



ICAO RBIS QMS PROJECT

**QUALITY MANAGEMENT SYSTEM
(ISO 9001 :2015)**

AFI AIM RBIS QMS INSPECTOR TRAINING NEEDS

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RECORD OF AMENDMENTS AND CORRIGENDA

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ABBREVIATIONS



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1. PURPOSE AND SCOPE

This guidance provides information on the adequate training to equip CAA inspectors with for the effective oversight of the Aeronautical Information Management (AIM) Quality Management System (QMS).

2. REFERENCES

ICAO Annex 15, *aeronautical information services, sixteenth edition - July 2018 (amendment 42)*

ICAO doc 10070, Manual on the competencies of civil aviation safety inspectors, first edition (advance unedited) 2016

ISO 9000 :2015, *Quality Management Systems – Fundamentals and Vocabulary*

ISO 9001 :2015, *Quality Management Systems – Requirements*

ISO 31000 :2018, *Risk management – guidelines.*

3. DEFINITIONS

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

Audit. Systematic, independent and documented process for obtaining objective evidence and evaluating it objectively to determine the extent to which the audit criteria are fulfilled

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.

Competence. Ability to apply knowledge and skills to achieve intended results. Also a combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

Procedure. specified way to carry out an activity or a process (can be documented or not).

Process. Set of interrelated or interacting activities that use inputs to deliver an intended result.



Quality. Degree to which a set of inherent characteristics of an object fulfils requirement.

Quality management system. Set of interrelated or interacting elements of an organization to establish quality policies and objectives, and processes to achieve those objectives.

4. QMS TRAINING REQUIREMENTS

This chapter describes the competencies that civil aviation safety inspectors (CASI) should demonstrate in performing QMS oversight. The CASI competencies are a means for assisting the CAA to choose the best people for the job now and in the future and in determining acceptable levels of performance for CASI during different stages of their careers.

4.1 General

4.1.1 CAA should determine, provide and document the personnel and their required minimum competencies necessary for the effective oversight of the AIM QMS.

The competencies of QMS inspector should include a combination of appropriate professional training, experience and behavioural attitude, as deemed necessary by the CAA. Where the inspectors do not have all the competencies, training plans should be developed and implemented, with appropriate evaluation criteria for acquired competencies.

4.1.2 For the purposes of consistency of the QMS, CAA training plans for the inspectors should be based on the competency framework in appendix and/or performance appraisal system coordinated by Training departments.

4.1.3 Records of evidence of an inspector's competence, including educational diplomas or degrees, completion of training certificates, resumés, performance reviews and other documents should be retained.

The competency framework should be used in assigning function hierarchies and relationships (e.g. team leader, team member, expert, observer).

4.1.4 Initial and periodic assessments shall be established that require personnel to demonstrate the required competencies. Periodic assessments of personnel shall be used as a means to detect and correct shortfalls in knowledge, skills and attitude.

4.2 Competencies



The required competencies should include :

- Working understanding of quality management systems ;
- Understanding of ISO 9001 :2015 standard ;
- Understanding the regulatory framework and its intent ;
- Understanding of audit techniques ;
- Understanding how performance framework and indicators are developed and used in a quality management system ;
- Communication skills ;
- Systems thinking ;
- Analytical skills commensurate with roles and responsibilities ;
- Decision making skills ;
- Open-mindedness ;
- Assertiveness ;
- Teamwork ;
- Understanding of human performance and limitations ;
- Understanding risk management.

Table 1 shows the list of aboved QMS core competencies, including a subgroup of competencies with greater detail.

Table 1 : QMS Core Competency Group and Subgroup

QMS Core Competency	Competency Subgroup
<p>Working understanding of quality management systems to be able to evaluate how an organization ensures compliance with regulatory requirements on an on-going basis</p>	<ul style="list-style-type: none"> ▪ Understands the role of the accountable. ▪ Understanding of basic components of a management system. ▪ Understands the need for management system components to be integrated and operate as one system. ▪ Recognizes whether management systems are appropriate for the type, size and operating environment of the organization. ▪ Understanding of change management principles. ▪ Understanding of best practices for continuous improvement.
<p>Understanding the regulatory framework and its intent to ensure an AIM organization meets the requirements</p>	<ul style="list-style-type: none"> ▪ Understanding of legislation and regulations (international/national). ▪ Understanding of background/intent of legislation and regulations. ▪ Understanding of acceptable means of compliance. ▪ Understanding of state policies such as enforcement policies. ▪ Ability to evaluate the acceptability of implementation of an organization with regard to legislation and regulations. ▪ Ability to assist an organization in the interpretation of applicable regulatory requirements.



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QMS Core Competency	Competency Subgroup
<p>Understanding of audit techniques</p>	<ul style="list-style-type: none"> ▪ Training and demonstrated experience in regulatory surveillance activities. ▪ Ability to plan, conduct and debrief compliance-based audits and inspections. ▪ Ability to identify noncompliance in a system. ▪ Ability to include performance-based elements in routine oversight activities. ▪ Understanding difference between compliance and performance-based oversight.
<p>Understanding how performance framework and indicators are developed and used in a quality management system</p>	<ul style="list-style-type: none"> ▪ Understands different types of indicators and their use and needs. ▪ Differentiates between effective and ineffective indicators. Effective indicators are those that are directly related to performance goals, while ineffective ones do not tell the inspector much about the performance. ▪ Understands how data is collected and analyzed in the organization ▪ Ability to evaluate effectiveness of indicators and review as necessary. ▪ Knowledge of target setting and its limitations. ▪ Awareness of best practices with measuring performance in the same aviation sector. ▪ Awareness of major risk areas/concerns at the national/regional level and how the organization may contribute to them. ▪ Ability to translate the information obtained from the quality performance into messages that are suitable for various audiences (e.g., accountable executive, staff). ▪ Familiar with quality performance Indicators and expectations of how organizations are expected to consider them.
<p>Communication skills necessary to interface effectively between industry and internal stakeholders</p>	<ul style="list-style-type: none"> ▪ Highly developed written communication skills including the ability to write detailed technical reports. ▪ Experience and ability to communicate effectively in a complex technical environment. ▪ Demonstrates a high level of interpersonal, oral, and written communication skills, including the ability to liaise effectively at a senior level and influence outcomes both internally and with external organizations. ▪ Demonstrate sound interviewing skills such as being an active listener, speaking clearly, and being able to articulate thoughts and formulate questions appropriately. ▪ Ability to adequately manage conflict and confrontation in a work environment.
<p>Critical thinking</p>	<ul style="list-style-type: none"> ▪ Analyses information in order to consistently achieve desired outcomes.



QMS Core Competency	Competency Subgroup
<p>Systems thinking: Understands and determines how the various components of management systems interact and affect the overall system safety performance.</p>	<ul style="list-style-type: none"> ▪ Ability to identify indicators of a systemic failure in addition to indications of a single point failure. ▪ Experience and ability to understand a complex technical operating environment. ▪ Demonstrate clear understanding and application of accident causality models. ▪ Understanding of the potential impact of interactions (both positive and negative) between systems and at interfaces within a system (e.g., Quality Management Systems (QMS), maintenance control systems, error management systems, Air Traffic Control (ATC) systems).
<p>Analytical skills commensurate with roles and responsibilities to assess the organizations quality/safety performance</p>	<ul style="list-style-type: none"> ▪ Ability to verify that the organization data collection processes capture appropriate information. ▪ Ability to verify the effectiveness of the risk analysis process. ▪ Ability to use causal analysis methods. ▪ Ability to evaluate trends in safety and compliance issues. ▪ Ability to assess the service provider's safety accomplishments compared with its quality/safety performance objectives. ▪ Ability to understand the limitations of data and how it can be used in analyzing quality/safety performance.
<p>Decision making skills necessary to exercise judgment based on all available information</p>	<ul style="list-style-type: none"> ▪ Ability to critically and accurately analyze trends, problem situations, and issues. ▪ Ability to use logic and analysis to arrive at appropriate conclusions from relevant information and assumptions. ▪ Ability to infer, categorize, organize, and connect related concepts. ▪ Ability to exercise judgment, intelligence, and discretion in making decisions. ▪ Skills that can help identify decision alternatives. ▪ Ability to envision possible future consequences of alternative solutions. ▪ Ability to collaborate, communicate, cooperate, learn, negotiate, and listen to ensure effective group decision making. ▪ Skilled in managing emotions and perception issues to ensure objectivity in stressful decision situations. ▪ Ability to discern what factors contribute to a situation allowing for focusing on appropriate solution.
<p>Open-mindedness: To be able to accept new ideas or different viewpoints including being able to recognize that a management system is proportionate to the size and complexity of the organization</p>	<ul style="list-style-type: none"> ▪ Ability to assess whether a management system is appropriate to the operations of the organization. ▪ Understanding of the criteria for differentiating the size and complexity of each organization, taking into account its type(s) of certificate(s). ▪ Skilled in recognizing that different processes and procedures may lead to the same result. ▪ Ability to listen to and understand what the organization performs to achieve an effective management system.



QMS Core Competency	Competency Subgroup
<p>Assertiveness: The quality of being able to confidently and vigorously state and defend one's opinion</p>	<ul style="list-style-type: none"> ▪ Rigorous and tenacious in finding proof or objective evidence. ▪ Ability to state opinions firmly without either aggressively threatening or submissively accepting the opinions of others.
<p>Teamwork: QMS assessment is often carried out as part of a team so there is a need to be able to work in a multi-disciplinary environment in a cooperative manner</p>	<ul style="list-style-type: none"> ▪ Ability to collaborate and cooperate to achieve a common goal. ▪ Ability to employ cooperative behavior to resolve interpersonal problems and optimize member interaction. ▪ Ability to build trust and respect among team members. ▪ Ability to receive and offer constructive feedback to other team members. ▪ Ability to work with specialists from other technical disciplines.
<p>Appreciation of the subjectivity of quality management systems and the need to establish objective evidence where possible</p>	<ul style="list-style-type: none"> ▪ Ability to recognize and mitigate personal biases and emotional involvement when conducting inspections. ▪ Ability to justify and document major decisions based on observable signals. ▪ Ability to apply subjective judgments where necessary and to establish objective evidence where possible.
<p>Technical expertise in AIM</p>	<ul style="list-style-type: none"> ▪ Applies and improves technical knowledge and skills to perform quality oversight tasks in aeronautical information and other related areas.
<p>Understanding of human performance and limitations and understanding of the organizational factors that may influence these</p>	<ul style="list-style-type: none"> ▪ Understanding of human factors and human performance limitations to be able to recognise weak risk mitigations, processes, and procedures that are open to human errors. ▪ Ability to analyze incidents/events using human factors models (e.g., SHELL, HFACS). ▪ Ability to identify and articulate the effects of organizational culture on operational safety. ▪ Ability to identify human factor related risks within an organisation's QMS.
<p>Understanding risk to evaluate issues or proposed changes and the impact on the organization and the aviation system; and to evaluate the need for quality risk controls</p>	<ul style="list-style-type: none"> ▪ Understanding of the relationships between hazards and their consequences and how they contribute to accidents and incidents. ▪ Ability to identify the precursors to safety issues. ▪ Ability to assess factors contributing to risk, and evaluate the effectiveness of implemented mitigation strategies. ▪ Ability to share data and work cooperatively to determine risks. ▪ Ability to recognize technical issues that may have safety-critical implications.

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APPENDIX. COMPETENCE FRAMEWORK

AIM QMS CAA Competence needs analysis

Conducted by : for : *[employee name]* function : *employee function*

Date : ____/____/____

Competence required	Competence needed ?		Type of training required	Proposed training	Training provider	Date		Evidence
	Yes	No				Planned	achieved	
Working understanding of quality management systems								
Understanding the regulatory framework and its intent								
Understanding of audit techniques								
Understanding how performance framework and indicators are developed and used in a quality management system								
Communication skills								
Critical thinking								



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<i>Competence required</i>	<i>Competence needed ?</i>		<i>Type of training required</i>	<i>Proposed training</i>	<i>Training provider</i>	<i>Date</i>		<i>Evidence</i>
	<i>Yes</i>	<i>No</i>				<i>Planned</i>	<i>achieved</i>	
Systems thinking								
Analytical skills commensurate with roles and responsibilities								
Decision making skills								
Open-mindedness								
Assertiveness								
Teamwork								
Technical expertise in AIM								
Understanding of human performance and limitations								
Understanding risk								
....								
....								
.....								

_____END_____