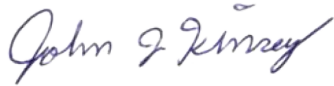



AEC-5, Issue 0

AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS

AEC documents are governed by the ASNT Certification Management Council (CMC).

Approved: February 27, 2019

CMC Chair	
ASNT Certification Group	



	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

1.0 PURPOSE

The purpose of this procedure is to provide guidance to Authorized Examination Centers (AEC's) in the development and maintenance of a Quality Management System (QMS) which meets or exceeds the ASNT AEC requirements.

2.0 SCOPE

This document establishes the minimum QMS requirements for AEC's.

3.0 REFERENCES

3.1 AEC-1 Program Document Requirements

4.0 DEFINITIONS

4.1 Quality Management System (QMS): A quality management system (QMS) is a set of policies, processes and procedures required for planning and execution (production / development / service) in the core business area of an organization. (i.e. areas that can impact the organization's ability to meet customer requirements.)

5.0 RESPONSIBILITIES

5.1 Certification Management Council (CMC)

5.1.1 Responsible for establishing and maintaining requirements for certification of applicants, equipment requirements, examination materials, quality requirements, and other technical issues for AECs.

5.2 ASNT International Service Center (ISC)

5.2.1 Responsible for maintaining a QMS audit program to support the AEC process.

5.3 Authorized Examination Center (AEC)

5.3.1 Compliance to this procedure and AEC-1.

5.3.2 Meeting the QMS requirements as defined in this document.

6.0 AEC QUALITY MANAGEMENT SYSTEM (QMS)

6.1 The AEC shall have a Quality Assurance Program that addresses the minimum quality control requirements for all personnel involved with the function of the ASNT AEC, including and not limited to scheduling & execution of the examinations, development & maintenance of procedures / quality control documents, examination test sample management, NDT equipment, instruments, supplies, etc.

6.2 The AEC shall develop and maintain a procedure that addresses the key quality assurance elements. This procedure shall include the following content:

6.2.1 Purpose.

6.2.2 Scope.

6.2.3 Organization Structure.

6.2.4 Management of Impartiality.

6.2.5 Confidentiality.

6.2.6 Competence, Training and Awareness.

	TITLE: AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Number: AEC-5
		Revision: Issue 0
		Date: 2/27/2019

- 6.2.7 Infrastructure.
- 6.2.8 Work Environment.
- 6.2.9 ASNT ISC Communication.
- 6.2.10 Documentation Control.
- 6.2.11 Control of Records.
- 6.2.12 Purchasing.
- 6.2.13 Control of Monitoring and Measuring Equipment.
- 6.2.14 Identification and Traceability.
- 6.2.15 ASNT Hardware.
- 6.2.16 Security
- 6.2.17 Internal Audit.
- 6.2.18 Control of Nonconforming Product.
- 6.2.19 Corrective and Preventative Action.

Note: Multiple procedures may be used to address these items, provided there is traceability from those procedures to the Quality Management System procedure.

- 6.3 The QMS procedure shall be approved by the designated management representative of the AEC.
- 6.4 The QMS procedure shall be available at all times with all individuals working to the procedure having knowledge of its location.
- 6.5 An electronic copy of the latest QMS Procedure shall be provided to ASNT ISC. Anytime the QMS Procedure is modified, ASNT ISC shall receive a copy of the new document within 30 days.
- 6.6 Any changes to the QMS procedure or other associated documents shall be identified in a manner that shows the changes that were made and contain a revision log summarizing the changes.

7.0 ORGANIZATION STRUCTURE

- 7.1 The AEC shall have an organization chart that identifies the roles and responsibilities of all AEC personnel and how they fit into the overall organization.

8.0 EXAMINATION FACILITIES

- 8.1 All locations under contract with ASNT that perform ASNT AEC functions shall be identified.
 - 8.1.1 If multiple locations are used, specify all the applicable addresses.
- 8.2 There shall be a floor plan that identifies the layout of the Computer Based Testing (CBT) and/or practical examination areas.
- 8.3 This plan shall include dimensions, location of the work stations and video monitoring equipment.

	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

9.0 MANAGEMENT OF IMPARTIALITY

- 9.1 The AEC shall address the structure, policies and procedures to manage impartiality and to ensure examination activities are conducted impartially.
- 9.2 The AEC shall not allow commercial, financial or other pressures to compromise impartiality.
- 9.3 The AEC shall identify threats to its impartiality on an ongoing basis. This shall include those threats that arise from its activities, from its related bodies, from its relationships, or from the relationships of its personnel including staff.
- 9.4 Relationships can be based on ownership, governance, management, personnel, shared resources, finances, contracts, marketing, and payment.
- 9.5 Threats may be actual or perceived.
- 9.6 Related bodies are linked by common ownership, in whole or part, and has common members of the board of directors, contractual arrangements, common names, common staff, informal understanding or other means, such that the related body has a vested interest in certification decisions or the ability to influence the process.

10.0 CONFIDENTIALITY

- 10.1 The AEC shall establish documented procedures for the maintenance and release of information for all personnel involved in the ASNT AEC process.
- 10.2 The AEC shall ensure that information obtained during the examination process, or from sources other than the applicant, candidate, or certified person, is not disclosed to an unauthorized party.
- 10.3 The AEC shall sign an ASNT Confidentiality form and is responsible for the confidentiality of all employees working for the AEC.

11.0 COMPETENCE TRAINING AND AWARENESS

- 11.1 The AEC shall define the duties and responsibilities of all individuals involved in the ASNT AEC process. This shall include the competencies and training necessary to perform the work.

Note: For further details on the functions required of an AEC, refer to AEC-1.

- 11.1.1 Competencies shall include knowledge of ASNT documents and internal procedures relating to the AEC process.
- 11.2 Any training shall have objective evidence to show the following:
 - 11.2.1 The training subject.
 - 11.2.2 Method used for training.
 - 11.2.3 Training duration.
 - 11.2.4 Content outline.
 - 11.2.5 The trainer.
 - 11.2.6 The trainee.
 - 11.2.7 Signatures of the trainer and trainee.
- 11.3 The AEC shall verify individuals are competent to perform the tasks and understand the importance of their activities.

	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

- 11.4 The AEC shall maintain a list of all the approved Certified Test Administrators (CTA's) used for CBT and approved Examiners for practical examinations.
 - 11.4.1 Individuals that proctor CBT exams shall achieve and maintain certification from the CBT Provider.
 - 11.4.2 Examiners that proctor practical examinations shall receive additional training provided by ASNT ISC.
- 11.5 The AEC shall maintain records of education, training skills and experience for individuals involved in the ASNT AEC process.

12.0 INFRASTRUCTURE

- 12.1 The AEC shall determine, provide and maintain the infrastructure needed to achieve conformity to the requirements outlined in the ASNT AEC Process.
- 12.2 Infrastructure includes, as applicable,
 - 12.2.1 Buildings, workspace and associated utilities,
 - 12.2.2 Process equipment (both hardware and software), and
 - 12.2.3 Supporting services (such as communication or information systems).

13.0 WORK ENVIRONMENT

- 13.1 The AEC shall determine and manage the work environment needed to achieve conformity to product.

Note: The term “work environment” relates to those conditions under which work is performed including physical, environmental and other factors (such as noise, temperature, humidity, lighting or weather).

14.0 ASNT ISC COMMUNICATION

- 14.1 The AEC shall determine and implement effective arrangements for communicating with ASNT ISC in relation to;
 - 14.1.1 Enquiries, contracts or order handling, including amendments, and
 - 14.1.2 Feedback, including complaints from ASNT ISC.

15.0 DOCUMENTATION CONTROL

- 15.1 Documents required by the quality management system shall be controlled.
- 15.2 A documented procedure shall be established to define the controls needed:
 - 15.2.1 To approve documents for adequacy prior to issue,
 - 15.2.2 To review and update as necessary and re-approve documents,
 - 15.2.3 To ensure that changes and the current revision status of documents are identified,
 - 15.2.4 To ensure that relevant versions of applicable documents are available at points of use,
 - 15.2.5 To ensure that documents remain legible and readily identifiable,
 - 15.2.6 To ensure that documents of external origin determined by the organization to be necessary for the planning and operation of the quality management system are identified and their distribution controlled, and

	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

15.2.7 To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

16.0 CONTROL OF RECORDS

- 16.1 Records established to provide evidence of conformity to requirements and of the effective operation of the quality management system shall be controlled.
- 16.2 The organization shall establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records.
- 16.3 Records shall remain legible, readily identifiable and retrievable.
- 16.4 Retention of records for a period consistent with its contractual and legal obligations, shall be applied.

17.0 PURCHASING

- 17.1 The AEC shall ensure that purchased product conforms to specified purchase requirements from the AEC and also applicable AEC documents required by ASNT.
- 17.2 A documented procedure shall be established that outlines:
 - 17.2.1 Purchasing of materials, equipment, calibration services, process control checks, etc.
 - 17.2.2 Specification, or standards to which materials or services are procured.
 - 17.2.3 Certification requirements.
 - 17.2.4 Traceability requirements.
 - 17.2.5 Verification of purchase.

18.0 CONTROL OF MONITORING AND MEASURING EQUIPMENT

- 18.1 The AEC shall establish a documented procedure for the control of monitoring and measuring equipment used for the ASNT AEC practical examinations. This shall include as a minimum:
 - 18.1.1 The equipment to be calibrated or verified.
 - 18.1.2 The intervals / frequency of the calibration or verification.
 - 18.1.3 Measurement standards traceable to international or national measurement standards.
 - 18.1.4 Adjustment or re-adjustment of measuring equipment (as applicable).
 - 18.1.5 Identification method for determining the measurement equipment calibration status.
 - 18.1.6 Safeguards from adjustments that would invalidate the measurement result.
 - 18.1.7 Protection from damage and deterioration during handling, maintenance and storage.
 - 18.1.8 Assessment and recording the validity of the previous measuring results when the equipment is found not to conform to requirements.
 - 18.1.9 Records of the results of calibration and verification being maintained.
- 18.2 The purchase order shall contain the necessary details as defined in the procedure.

19.0 IDENTIFICATION AND TRACEABILITY

- 19.1 The AEC shall use a suitable means of identification and traceability for materials, equipment, status, etc. used for the ASNT AEC program.

	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

19.2 Records shall be maintained based on the AEC’s requirements for record retention.

20.0 ASNT HARDWARE

The examination test samples & CBT examinations used for the ASNT programs are the property of ASNT.

20.1 The AEC shall identify, verify, protect and safeguard ASNT hardware.

20.1.1 If an AEC identifies ASNT hardware as lost, damaged or found to be unsuitable for use, ASNT shall be notified in accordance with the AEC, communications protocols.

20.1.2 The AEC shall preserve ASNT hardware in order to maintain conformity to requirements. As applicable, preservation shall include identification, handling, packaging, storage and protection.

21.0 SECURITY

21.1 The AEC shall develop procedures necessary to ensure security throughout the entire certification process and shall have measures in place to take corrective actions when security breaches occur. The procedure shall include provisions to ensure the security of examination materials, taking into account the following:

21.1.1 The locations of the materials (e.g. transportation, electronic delivery, disposal, storage, examination centers).

21.1.2 The nature of the materials (e.g. electronic, paper, testing equipment).

21.1.3 The steps on the examination process (e.g. development, administration, results reporting).

22.0 INTERNAL AUDIT

22.1 The AEC shall establish a procedure to define the internal audit program to ensure continuous compliance with applicable requirements associated with the Quality Management System as it applies to the ASNT AEC program.

22.2 The AEC audit program shall be planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits.

22.3 The audit criteria, scope, frequency and methods shall be defined.

22.4 The selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.

22.4.1 A training program shall be developed to qualify / train internal auditor candidates.

22.5 Records of the audits and their results shall be maintained.

22.6 The individual responsible for the ASNT AEC process shall ensure that any necessary corrective actions are taken without undue delay to eliminate detected nonconformities and their causes.

22.7 Follow-up activities shall include the verification of the actions taken and the reporting of verification results.

ASNT requires all AEC’s to conduct surveillance activities on an annual basis. Providing the surveillance activities meet the internal audit requirements, then additional internal audits are not necessary.

	TITLE:	Number: AEC-5
	AEC QUALITY MANAGEMENT SYSTEM (QMS) REQUIREMENTS	Revision: Issue 0
		Date: 2/27/2019

23.0 CONTROL OF NONCONFORMING PRODUCT

- 23.1 A documented procedure shall be established to define the controls and related responsibilities and authorities for dealing with nonconforming product as it relates to the ASNT AEC process.
- 23.2 Where applicable, the AEC shall deal with nonconforming product by one or more of the following ways:
 - 23.2.1 Taking action to eliminate the detected nonconformity.
 - 23.2.2 Authorizing its use, release or acceptance under concession by ASNT.
 - 23.2.3 Taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started.
- 23.3 When nonconforming product is corrected it shall be subject to re-verification to demonstrate conformity to the requirements.
- 23.4 Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained.

24.0 CORRECTIVE AND PREVENTIVE ACTION

The AEC shall take action to eliminate the causes of nonconformities in order to prevent recurrence. Corrective and preventive action shall be appropriate to the effects of the nonconformities encountered.

- 24.1 A documented procedure shall be established to define requirements for:
 - 24.1.1 Reviewing nonconformities (including customer complaints).
 - 24.1.2 Determining the causes of nonconformities.
 - 24.1.3 Evaluating the need for action to ensure that nonconformities do not recur.
 - 24.1.4 Determine and implement action needed.
 - 24.1.5 Records of the results of action taken.
 - 24.1.6 Reviewing the effectiveness of the corrective action taken.
- 24.2 Any audits that are performed by ASNT against the requirements of the AEC process, resulting in the issuance of a nonconformance shall be incorporated into the AEC's corrective action process.

25.0 DOCUMENT CHANGE HISTORY

Revision	Date	Summary of Changes
0	2/27/2019	New Document