ~~Applies appropriate certification requirements and surveillance techniques according to changing levels of risk.~~ • ~~Evaluates appropriateness of safety cases submitted by service providers.~~ • ~~Evaluates appropriateness of risk assessments performed by stakeholders and actions taken to manage hazards to an acceptable level.~~ • ~~Identifies if appropriate remedial or enforcement action is required to address an issue at its root cause.*~~ • ~~Ensures that stakeholders implement remediation measures.*~~

COMPETENCY: LEADERSHIP AND TEAMWORK	
Description	**Collaborates up, down and across the organization to foster and promote a clear vision and common goals. Energizes others to achieve the goals and positive results.**
Observable Behaviours	• ~~Gains the trust and confidence of others.~~ • Promotes positive working relationships. • Encourages open discussion. • Facilitates resolution of conflicts. • ~~Inspires others to collaborate and strive towards excellence.~~ • ~~Actively solicits constructive feedback.~~ • Willingly adopts suggestion for improvement from others. • Directs the work of the team to adapt to circumstances. • ~~Empowers team members to make decisions~~. • ~~Identifies the required resources to support the team~~.

COMPETENCY: CRITICAL THINKING	
Description	**Analyses information in order to consistently achieve desired outcomes.**
Observable Behaviours	• Accurately analyses stakeholder performance data for trends. • Evaluates information with accuracy and objectivity. • Seeks additional detail or clarification from colleagues or stakeholders. • Synthesises data from a variety of sources appropriately. • Applies procedures appropriately. • Recognizes that different processes and procedures can lead to similar outcomes. • Analyses the thoroughness and effectiveness of all documented processes. • Determines if CAA employees understand and adhere to processes. • Determines if stakeholders understand and adhere to processes. • Assesses the efficiency and effectiveness of the implementation and maintenance of mandatory system-based programmes against operational requirements. • Distinguishes between lapses, negligence and reckless action.*

Conditions and Standards

The conditions and standards for this course apply to all the competencies:

Conditions:	The following conditions shall apply:

	• Simulated audit environment with the following operational characteristics -
	   o One country with three ATM/ANS service providers
	   o Separate met service provider
	   o Separate CNS Provider
	   o AIS provision is linked to the largest ATM/ANS provider
	   o One military provider
	   o CAA has full complement of inspectors with appropriate qualifications
	
	 • Comprehensive Audit of one ATM/ANS service provider with 4 units to be conducted
	 • **Configuration of Audit Team**: 1 Team Leader + 3 team members
	 • **Size of audited organization team**: 2
	 • Training to include the following scenarios:
	   o Significant number of ATCOs have medical certificates that have expired
	   o Disagreement in the wording of a finding/non-conformities arises between two of the audit team members during audit team meeting
	   o Audited organization challenges some of the findings/non-conformities of one of the team members
	   o Conflict between audit team member and auditee (team member is acting outside of the scope of the regulations)
	   o Audited organization delays proceeding so as to reduce the amount of auditing time (team is invited for long lunch during audit time)
	   o Audited organization offers a 'gift' to the team to remove some findings
	   o Audit Report will contain non-conformities that need to be communicated to audited organization.
	   o Some team member interviews take more time than scheduled
	   o Opening meeting starts 30 minutes late

Standards:	The performance shall comply with the procedures, rules and regulations described in the following documents: • XYZ NSA Handbook (Chapter 4 - Management of Audits) • Regulation 1035/2011 Common requirements for ANS • Regulation 1034/2011 Safety Oversight • Regulation 923/2012 Common Rules of the Air • Regulation 2015/340 ATCO Licences and Certificates • Regulation 482/2008 Software Safety Assurance System • Regulation 1207/2011 Surveillance Performance & Interoperability (SPI) • Regulation 73/2010 Aeronautical Data Quality

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APPENDIX C – ICAO GUIDANCE RELATED TO OPERATIONAL PROCEDURES TO SUPPORT THE DEVELOPMENT OF INSPECTOR GUIDES

CASI	ICAO guidance that includes procedures and/or checklists for CASIs
Aerodromes	9137 – *Airport Services Manual* 9150 – *Stolport Manual* 9157 – *Aerodrome Design Manual* 9184 – *Airport Planning Manual* 9261 – *Heliport Manual* 9683 – *Human Factors Training Manual* 9774 – *Manual on Certification of Aerodromes* 9859 – *Safety Management Manual (SMM)* 9974 – *Flight Safety and Volcanic Ash* 9977 – *Manual on Civil Aviation Jet Fuel Supply* 9981 – *Procedures for Air Navigation Services – Aerodromes (PANS-Aerodromes)* 10019 – *Manual on Remotely Piloted Aircraft Systems (RPAS)*
Airworthiness • Continuing Airworthiness • Oversight of Manufacturers	*Air Operator Certification and Surveillance Handbook* (ICAO Public Website) 9760 – *Airworthiness Manual* 9683 – *Human Factors Training Manual* 9824 – *Human Factors Guidelines for Aircraft Maintenance Manual* 9859 – *Safety Management Manual (SMM)* 10019 – *Manual on Remotely Piloted Aircraft Systems (RPAS)* 10020 – *Manual of Electronic Flight Bags (EFBs)* Doc XXXXX – *Manual on Article 83 bis*
Flight Operations including Flight Dispatch	*Air Operator Certification and Surveillance Handbook* (ICAO Public Website) 4444 – *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM)* 8168 – *Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS)* 8335 – *Manual of Procedures for Operations Inspection, Certification and Continued Surveillance* 9365 – *Manual of All-Weather Operations* 9625 – *Manual of Criteria for the Qualification of Flight Simulation Training Devices* 9683 – *Human Factors Training Manual* 9803 – *Line Operations Safety Audit (LOSA)* 9835 – *Manual on the Implementation of ICAO Language Proficiency Requirements* 9841 – *Manual on the Approval of Training Organizations* 9859 – *Safety Management Manual (SMM)* 9868 – *Procedures for Air Navigation Services — Training (PANS-TRG)* 9966 – *Manual for the Oversight of Fatigue Management Approaches* 9976 – *Flight Planning and Fuel Management (FPFM) Manual* 9995 – *Manual of Evidence-based Training* 9997 – *Performance-Based Navigation (PBN) Operational Approval Manual* 10000 – *Manual on Flight Data Analysis Programmes (FDAP)* 10011 – *Manual on Aeroplane Upset Prevention and Recovery Training*

	10019 – *Manual on Remotely Piloted Aircraft Systems (RPAS)* 10020 – *Manual of Electronic Flight Bags (EFBs)* Doc XXXXX – *Manual on Article 83 bis*
Air Navigation Services	4444 – *Procedures for Air Navigation Services — Air Traffic Management (PANS-ATM)* 7383 – *Aeronautical Information Services Provided by States* 8071 – *Manual on Testing of Radio Navigation Aids* 8168 – *Procedures for Air Navigation Services — Aircraft Operations (PANS-OPS)* 8896 – *Manual of Aeronautical Meteorological Practice* 9377 – *Manual on Coordination between Air Traffic Services, Aeronautical Information Services and Aeronautical Meteorological Services* 9643 – *Manual on Simultaneous Operations on Parallel or Near-Parallel Instrument Runways (SOIR)* 9683 – *Human Factors Training Manual* 9841 – *Manual of the Approval of Training Organizations* 9859 – *Safety Management Manual (SMM)* 9868 – *Procedures for Air Navigation Services — Training (PANS-TRG)* 9910 – *Normal Operations Safety Survey (NOSS) Manual* 9966 – *Manual for the Oversight of Fatigue Management Approaches* 9974 – *Flight Safety and Volcanic Ash* 10019 – *Manual on Remotely Piloted Aircraft Systems (RPAS)* 10056 – *Manual on Air Traffic Controller Competency-based Training and Assessment* 10057 – *Manual on Air Traffic Safety Electronics Personnel Competency-based Training and Assessment* Cir 314 – *Threat and Error Management (TEM) in Air Traffic Control* http://www.icao.int/airnavigation/Pages/default.aspx
Cabin Safety	10002 – *Cabin Crew Safety Training Manual* http://www.icao.int/safety/airnavigation/ops/cabinsafety/Pages/default.aspx
Dangerous Goods	9284 – *Technical Instructions for the Safe Transport of Dangerous Goods by Air* 9284SU – *Supplement to the Technical Instructions for the Safe Transport of Dangerous Goods by Air* 9375 – *Dangerous Goods Training Manual* http://www.icao.int/safety/DangerousGoods/Pages/default.aspx

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APPENDIX D – ICAO TOOL TO RECOGNIZE CIVIL AVIATION SAFETY INSPECTORS

(Reserved)

— **END** —