



AEROSPACE STANDARD

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Superseded by AS9104/1

Americas Aerospace Quality Group (AAQG)
Requirements for Aerospace Quality Management
System Certification/Registrations Programs

RATIONALE

This document is Cancelled and Superseded by AS9104/1.

CANCELLATION NOTICE

This document has been declared "CANCELLED" as of June 2015 and has been superseded by AS9104/1. By this action, this document will remain listed in the Numerical Section of the Aerospace Standards Index noting that it is superseded by AS9104/1. Cancelled specifications are available from SAE.

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FOREWORD

This standard includes AS9104 requirements and specifies additional AAQG requirements for certification/registration of Aerospace Quality Management Systems (AQMS). The additional AAQG requirements are shown in bold, italic text.

The aviation, space and defense industry requires that all elements of the production and supply chain operate to levels of quality and performance that assure safe and reliable products. Quality management systems must be designed to assure that all aspects of the design, manufacture and support of aviation, space and defense products meet their intended functions. In parallel with the aviation, space and defense industry's development of quality management systems, as a means of ensuring that products comply with exacting requirements, equal importance has been attached to the role of quality systems assessment.

This Aerospace Standard (AS) was developed by the aviation, space and defense industry to standardize requirements and aid the potential pooling of resources, recognizing the highly professional and effective assessment of quality systems by the aviation, space and defense industry with oversight by the regulatory agencies of the Government. These requirements provide for continued integrity and credibility in the registration of those quality systems while recognizing the wealth of experience accrued by aviation, space and defense companies over many decades.

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.

The IAQG has developed specific requirements for quality systems that are to be implemented and maintained throughout the supply chain in the design, manufacture and maintenance of products used in aviation and space applications. These requirements are published simultaneously as AS/EN/JISQ 9100-series by SAE in the Americas, AECMA in Europe and JISQ in Asia/Pacific. Other countries will follow with technically identical national standards.

In this document, these standards are indicated as Aerospace Quality Management Systems (AQMS) Standards.

A further initiative of the IAQG was the development of a truly global scheme 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.

All these schemes have two major elements in common:

- Use of a voluntary certification/registration scheme with specific aerospace elements and requirements, under the supervision and control of the aerospace industry.
- A harmonized approach to the CRBs with the purpose to improve the quality level and control throughout the whole supply chain.

This document provides requirements for sectorial/regional schemes for the controlled use of assessment results of CRBs, based on three fundamentals:

- Use of accredited CRBs.
- Use of qualified and approved aerospace auditors.
- Use of international aerospace standards for quality management systems in aerospace industry.

This document addresses the following issues:

- a. Qualification and accreditation of CRBs.
- b. Assessment of quality systems by accredited CRBs.
- c. The principles for determining the content and duration of assessments.
- d. Reporting and control of nonconformities.
- e. The form of registration recommendations.
- f. Minimum standards of qualification and experience for aerospace auditors employed by CRBs.
- g. Authentication of auditors by CRBs, Accreditation Bodies (ABs) and the IAQG sectors.
 - **qualifications of auditors by the AAQG Registration Management Committee (RMC).**
- h. Oversight of ABs by applicable Sector Management Structure (SMS).
 - **oversight process of AB's by the AAQG RMC and AAQG member companies.**
- i. Oversight of CRBs by applicable SMS and IAQG Original Equipment Manufacturers (OEM).
 - **oversight process of CRBs by the ABs, AAQG RMC and AAQG member companies.**
- j. Operation of the IAQG oversight function.
 - **operation of the AAQG RMC.**

This document introduces certification/registration to the 9110 (maintenance organizations) and 9120 (stockist/distributors) standards, use of ISO 19011, mandatory use of the scoring process, as well as a number of clarifications and detail improvements resulting from the initial operation of the scheme. The requirements of this document are effective upon publication.

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1. SCOPE

These requirements are applicable to IAQG sector schemes when making use of ABs, CRBs and their auditors, for the assessment and certification/registration of supplier quality systems in accordance with the requirements of this document.

The quality management system standard used by the CRB shall be 9100/9110/9120, as appropriate to the supplier's activities. It shall be applied to the supplier's complete Quality System that covers aerospace products. Sectors may use these requirements for other standards.

IAQG members have committed to recognize the equivalence of certification/registration of a suppliers quality management system to either of the AS, EN or JISQ/SJAC standards.

This AS provides the approval process for Auditor Authentication Bodies (AAB), training course providers, trainers and auditors who meet the requirements of AIR5493 and outlines the America's sector specific process to implement AS9104. This document is created to be in conformance with AS9104.

NOTE: The requirements defined in this AS are applicable to ABs, CRBs, and Original Equipment Manufacturers (OEMs), during audit and/or certification/registration to the applicable quality management system standard to meet industry accepted practices.

1.1 Purpose

The purpose of this document is to give requirements on the process for providing aerospace companies and their suppliers with assessment and certification/registration of their quality systems, by accredited CRBs.

2. REFERENCES

Assessments shall be based on the latest versions of the following quality systems standards and guidelines, as appropriate.

AS/EN/JISQ 9100 Quality Management Systems - Aerospace - Requirements

AS/EN 9110 Quality Management Systems - Aerospace - Requirements for Maintenance Organizations

AS/EN 9120 Quality Management Systems - Aerospace - Requirements for Stockist / Distributors

NBR15100 Sistemas da Qualidade - Aeroespacial - Modelo para Garantia da Qualidade em Projeto, Desenvolvimento, Produção, Instalação e Serviços Associados

NOTE: The above standards are referred throughout this document as AQMS Standards.

AS/EN/SJAC 9101 Quality Management Systems Assessment

AS/EN 9111 Quality Management System Assessment applicable to Maintenance Organizations

AS/EN 9121 Quality System Assessment Applicable to Stockist Distributors

NOTE: The above standards are referred throughout this document as the Aerospace Assessment Report and Questionnaires.

AIR5493 Requirements for Development, Implementation and Control of Aerospace Auditor Training

AS/EN/SJAC 9102 Aerospace First Article Inspection Requirement

AS/EN/SJAC 9103 Variation Management of Key Characteristics

AS9104	<i>Requirements for Aerospace Quality Management System Certification/Registrations Program</i>
FAA Order 8120.12	<i>Production Approval Holder Use of Other-Parties to Supplement Their Supplier Control Program</i>
ISO 9000	Quality Management Systems - Fundamentals and Vocabulary
ISO 9001	Quality Management Systems - Requirements
ISO 9004	Quality Management Systems - Guidelines for Performance Improvements
ISO 17011	<i>Conformity assessment - General requirements for accreditation bodies accrediting conformity assessment bodies</i>
ISO 19011	Guidelines for Quality and/or Environmental Management Systems Auditing
ISO/IEC Guide 61	General Requirements for Assessment and Accreditation of Certification/Registration Bodies <i>(Superseded by ISO 17011 on January 1, 2006)</i>
ISO/IEC Guide 62	General Requirements for Bodies Operating Assessment and Certification/Registration of Quality Systems
IAF Guidance on the Application of ISO/IEC Guide 61	
IAF Guidance on the Application of ISO/IEC Guide 62	

3. DEFINITIONS

For the purpose of this document the following definitions are used:

3.1 Accreditation Body (AB)

A body recognized by an IAQG sector that has the primary responsibility for the accreditation of CRBs to issue certifications/registrations to AQMS standards.

3.2 Aerospace

The 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.

3.3 Aerospace Experience Auditor¹

An auditor that has met the requirements set forth in 7.2, 7.3 or 7.4 of this document. ***An "Aerospace Experience Auditor" shall refer to an auditor that has met the requirements set forth in AS9104. Auditors conducting audits for OEMs in support of recognized shared audits at suppliers may be referred to as "Aerospace Experience Auditors" provided they meet the OEM's requirements and they are equivalent to requirements set forth in AS9104.***

3.4 Aerospace Product

An aircraft, rotorcraft, guided weapon, launcher, spacecraft or 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.

¹ NOTE: Sectors may use other names for 'Auditor', 'Aerospace Auditor' and 'Aerospace Experienced Auditor' as long as the requirements of this document are applied.

3.5 Auditor²

A person that has met the requirements set forth in 7.1 of this document. ***An "Auditor" shall refer to an auditor that has met the requirements set forth in AS9104. Auditors conducting audits for OEMs in support of recognized shared audits at suppliers may be referred to as "Aerospace Auditors" provided they meet the OEM's requirements and are equivalent to the requirements set forth in AS9104.***

3.6 Certification/Registration Body (CRB)

A party that audits and certifies/registers the quality management system of organizations with respect to published quality management system standards and any supplementary documentation required under the system.

3.7 International Aerospace Quality Group (IAQG)

A body of prime aerospace OEMs. This group is chartered to develop common requirements for use by the aerospace industry for quality improvement.

3.8 International Aerospace Quality Group (IAQG) Sector or Sector

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

3.9 Nonconformity

The absence of, or the failure to implement and maintain, one or more quality management system requirements, or a situation that would, on the basis of available objective evidence, raise significant doubt as to the quality of what the organization is supplying.

Major: The absence of, or total breakdown of a quality management system element specified in the AQMS standard or any non-conformities where the effect is judged to be detrimental to the integrity of the product, processes or service.

Minor: A single system failure or lapse in conformance with a procedure relating to the AQMS standard.

NOTE: A number of minor non-conformities against one requirement can represent a total breakdown of the system and this can be considered as a major nonconformity.

Any finding (e.g., comments, observations) that equates to the above definition shall be documented as a nonconformity, categorized as major or minor, and dealt with in accordance with 8.3.

3.10 On Line Aerospace Supplier Information System (OASIS)

The web-based IAQG database containing information on participating National Aerospace Industry Associations, ABs, accredited CRBs, authenticated Aerospace Experience Auditors, Certified Suppliers and Assessments.

3.11 Sector Management Structure (SMS)

The organization established in a sector that manages the application of the sector scheme based on this document **and AS9104**. Each sector may use a different name for this organization (e.g., Registration Management Committee **[RMC]** in the Americas and Asia/Pacific, Certification Body Management Committee in Europe within AECMA).

² NOTE: Sectors may use other names for 'Auditor', 'Aerospace Auditor' and 'Aerospace Experienced Auditor' as long as the requirements of this document are applied.

ADDITIONAL AAQG DEFINITIONS

3.12 ACCREDITED AUDIT/CERTIFICATE

An audit conducted in complete accordance with the requirements of this document. An audit performed by an Aerospace Experienced Auditor, working through a CRB, qualified for this sector by an AB, that has been recognized by the RMC of the AAQG or IAQG. A certificate is issued attesting to conformance to the applicable standard(s).

3.13 AEROSPACE QUALITY MANAGEMENT SYSTEM (AQMS) STANDARDS

Standards developed for and by the aviation, space and defense industry to define minimum quality system requirements for the aviation, space and defense industry supply chain. These standards are AS9100, AS9110, and AS9120 and their internationally accepted equivalents (e.g., EN9100, NBR 15100).

3.14 AMERICAS AEROSPACE QUALITY GROUP (AAQG)

An SAE Aerospace Council committee (G-14) comprised of individuals from aerospace OEMs. This group is chartered to develop common requirements for use by the aviation, space and defense industry for quality improvement.

3.15 AUDITOR AUTHENTICATION BODY (AAB)

Body recognized by the RMC to verify auditor qualifications against defined requirements.

3.16 AUTHORITIES/CIVIL AVIATION AUTHORITY (CAA)

The national authority for aviation, defense and space regulations with jurisdiction within its country of origin.

3.17 REGISTRATION MANAGEMENT COMMITTEE (RMC)

An industry group charged with the oversight and management of the registration/certification program and supporting processes, systems and documentation.

4. GENERAL

- 4.1 The requirements stated herein shall be based on the latest versions of the documents listed in Section 2.
- 4.2 Aerospace additional requirements are identified in the AQMS Standards as bold italic items. These elements are in addition to ISO 9001 elements and should also be applied in the organization's quality system.
- 4.3 Data, in the form of checklists, approvals or other company specific information, generated in the application of this document shall be handled as "confidential, proprietary and sensitive" between the parties generating, collecting, or using the data. Companies using this data shall keep its usage confidential both internally and externally, unless otherwise agreed in writing by the consenting parties. Data resident at the ABs and CRBs on OEMs shall not be shared with OEM competitors. However, this data may be subject to audit or review at any time by applicable ABs, SMS (RMC), government or regulatory bodies and the IAQG Oversight Team (OT) (see Section 14).

5. REQUIREMENTS FOR ACCREDITATION BODIES

5.1 The responsibilities of the AB shall be to review and recommend accreditation of the CRBs to the requirements of this document. The AB shall approve the use of “marks” and logos for use on certificates of approval. The AB shall work with the IAQG sector to give assurance that CRBs continue to perform in a manner consistent with the requirements contained herein and in the IAQG sector scheme. ABs shall be members of the IAF (International Accreditation Forum) and signatories of the IAF MLA (Multi-lateral Agreement) to participate in this process. ABs shall be in conformance to ISO/IEC Guide 61 and IAF Guidance on the Application of ISO/IEC Guide 61.

5.1.1 In addition to the responsibilities in AS9104, ABs shall provide recommendation for recognition of the CRB by the RMC.

5.1.2 ABs must prepare a CRB Application form for the applicable aerospace AQMS registration. This CRB Application shall provide the AB with confidence that the CRB has developed the necessary documented process to meet the requirements of this document for each applicable AQMS. All information required by the CRB Application must be approved by the AB and approval recognized by the RMC.

5.2 ABs shall have a person(s) with aerospace background on their advisory group, as defined in ISO/IEC Guide 61.

5.3 The basis for AB accreditation of CRBs to AQMS shall include an initial full system witness audit of a AQMS certification/registration per the AB's operating procedures.

5.4 AB audit teams who are conducting assessments of CRBs for the purposes of this scheme shall include an auditor with aerospace experience (same as 7.2, 7.3, or 7.4) or have aerospace industry expert(s) with experience (same as 7.2, 7.3, or 7.4) as part of the audit team.

5.5 The AB shall have the specific procedures, tools and techniques in its systems for granting, maintaining, suspending and withdrawing accreditation of CRBs (e.g., AQMS Standards and Aerospace Assessment Report and Questionnaires, briefing notes) and for compliance with Section 8 of this document.

5.6 The AB shall agree to periodic surveillance and witness audits by IAQG sectors. IAQG member companies shall perform oversight of scheme involved National Accreditation Bodies (NABs) and report results to the SMS (**RMC**) as established in each sector.

5.7 The AB shall agree to the “Right of Access” by IAQG member companies, IAF and other regulatory or Government bodies for the purpose of establishing that the correct criteria and methods were used in accrediting CRBs. This includes information or records pertaining to IAF approval of the AB.

5.7.1 ABs must afford AAQG member OEMs and applicable authorities the right of review of AB and CRB records and information related to their AQMS sector qualification program, including AB and CRB activities associated with this document and recognition by the RMC. ABs shall ensure that this right of review is communicated to its AQMS sector qualified CRBs.

6. REQUIREMENTS FOR CERTIFICATION/REGISTRATION BODIES

6.1 CRBs seeking qualification under the sectorial procedures based on these requirements shall first be accredited in accordance with ISO/IEC Guide 62 and IAF Guidance on the Application of ISO/IEC Guide 62 for ISO 9001 for at least one year prior to submitting an application. As such, the CRB shall have been successfully assessed for conformance to ISO/IEC Guide 62 and ISO 19011.

6.1.1 A CRB must complete the AB's application for the applicable AQMS standard and submit that application, along with necessary auditor applications, for review and approval by the AB prior to gaining recognition by the RMC.

6.2 ABs shall accredit the CRB's audit management program for each AQMS standard in accordance with the requirements of this document.

- 6.3 Accreditation requirements shall include, among other things, evidence that the CRB's management committee or advisory group have a person(s) with aerospace background and knowledge. **A CRB must obtain accreditation from the AB for International Accreditation Forum (IAF) Scope Category 21 (aerospace).** A CRB may or may not already be approved by the AB for the scope category of aerospace by Scope Sector 21 (NACE DM 35.3) (formerly U.S. SIC Code 372 and 376) in accordance with AB procedures and requirements. The CRB shall have qualified auditors and/or technical experts engaged in registration activities.
- 6.4 Requirements for CRBs to obtain AQMS Standards accreditation shall include as a minimum:
- The CRB's certification function shall have a person(s) with aerospace background and knowledge involved in the certification decisions of the CRB.
 - The CRB shall use an auditor training program that complies with detailed requirements per IAQG sector (**see AIR5493**) and records thereof for quality system requirements. Minimum content of this training program is:
 - AQMS Standards.
 - The Aerospace Assessment Report and Questionnaires.
 - The scheme as used in the specific sector for Certification/Registration of AQMS.
 - The scoring process and use of nonconformity reports.
 - Additional sectorial training requirements. **Each auditor must be recognized by the RMC as meeting AIR5493 requirements.**
 - Civil Aviation Authority (CAA) requirements (such as Federal Aviation Administration [FAA] Title 14 CFR Part 21, Joint Aviation Requirements (JAR) 21 or equivalent per the national CAA) and applicable advisory material.
 - Applicable Space and Defense organizations requirements.
 - CRB shall document their auditor-training program and it shall be reviewed and approved by the AB during the accreditation process. **Training of auditors shall be conducted in accordance with AIR5493.**
 - The CRB shall utilize qualified auditors as defined in Section 7 of this document. The CRB audit team shall meet the requirements of Section 8 of this document.
 - The CRB shall have the specific procedures, tools and techniques in its systems for granting, maintaining, extending, reducing, suspending and withdrawing certification/registration at aerospace organizations per AB and IAQG requirements (e.g., AQMS Standards and Aerospace Assessment Report and Questionnaires, briefing notes) and Section 8 of this document, **including AAQG requirements (e.g., standards, checklist(s), briefing notes, reference materials) per Section 8 and Appendix A of this document.**
 - The CRB shall agree to periodic surveillance and witness audits by the ABs and by IAQG sectors. ABs shall conduct annual witness audits of CRBs holding AQMS accreditation. IAQG member companies shall perform oversight of CRBs used by their suppliers and report results to the SMS (**RMC**) as established in each sector.
 - The CRB shall agree to the "Right of Access" by IAQG member companies, ABs and other regulatory or Government bodies for the purpose of establishing that the correct criteria and methods were used in issuing organization approvals to AQMS Standards. This includes information or records pertaining to AB approval of the CRB.
 - The CRB shall be responsible for entering assessment data into the OASIS database by following a process defined by their SMS (**RMC**) or by providing the information to a designated database administrator, in accordance with 8.4.