

Aerospace series — Quality management systems

Part 003: Requirements for Aerospace Quality Management System (AQMS) Auditor Training and Qualification

ICS 03.120.10; 49.020

National foreword

This British Standard is the UK implementation of EN 9104-003:2010. It supersedes BS EN 9104-003:2009 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee ACE/1, International and European Aerospace Policy and Processes.

A list of organizations represented on this committee can be obtained on request to its secretary.

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This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 July 2010

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ISBN 978 0 580 70188 7

Amendments/corrigenda issued since publication

Date	Comments

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 9104-003

June 2010

ICS 03.120.10; 49.020

Supersedes EN 9104-003:2009

English Version

**Aerospace series - Quality management systems - Part 003:
Requirements for Aerospace Quality Management System
(AQMS) Auditor Training and Qualification**

Série aérospatiale - Systèmes de management de la
qualité - Partie 003 : Exigences applicables au Système de
Management de la Qualité dans le domaine Aérospatial
(SMQA) Formation et Qualification des Auditeurs

Luft- und Raumfahrt - Qualitätsmanagementsysteme - Teil
003: Anforderung an das Qualitätsmanagementsysteme
der Luft- und Raumfahrt anwendbar für Auditoren
Ausbildung und Qualifikation

This European Standard was approved by CEN on 22 April 2010.

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Ref. No. EN 9104-003:2010: E

Contents

Page

Foreword.....	3
1 Scope	5
2 Normative references	5
3 Terms and definitions	5
4 General.....	7
5 AQMS auditor competency requirements	8
6 Requirements for training courses	10
7 AQMS aerospace experience auditor evaluation and authentication	19
8 Re-authentication or withdrawal of AQMS AEA	20
Annex A (normative) Detailed requirements for training courses	22
A.1 AQMS foundation course.....	22
A.2 AQMS standard auditor course	23
A.3 9100 - Aerospace industry specific course (formerly the in-depth/competency course)	24
A.4 9110 - Aerospace industry specific course for repair/maintenance.....	25
A.5 Off-site/self study course.....	26
Bibliography	29

Foreword

This document (EN 9104-003:2010) has been prepared by the Aerospace and Defence Industries Association of Europe - Standardization (ASD-STAN).

After enquiries and votes carried out in accordance with the rules of this Association, this Standard has received the approval of the National Associations and the Official Services of the member countries of ASD, prior to its presentation to CEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by December 2010, and conflicting national standards shall be withdrawn at the latest by December 2010.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 9104-003:2009.

This document is written to define a common process for aerospace auditor training and authentication to be utilized by all the International Aerospace Quality Group (IAQG) sectors.

In December 1998, the Aerospace Industry established the International Aerospace Quality Group (IAQG) with the purpose of achieving significant improvements in quality and reductions in cost throughout the value stream.

IAQG developed a truly global scheme IAQG 9104 for the use of assessment results performed by Certification/Registration Bodies (CRBs), based on the 9100-series standards and taking into account the schemes already in use or under development in the various IAQG sectors.

This document supplements the existing international requirements for the accreditation of personnel certification bodies, accreditation of CRBs and auditor certification programs.

Confidence and reliance in the audit process depends on the competence of those conducting the audit, making certification/registration decisions and supporting an audit program. Competence is based on the demonstration of personal attributes, and the ability to apply Aerospace Quality Management System (AQMS) knowledge and skills gained through education, work experience, auditor training and audit experience. (ISO 19011:2002, 7.1).

Knowledge and skills are only two elements of competency. Therefore, organizations operating AQMS audit programs should establish and implement effective competency systems that are based on ISO 19011:2002, section 7, ISO/IEC Guide 62, and IAF GD 2.

The IAF Guidance on the application of ISO/IEC Guide 62 (IAF GD 2) requires personnel operating in a specific technical field to have competence for the functions they perform, be they management, technical, administrative, or other (IAF GD 2 G 2.21). This means that an organization operating an aerospace auditing program should have adequate personnel with required knowledge of aerospace processes, product and system requirements to ensure their audit program is able to operate effectively and in accordance with Aerospace Industry requirements.

Contained herein are requirements for Aerospace Auditor Competency and Training Course to satisfy the competency criteria in IAQG 9104 to support certification/registration and recognition of Aerospace Quality Management Systems.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This standard provides the minimum requirements (Body of Knowledge) for AQMS Auditors who will participate in AQMS Certification/registration activities including Auditor Authentication process and for training organization. It is applicable to auditors seeking formal approval to conduct audits of the AQMS systems under the IAQG and those who manage the competency element of an AQMS audit program and to training organizations.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 9100, *Quality Management Systems — Requirements for Aviation, Space and Defense Organizations* ¹⁾

EN 9104, *Aerospace series — Quality management systems — Requirements for Aerospace Quality Management System Certification/Registrations Programs* ¹⁾

EN 9110, *Quality Management Systems — Requirements for Aviation Maintenance Organizations* ¹⁾

EN 9120, *Quality Management Systems — Requirements for Aviation, Space and Defence Distributors* ¹⁾

ISO 9000, *Quality management systems — Fundamentals and vocabulary*

ISO 9001, *Quality management systems — Requirements*

ISO 19011:2002, *Guidelines for quality and/or environmental management systems auditing*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

accreditation body

AB

body recognized by an IAQG sector that has the primary responsibility for the accreditation of certification bodies to issue certifications/registrations to Aerospace Quality Management Systems standards

3.2

aerospace

business of design, manufacture, maintenance, distribution and support of aviation vehicles and engines, accessories and component parts, all ancillary and allied businesses including aerospace vehicle operations

NOTE This also includes Space and Defence.

1) Or the corresponding AAQG standards (e.g. AS, ARP, etc.) or APAQG (e.g. JISQ, SJAC, HB, etc.).

3.3
aerospace experience auditor ²⁾
AEA

auditor that has met the requirements set forth in this document

3.4
aerospace product

aircraft, rotorcraft, guided weapon, launcher, spacecraft, other product designed to travel through the air, inside or outside the ground effect, or to travel outside the influence of the earth's atmosphere or major components of these products such as engines or major sub-systems or parts, appliances, equipment and materials as contained in these

3.5
aerospace quality management system standard
AQMS standard

standard published under the umbrella of IAQG generally referred to as 9100, 9110 or 9120

NOTE In some countries these standards are published with different designations.

3.6
auditor

person that has met the requirements set forth in EN 9104 and this document

3.7
auditor authentication body
AAB

body recognized by an IAQG sector that has the primary responsibility for certifying or approving persons (e.g. auditors) against specific requirements

3.8
blended learning

combination of electronic, knowledge-based training and face-to-face, skills-based training

3.9
body of knowledge

framework that defines the current boundaries of knowledge of the quality profession within the IAQG, and that is set out as simple statements of knowledge that can be used and developed by user groups such as the educational establishment, training establishments, membership and those organizations that need to define guidance or competencies for their quality professionals

NOTE The IAQG's Body of Quality Knowledge is revised and administered by the IAQG People Capability Strategy Stream which accepts requests for revision as and when they arise from user groups and other interested parties.

3.10
Certification Body
CB

body that audits and certifies/registers the conformity of the quality management system of organizations with respect to published aerospace quality management system (AQMS) standards and any supplementary documentation required under the system

NOTE Also referred to as a Certification/Registration Body (CRB).

3.11
electronic training

training that is conducted through computer-based methods (e.g. on-line, cd-rom)

²⁾ Sectors may use other names for "Auditor", "Aerospace Auditor" and "Aerospace Experienced Auditor" (AEA) as long as the requirements of EN 9104 are applied.

3.12

international aerospace quality group

IAQG

body of prime aerospace Original Equipment Manufacturers (OEMs)

NOTE This group is chartered to develop and implement common requirements and guidelines for use by the space, aviation and defense industries for quality improvement.

3.13

IAQG sector

sector

sub-structure of the IAQG, consisting of the members in a specific area, such as Americas, Europe and Asia/Pacific

3.14

sector management structure

SMS

organization established in a sector that manages the application of the sector scheme based on EN 9104

NOTE Each sector may use a different name for this organization (e.g. Registration Management Committee [RMC] in the Americas and Asia Pacific, Other Party Management Team [OPMT] in Europe within the AeroSpace and Defence Industries Association of Europe [ASD]).

3.15

training provider approval body

TPAB

body recognized by the SMS that has the primary responsibility to conduct the review and approval of training course content and training provider administration

3.16

work experience

full-time work experience in the aerospace industry directly involved in engineering, design, manufacturing, quality or process control for a major airframe manufacturer, prime supplier, auxiliary equipment supplier and/or appropriate official civil, military or space organization such as National Aviation Authorities (NAA), domestic Space Agency (e.g. ESA/NASA/CSA), Ministry of Defense (MoD)

NOTE 1 The work experience should have included direct involvement and/or knowledge of aerospace industry specific aspects such as: Aerospace industry quality, regulatory and/or military aerospace requirements and regulations (EASA/FAR 21; AQAP), first article inspection, airworthiness and safety requirements, aerospace material traceability requirements, aerospace sub-contractor approval and control, variation management of key characteristics, flow-down of AQMS requirements, foreign object damage/debris (FOD) prevention program, use of customer supplied products, calibration controls and positive recall system, acceptance authority media, non-conforming material management, sampling inspection/statistical process control requirements and limitations, special processes, configuration management/requirements control, manufacturing techniques, tool control, design development verification and validation.

NOTE 2 In addition for maintenance this work experience should have included direct involvement and/or knowledge of maintenance regulations, such as EASA/FAR 145/147, and EASA Part M, return to service processes, flight test, functional checks prior to flight, weight and balance, wing walking or aircraft marshalling techniques.

4 General

4.1 To support the AQMS auditor programs for organizations participating under the IAQG Industry Controlled Other Party scheme (ICOP), the IAQG has established minimum requirements for AQMS training courses and authentication of AQMS auditors.

4.2 AQMS auditor competency programs shall provide for the definition of competency requirements and include a process for the initial determination of AQMS auditor competency and ongoing evaluation of AQMS auditor competency. Auditor competency programs shall be suitable to the nature and volume of AQMS audits conducted.

4.3 AQMS auditor competency is gained through a combination of AQMS auditor training, industry specific training, aerospace work experience and audit experience. Auditor competency can only be demonstrated through on-site evaluation.

5 AQMS auditor competency requirements

5.1 AQMS Auditors seeking authentication are required to meet the guidelines identified in ISO 19011:2002 (section 7.4) and shall possess a combination of audit experience, AQMS training, Industry Specific training (as applicable), and Work Experience relative to an AQMS standard, as defined in this document.

5.2 The following categories of auditors have been established:

- Auditor 9100;
- Auditor 9110;
- Auditor 9120;
- Aerospace Experience Auditor (AEA) 9100;
- Aerospace Experience Auditor (AEA) 9110;
- Aerospace Experience Auditor (AEA) 9120.

5.3 The auditor authentication requirement for each auditor category described in 5.2 includes the qualification criteria specific to a particular AQMS standard. Auditors are found competent independently in each category, and can only conduct audits to the identified standard (i.e. AEA 9100 auditors cannot perform audits to 9110/9120). Auditors can, however, be recognized for one or more Auditor categories.

5.4 The requirements to which auditors must demonstrate conformity before they can conduct audits recognized by IAQG ICOP are identified in Tables 1 and 2. Note that two different set of criteria can be applied depending on the amount of Aerospace industry work experience the auditor holds, to become AEA.

5.5 Training courses required to support auditor authentication are required to be approved by the SMS recognized TPAB (Training Provider Approval Body).

NOTE ABs are not responsible for approving training courses.