NATO STANDARD

AQAP-2110

NATO QUALITY ASSURANCE REQUIREMENTS FOR DESIGN, DEVELOPMENT AND PRODUCTION

Edition D Version 1
JUNE 2016

NORTH ATLANTIC TREATY ORGANIZATION

ALLIED QUALITY ASSURANCE PUBLICATION

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NORTH ATLANTIC TREATY ORGANIZATION (NATO)

NATO STANDARDIZATION OFFICE (NSO)

NATO LETTER OF PROMULGATION

24 June 2016

1. The enclosed Allied Quality Assurance Publication AQAP-2110, NATO QUALITY ASSURANCE REQUIREMENTS FOR DESIGN, DEVELOPMENT AND PRODUCTION, Edition D, Version 1, which has been approved by the nations in the Life Cycle Management Group (AC/327), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 4107.

2. AQAP-2110, Edition D, Version 1 is effective upon receipt and on completion of a transition, ending 21 September 2018, will supersede AQAP-2110 Edition 3, AQAP-2120 Edition 3 and AQAP-2130 Edition 3 all of which which should be destroyed in accordance with local procedures for the destruction of documents.

3. No part of this publication may be reproduced, stored in a retrieval system, used commercially, adapted, or transmitted in any form or by any means, electronic, mechanical, photo-copying, recording or otherwise, without the prior permission of the publisher. With the exception of commercial sales, this does not apply to member or partner nations, or NATO commands and bodies.

3. This publication shall be handled in accordance with C-M(2002)60.

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATION
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[nation]	[detail of reservation]
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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CHAPTER 1 INTRODUCTION

1.1 General

This publication contains the NATO requirements for Quality. A Quality Management System shall be established, documented, applied, maintained, assessed and improved, and evaluated, in accordance with requirements contained in this publication.

1.2 Purpose

This publication contains requirements, which, if applied appropriately, provide confidence in the Supplier's capability to deliver products that conform to Acquirer contract requirements.

1.3 Applicability

1. This publication is primarily intended for use in a contract between two or more parties.

2. When referenced in a contract, this publication shall apply to all of the processes necessary for the Supplier to fulfil the contractual requirements.

3. This publication may also be used internally by a Supplier or a potential Supplier to cover the Quality aspects of the Management System (MS).

4. Where identified by the Acquirer other appropriate standards can be used in conjunction with this publication to identify MS process requirements.

5. If inconsistencies exist between the contract requirements and this publication, the contract requirements shall prevail.

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CHAPTER 2 COMPLIANCE WITH THIS PUBLICATION

2.1 Compliance

Compliance with this publication is defined as the fulfilment of the requirements in chapters 3, 4 and 5. All requirements are applicable unless agreement otherwise is documented as part of the contract with the Acquirer.

2.2 Notes and Guidance

In this publication 'Notes' are not contractual requirements; they are for guidance or clarifying the associated requirement.

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CHAPTER 3 COMPOSITION OF REQUIREMENTS IN AQAP 2110

3.1 Composition

1. A requirement in this publication is composed as follows:

   a. Chapter 4, General QMS Requirements, establishes the applicability of the requirements of ISO 9001:2015.

   b. Chapter 5, NATO Specific QMS Requirements, establishes additional NATO specific requirements for the Supplier.

2. Whenever the ISO 9001 requirement refers to “this international standard” it shall be read as “this publication”.

3.2 References

3.2.1 Normative References

1.	ISO 9001:2015	Quality Management Systems – Requirements
2.	ISO 9000:2015	Quality Management Systems – Fundamentals and Vocabulary
3.	ACMP 2100	Configuration Management Contractual Requirements
4.	ISO 10012:2003	Measurement Management Systems – requirements for measurement processes and measuring equipment
5.	ISO 31000:2009	Risk Management – Principles and Guidelines

3.2.2 Informative References

1.	AQAP 2000	NATO Policy on an Integrated Systems Approach to Quality Through the Life Cycle
2.	AQAP 2009	NATO Guidance on the use of the AQAP 2000 series
3.	AQAP 2105	NATO Requirements for Deliverable Quality Plans
4.	AQAP 2070	NATO Mutual Government Quality Assurance (GQA) Process
5.	ISO 10007:2003	Quality Management Systems – Guidelines for Configuration Management
6.	ADMP	Allied Dependability Management Publications

3.3 Definitions

Unless stated otherwise, ISO 9000:2015 definitions shall apply.

3.3.1 Acquirer

Governmental and/or NATO Organisations, that enter into a contractual relationship with a Supplier, defining the product and quality requirements

3.3.2 Supplier

Organisation that acts in a contract as the provider of products to the Acquirer.

3.3.3 Certificate of Conformity

A document, signed by the Supplier, which states that the product conforms with contractual requirements

3.3.4 Dependability

The ability to perform as and when required.

Notes:

1. Dependability includes availability, reliability, recoverability, maintainability and maintenance support performance, and, in some cases, other characteristics such as durability, safety, and security.

2. Dependability is used as a collective term for the time-related quality characteristic of an item

3.3.5 Government Quality Assurance

The process by which the appropriate National Authorities establish confidence that the contractual requirements relating to quality are met

3.3.6 Government Quality Assurance Representative

The Personnel with responsibility for Government Quality Assurance (GQA), acting on behalf of the Acquirer

3.3.7 GQAR and/or Acquirer

The term “GQAR and/or Acquirer” has been used in this document to enable the Acquirer to be the default in situations in which there is either no GQAR associated with the contract or where the appointed GQAR has not been delegated the authority to conduct particular activities

3.3.8 Product

The result of activities, processes and tasks. A product may include service, hardware, processed materials, software or a combination thereof. A product can be tangible (e.g. assemblies or processed materials) or intangible (e.g. knowledge or concepts), or a combination thereof.

3.3.9 Quality Plan

Supplier's document that specifies which procedures and associated resources shall be applied by whom and when to a specific project, product, process or contract requirement

3.3.10 Root Cause Analysis

A collective term that describes a wide range of approaches, tools and techniques used to identify causes of nonconformity.

3.3.11 Key or Critical Product Characteristics or Processes

Processes or Product elements or features which, if not properly controlled, can have an adverse impact on the product delivery, cost and performance.

3.3.12 Counterfeit Material

Materiel whose origin, age, composition, configuration, certification status or other characteristic (including whether or not the materiel has been used previously) has been falsely represented by:

- A) misleading marking of the materiel, labelling or packaging;

- B) misleading documentation; or

- C) any other means, including failing to disclose information;

- except where it has been demonstrated that the misrepresentation was not the result of dishonesty by a Supplier or External Provider within the supply chain.

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CHAPTER 4 GENERAL QMS REQUIREMENTS

4.1 Applicability of ISO 9001:2015 REQUIREMENTS

The Supplier shall establish, document, implement, assess and improve an effective and economical Quality Management System in accordance with this publication which includes the requirements of ISO 9001:2015 as necessary to satisfy the contract requirements.

4.2 Quality Management System and its Processes

The Acquirer and/or Government Quality Assurance Representative (GQAR) reserve the right to reject the Supplier’s Quality Management System as it applies to the contract. The Supplier's documented Scope of their System, records from internal audit, self-assessments and other objective evidence that this system is compliant with this Publication and is effective, shall be readily available to the GQAR and/or Acquirer.

In instances where the Acquirer and/or GQAR rejects the Quality Management System, the Supplier shall make proposals for corrective actions and revisions within an agreed timescale and contractual penalties will be applied as defined in the contract

4.3 Access to Supplier and External Providers and Support For GQA Activities

The Supplier and/or External Providers shall provide the GQAR and/or Acquirer:

1. The right of access to facilities where the contracted activities are being performed.

2. Information pertaining to the fulfillment of requirements in the contract.

3. Unrestricted opportunity to evaluate Supplier compliance with this Publication.

4. Unrestricted opportunity to evaluate External Providers compliance with this Publication. The Supplier will be informed before the evaluation takes place.

5. Unrestricted opportunity to conduct verification of product conformity with the contract requirements.

6. Required assistance for evaluation, verification, validation, testing, inspection or release of the product for the accomplishment of GQA to contract requirements.

7. Accommodation and facilities for performing GQA.

8. The necessary equipment available for reasonable use for performing GQA.

9. Supplier and/or External Providers personnel for operation of such equipment as required.

10. Access to information and communication facilities.

11. The necessary Supplier documentation to confirm product conformance to specification.

12. Copies of necessary documents, including those on electronic media.

CHAPTER 5 NATO SPECIFIC QMS REQUIREMENTS

Note: The paragraph number of ISO 9001:2015 mentioned in brackets at the end of the paragraph title is only for information purposes.

5.1 Leadership

5.1.1 Organizational roles, responsibilities and authorities [5.3]

1. Top management shall appoint a management representative for GQA issues from the organization's management who, irrespective of other responsibilities shall have the necessary organisational authority and freedom to resolve matters pertaining to quality. The management representative shall report directly to top management.

2. The management representative shall have responsibility and authority that includes ensuring that processes needed for the quality management system are established, implemented and maintained and shall include liaison with the GQAR and/or Acquirer on matters related to quality.

3. The management representative shall have the appropriate competence related to Quality Management.

5.2 Planning

5.2.1 Risk Management [6.1]

1. The Supplier and External Provider shall provide objective evidence that risks, including External Provider risks, are considered during planning, including but not limited to Risk Identification, Risk Analysis, Risk Control and Risk Mitigation. The planning shall start with risk identification during contract review and be updated thereafter in a timely manner.

2. Unless otherwise stated in the contract, the Risk Management applied shall meet the principles and guidelines of ISO 31000:2009. The Risk Management Plan shall be made available to the GQAR and/or Acquirer.

3. The Acquirer and/or GQAR reserve the right to reject Risk Plans and their revisions.

5.3 Support

5.3.1 Infrastructure [7.1.3]

The infrastructure shall include an area to segregate nonconforming product (see paragraph 5.4.12 of this publication).

5.3.2 Monitoring and measuring resources [7.1.5]

1. The measurement and calibration system applied to the contract shall meet the requirement of ISO 10012:2003.

2. When an item of measuring equipment fails calibration the Supplier shall advise the GQAR and/or Acquirer of the impact of the failure on previous measuring results where this affects delivered products or verification, validation and acceptance results. The GQAR and/or Acquirer may request that measurements taken shall be repeated with calibrated equipment.

5.3.3 Competence [7.2]

The Supplier shall establish and maintain a process for identifying training needs and achieving competence of all personnel performing activities affecting product quality.

5.3.4 Awareness [7.3]

Persons involved with the contract, including External Providers, shall be aware of the specific arrangements contained in the quality plan that are applicable to their activities / area of responsibility.

5.3.5 Documented information [7.5]

The Supplier shall provide the GQAR and/or the Acquirer with the necessary access to the documented information pertinent to the contract, in a format agreed with the GQAR and/or Acquirer.

5.4 Operation

5.4.1 Operational planning and control [8.1]

1. The Supplier shall identify the documented information, including acceptance criteria and configuration information that will be used as objective evidence of product conformance with requirements. This information shall be acceptable to the Acquirer and/or GQAR and made available prior to acceptance of the product.

2. The supplier shall maintain and retain documented information for product approval and production process approval. These approvals shall also be applied to External Providers.

5.4.1.1 Quality Plan

1. The Supplier shall submit an acceptable Quality Plan (QP) which addresses the contractual requirements to the GQAR and/or the Acquirer in a mutually agreed

timescale but prior to the start of work which can be defined as a project or contract initiation meeting or as otherwise stated in the contract or purchase order. The QP shall be a clearly identified discrete document or part of another document that is prepared under the contract.

2. The QP shall:

a. Describe and document the quality management system requirements "contract-specific" necessary to satisfy the contract requirements (making reference, where applicable, to the "company-wide" quality management system);

b. Describe and document the planning of the product realisation in terms of quality requirements for the product, needed resources, required control activities (verification, validation, monitoring, inspection, testing), and acceptance criteria. This shall include specific arrangements and communication requirements where work is to be conducted at locations external to the Suppliers premises.

c. Document, and maintain traceability of requirements from the planning process by including a requirement and solution compliance matrix, justifying fulfilment of all contractual requirements (making reference where applicable).

3. The Acquirer and/or GQAR reserve the right to reject QPs and their revisions.

NOTE:

Contractual requirement for the content of the Quality Plan is established in AQAP 2105 “NATO requirements for Deliverable Quality Plans.”

Requirement and solution compliance matrix can be a part of Quality Plan or a separate document as an annex to it. This matrix can be prepared and annexed to the Quality Plan after the initial issue, within a timescale mutually agreed with GQAR and/or Acquirer by taking into account the content of the Contract or Purchase Order.

5.4.1.2 Configuration Management

5.4.1.2.1 Configuration Management (CM) requirements

The Supplier shall manage configuration through the implementation of Configuration Management Planning, Configuration Identification, Change Control, Configuration Status Accounting and Configuration Audit in accordance with the requirements of ACMP 2100 and any additional CM clauses in the contract or a nationally recognised equivalent.

5.4.1.2.2 Configuration Management Plan (CMP)

The Supplier shall prepare a Configuration Management Plan (CMP) which describes the application of CM to the contract in accordance with ACMP 2100 and any additional CM clauses in the contract or nationally recognised equivalent. The CMP may form part of another plan if appropriate.

NOTE:
Further information on NATO Configuration Management Policy and Requirements are contained within Allied Configuration Management Publications (ACMP) ACMP 2000 and ACMP 2009.

5.4.2 Customer communications [8.2.1]

1. If requested by the Acquirer and/or GQAR, the Supplier and/or External Providers shall attend a Post Award GQA meeting focused on the contract arrangements for Quality Assurance of the product and/or GQA practicalities.

2. The Supplier shall ensure that lines of communication are established with the GQAR and/or Acquirer. The designated management representative shall ensure that the adequate level of information is supplied to satisfy the GQAR and/or Acquirer.

3. The Supplier shall notify the GQAR and/or Acquirer of changes to its organisation that affect product quality or the Quality Management System.

5.4.3 Determining the requirements related to products [8.2.2]

The Supplier shall identify product requirements and functions that relate to critical characteristics such as health, safety, performance, and dependability.

5.4.4 Design and development controls [8.3.4]

Unless otherwise stated in the contract, the Supplier shall determine the verification and validation methods required and demonstrate conformity with the corresponding requirements at appropriate stages up to and including the final product.

5.4.5 Dependability

If stated in the contract, the Supplier shall ensure that Dependability issues and related documents, including those from associated External Providers, are controlled.

NOTE:
Further information on NATO Dependability Management is contained within Allied Dependability Management Publications (ADMP).

5.4.6 Control of externally provided processes, products and services [8.4]

The Supplier shall retain documented information of verification and/or validation of purchased products. The documented information shall be made available to the GQAR and/or Acquirer.

5.4.6.1 General

1. Where the Supplier has decided to externally source a critical item, significant work content, design, immature technical solutions or a configuration item then the Supplier shall establish and maintain knowledge of the supply chain and External Provider quality assurance activities.

2. The Supplier shall flow down the applicable contractual requirements to External Providers by referencing the stated contractual requirement, including relevant AQAP(s). The Supplier shall insert the following in all purchasing documents: "All requirements of this contract may be subject to GQA. You will be notified of any GQA activity to be performed."

3. Suppliers shall conduct a formal review of purchasing documents to verify that the correct contractual requirements have been flowed down. The Supplier shall retain documented information of this review.

4. The Supplier shall document their arrangements for these requirements at the planning stage (see paragraph 5.4.1. of this publication) and identify their proposed quality assurance activities for specific sub-contracts or orders that meet the above criteria.

5.4.6.2 Type and extent of control [8.4.2]

1. It is the Supplier's responsibility to ensure that the procedures and processes required to fulfil contract requirements are fully implemented at the External Provider's facilities.

2. The Supplier shall establish and implement a process for the avoidance, detection, mitigation, and disposition of Counterfeit Materiel.

3. Only the Supplier placing the purchasing documents with an External Provider will issue contractual instructions to that External Provider.

4. GQA activities at External Provider's facilities do not relieve the Supplier from any contractual quality responsibilities.

NOTE:
Conduct of GQA and associated GQAR and/or Acquirer access rights, at External Provider's facilities can only be requested by the GQAR and/or Acquirer.

5.4.6.3 Communication

1. The Supplier shall on request provide the GQAR and/or Acquirer with a copy of any subcontracts, orders, related contractual documents and their modifications, for products related to the contract.

2. The Supplier shall notify the GQAR and/or Acquirer if a subcontract or order has been identified involving a critical item, significant work content, design, immature technical solutions or where External Provider performance is unknown or causes concern.

3. The Supplier shall notify the GQAR and/or Acquirer if an externally provided product is rejected, reworked, or repaired which has been identified as involving risk or supplied by an External Provider whose selection or subsequent performance has been identified as involving risk.

5.4.7 Control of Production and Service Provision [8.5.1]

1. The Supplier shall develop and maintain instructions for the conduct of activities related to the control of production of material, part, component, subsystem and system level for the product supplied to ensure that the specified requirements are met.

2. The Supplier shall establish and maintain criteria for workmanship in the clearest practical manner (e.g. written standards, representative samples or illustrations).

5.4.8 Identification and traceability [8.5.2]

Where the failure of an item or component could lead to the loss of equipment, performance or life then it is mandatory to maintain traceability.

5.4.9 Property belonging to customers or External Providers [8.5.3]

1. If products provided by the Acquirer are lost, damaged or otherwise found to be unsuitable for their intended use in accordance with the contract, the Supplier shall immediately inform the Acquirer and GQAR and retain documented information.

2. When the Supplier establishes that an acquirer supplied product is unsuitable for its intended use, they shall immediately report to and coordinate with the Acquirer the remedial actions to be taken. The Supplier shall also inform the GQAR.

5.4.10 Preservation [8.5.4]

1. Products with limited shelf life shall be subject to control of their expiry dates.

2. If applicable, the control of expiry date/shelf life shall be applied during maintenance, servicing, storage or when fitted.

3. Remaining shelf-life shall be identified and communicated to the GQAR and/or Acquirer prior to delivery.

5.4.11 Release of products [8.6]

1. The Supplier shall ensure that only acceptable products, intended for delivery, are released. The GQAR and/or Acquirer reserve the right to reject nonconforming products.

2. The Supplier shall provide a Certificate of Conformity at release of product to the GQAR and/or Acquirer unless otherwise instructed.

3. The Supplier is solely responsible for the conformance to requirements, of products provided to the Acquirer.

4. Where the GQAR/and or Acquirer is required to perform any final inspection or formal acceptance activities, the Supplier shall provide the GQAR/and or Acquirer with a minimum of 10 working days notification of the event unless otherwise stated in the contract.

5.4.12 Control of nonconforming products [8.7]

1. The Supplier shall issue and implement documented procedures which identify, control and segregate all nonconforming products. Product with unidentified or unknown status shall be classified as nonconforming product.

2. Documented procedures for the identification, control, and segregation of nonconforming product are subject to disapproval by the GQAR and/or Acquirer when it can be shown that they do not provide the necessary controls.

3. The Supplier shall notify the GQAR and/or Acquirer of non-conformities and corrective actions required, unless otherwise agreed with the GQAR and/or Acquirer. The GQAR and/or Acquirer reserve the right to reject all rework, repair and use as is dispositions.

4. Where the Supplier proposes to raise a concession for the use, release or acceptance of a nonconforming product appropriate authorisations shall be obtained from the GQAR and/or Acquirer unless otherwise agreed.

5. The Acquirer requirements for concessions apply equally to outsourced processes or purchased products. The Supplier shall review any request from External Providers before submission to the GQAR and/or Acquirer.

6. The Supplier shall retain documented information of quantity authorized and/or expiration date for concessions or deviation permits. The Supplier shall ensure compliance with the contract requirements when the authorization expires.

7. The Supplier shall notify the GQAR and/or the Acquirer of nonconforming product received from an External Provider that has been subject to Government Quality Assurance.

5.5 Performance Evaluation

5.5.1 Customer satisfaction [9.1.2]

1. Any complaints or deficiencies relevant to the contract, reported by the GQAR and/or Acquirer, shall be recorded as customer complaints.

2. The Supplier shall provide a response to the originator of the complaint or deficiency that shall include information on root cause analysis and corrective action.

Note: Customer complaints could be in the form of quality non-conformance, deficiency or occurrence reports or another format but regardless will be identified by the GQAR and/or Acquirer as 'customer complaints'.

5.5.2 Internal audit [9.2]

1. During the planning of internal audits the Supplier shall ensure that their audit programme covers all contract related critical processes and activities on an annual basis and includes contractual requirements and NATO supplements. The Supplier shall also consider the output from the actions to address risk and opportunities assessment.

2. Unless otherwise agreed, the Supplier shall inform the GQAR and/or Acquirer of deficiencies or findings identified during internal audit.

3. The Supplier shall retain documented information that demonstrates auditor training and experience.

5.5.3 Management review [9.3]

5.5.3.1 Management Review Input [9.3.2]

Documented information of review input, related to the contract, shall be available to the GQAR and/or Acquirer.

5.5.3.2 Management Review Output [9.3.3]

1. Documented information of the review output, related to the contract, shall be available to the GQAR and/or Acquirer.

2. The Supplier shall notify the GQAR and/or Acquirer of proposed action, resulting from Review Output that will affect compliance with contractual requirements. Review output shall, where action item(s) are identified, specify the responsible person/function and due date of the action item(s).

5.6 Improvement

5.6.1 Nonconformity and corrective action [10.2]

The Supplier shall define their process, including tools and techniques, used to support root cause analysis for nonconformities.

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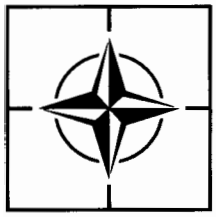

NATO INTERNATIONAL STAFF - DEFENCE INVESTMENT DIVISION

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NORTH ATLANTIC TREATY ORGANIZATION

NATO STANDARDIZATION AGENCY (NSA)

NATO LETTER OF PROMULGATION

3 December 2009

1. AQAP-2105(Edition 2) – NATO REQUIREMENTS FOR DELIVERABLE QUALITY PLANS is a non classified NATO publication. The agreement of interested nations to use this publication is recorded in STANAG 4107.

2. AQAP-2105(Edition 2) replaces AQAP-2105(Edition 1) and is effective on receipt.

3. It is permissible to distribute copies of this publication to Contractors and Suppliers and such distribution is encouraged.

Juan A. MORENO
Vice Admiral, ESP(N)
Director, NATO Standardization Agency

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Record of Changes

Change Date	Date Entered	Effective Date	By Whom Entered

Table of Contents

1.0 General

1.1 Introduction

AQAP 2105 contains the NATO requirements for Deliverable Quality Plans to be used in contracts. The suppliers Deliverable Quality Plan will be evaluated according to these requirements.

The Deliverable Quality Plan shall specify how all contract related quality requirements shall be fulfilled.

1.2 Purpose

The purpose of this publication is to define the NATO requirements for a Deliverable Quality Plan in accordance with AQAP 2110/2120/2130 sections 5.4 and 7.1.

The Deliverable Quality Plan shall specify how all quality related contract requirements, including all requirements of AQAP 2110/2120/2130, shall be fulfilled.

The Deliverable Quality Plan defines and controls the supplier's activities, processes, responsibilities and resources.

1.3 Applicability

AQAP 2105 is primarily intended to supplement other contractual AQAPs used in a two-party contract by the supplier and/or derived sub-supplier(s). If inconsistencies exist between the contract requirements and this publication, the contract requirements shall prevail.

1.4 References

The documents referenced in this AQAP are listed below:

AQAP 2110	NATO Quality Assurance Requirements for Design, Development and Production
AQAP 2120	NATO Quality Assurance Requirements for Production
AQAP 2130	NATO Quality Assurance Requirements for Inspection and Test
ISO 9000:2005	Quality Management Systems – Fundamentals and Vocabulary

1.5 Definitions

The definitions of ISO 9000:2005, "Quality Management Systems – Fundamentals and Vocabulary" and definitions of paragraph 3.3 in AQAP 2110/2120/2130 shall apply to this AQAP. Additional terms used in this AQAP are defined below:

Deliverable Quality Plan	A Deliverable Quality Plan is a supplier's document that specifies which procedures and associated resources shall be applied by whom and when to a specific project, product, process or contract requirement.

NOTE: A Deliverable Quality Plan is the document that meets the requirements of this AQAP and is to be delivered by the supplier to the GQAR and/or the Acquirer as required in the applicable contract

1.6 Acronyms

The following is a list of acronyms used throughout this AQAP.

AQAP	Allied Quality Assurance Publication
ISO	International Organization for Standardization
GQA	Government Quality Assurance
GQAR	Government Quality Assurance Representative

2.0 Structure of AQAP 2105

AQAP 2105 describes below the NATO requirements regarding the establishment process and the content of a Deliverable Quality Plan.

The required detail content of a Deliverable Quality Plan is provided in chapter 4.

3.0 Establishment process of the Deliverable Quality Plan

3.1 Preparation

3.1.1 As a prerequisite to the preparation of a Deliverable Quality Plan, the supplier shall undertake a review of all contract requirements to determine the necessary management, technical and other necessary activities that need to be planned and implemented. Special or unusual requirements shall be focused. The appropriate operations, processes and techniques must be planned and scheduled, and means for testing and proving the conformance shall be identified.

3.1.2 The Deliverable Quality Plan and its related process documentation, procedures, plans etc shall be prepared and submitted prior to the start of the activities they specify.

3.1.3 The Deliverable Quality Plan shall be clearly linked to the contract and the product, and shall be subject to document control.

3.1.4 As appropriate, the Deliverable Quality Plan shall either refer to the relevant processes and procedures of the supplier’s Quality Management System or physically include these processes and procedures. The Deliverable Quality Plan shall refer to other applicable contractual required or related documents/plans.

3.2 Approval/Submission

3.2.1 Supplier authorized personnel shall approve the Deliverable Quality Plan prior to submittal to the GQAR and/or Acquirer for evaluation.

3.2.2 The GQAR or the Acquirer reserves the right to reject the Deliverable Quality Plan and its revisions if not compliant with the contract requirements or non-compliance to AQAP 2105.

3.3 Implementation

The supplier shall ensure that the status of each of the processes implemented under the Deliverable Quality Plan is known and fit for use. The supplier shall verify and demonstrate the efficient implementation and performance outputs. Supplier shall ensure that the Deliverable Quality Plan is available and adhered to by all parties/internal units concerned with its implementation and all employees responsible for its implementation. Supplier shall ensure proper implementation of the Deliverable Quality Plan.

The supplier shall validate that the activities are specified in accordance to contract requirements. The supplier shall review, audit, demonstrate and verify that the activities are performed in accordance with the Deliverable Quality Plan.

3.4 Reviews, Revisions and Change Control

3.4.1 The Deliverable Quality Plan shall be reviewed periodically by the supplier within the phases through the contract life cycle.

3.4.2 Revisions to the Deliverable Quality Plan shall be submitted to the GQAR and/or Acquirer in accordance with 3.2 above or according to a defined change control procedure and shall be submitted without any necessary delay.

3.4.3 The supplier's procedure for amending the Deliverable Quality Plan shall be included.

3.4.4 The supplier shall ensure that any changes related to the Deliverable Quality Plan are controlled, and that the identity, approval status, version and date of issue are clearly indicated.

4.0 Content of the Deliverable Quality Plan

4.1 General

The content of the Deliverable Quality Plan must be adequately precise and detailed enough to reflect the ongoing supplier activities specific for a contract. The Deliverable Quality Plan shall refer to and/or include all procedures, plans and other documents applicable to the contract. The Deliverable Quality Plan shall specify the activities (managerial and technical) to be implemented, either directly or by reference to appropriate procedures and documents.

4.2 Project Description

The purpose and applicability of the project shall be described in a short form.

4.3 Acronyms, Abbreviations and Definitions

All acronyms and abbreviations used in the Deliverable Quality Plan shall be listed. All definitions used in the Deliverable Quality Plan shall be listed except the contractual definitions.

4.4 Organization and Responsibilities

The Deliverable Quality Plan shall include a contract specific description of the organizational structure and identify those responsible for ensuring that the required activities are carried out. The responsibilities and authorities of responsible personnel related to quality, including management representative, shall be described. The independence of personnel designated for contract related quality responsibilities must be clearly documented. Relevant interfaces between the responsible personnel shall be explained.

The relations to the GQAR and/or Acquirer shall be described.

4.5 Resource Management

The provision of resources, human resources, infrastructure and work environment needed to implement the contract requirements shall be specified in the Deliverable Quality Plan.

4.6 Quality Management System Activities

The planning of applicable quality management activities derived from the quality related requirements and risks shall be defined, but is not limited, to the processes given in below sub-paragraphs. The Deliverable Quality Plan shall describe how the requirements are flowed down to the places where work is being performed.

4.6.1 Processes (General requirements)

The Deliverable Quality Plan shall include how processes are identified along with their application, their sequence and interaction.

Criteria and methods to ensure that processes are effective shall be included, as well as resources to support and monitor the implementation of them. Special emphasis shall be put on special or new processes.

The Deliverable Quality Plan shall include how the supplier will control outsourced products, processes and activities.

The Deliverable Quality Plan shall include how processes are monitored, measured, analyzed and continually improved.

4.6.2 Documentation requirements

The Deliverable Quality Plan shall describe how documentation requirements, including quality policy, quality objectives, quality manual, procedures, records and other documents are maintained and controlled, including retention periods. A document status list shall be available at all times, and shall be formalized during transitions between phases and/or baselines e.g. prior to design reviews.

4.7 Product Realization Activities

The planning of applicable product realization activities derived from the quality related requirements and risks shall be defined, but is not limited, to the processes below.

4.7.1 Planning of product realization

The Deliverable Quality Plan shall describe the activities related to how the planning process for product realization will be carried out.

4.7.2 Customer related processes

The Deliverable Quality Plan shall describe the activities associated with the process of the determination and reviewing requirements related to the product. It shall describe the arrangements for customer communication.

4.7.3 Design and development

The Deliverable Quality Plan shall describe the activities related to how the supplier plans and controls the design and development of the product and how interfaces are managed.

4.7.4 Purchasing including control of sub-suppliers

The Deliverable Quality Plan shall describe how the purchasing process will be carried out, how the supplier ensures that purchased products conforms to the specified requirements and how sub-suppliers are evaluated and selected. Specific risks related with sub-suppliers or their products shall be listed and addressed (see AQAP 2110/2120/2130 paragraph 7.4.1 and 7.4.3).

4.7.5 Production and service provisioning

The Deliverable Quality Plan shall describe how the production and service provisioning is carried out under controlled conditions.

4.7.6 Control of monitoring and measuring devices

The Deliverable Quality Plan shall describe how monitoring and measuring devices are controlled in order to provide evidence of product conformity to contract requirements. The Deliverable Quality Plan shall describe the processes used to ensure that measurement and calibration systems meet the requirements.

4.7.7 Configuration management

The Deliverable Quality Plan shall describe the contract specific activities for configuration management and/or give reference to the required Configuration Management Plan.

4.7.8 Reliability and Maintainability

The Deliverable Quality Plan shall describe the contract specific activities for Reliability & Maintainability.

4.8 Measurement, Analysis and Improvement Activities

The planning of applicable measurement, analysis and improvement activities derived from the quality related requirements and risks shall be defined, but is not limited, to the processes below.

4.8.1 Customer satisfaction

The Deliverable Quality Plan shall describe how monitoring and measurement of customer satisfaction will be carried out.

4.8.2 Internal audit

The Deliverable Quality Plan shall describe how internal audits will be performed in order to determine whether the Deliverable Quality Plan conforms to the requirements and is effectively implemented and maintained.

4.8.3 Certificate of Conformity

The Deliverable Quality Plan shall refer to the contract specific arrangements for the use of Certificate of Conformity.

4.8.4 Control of non-conforming product

The Deliverable Quality Plan shall describe how the contract specific requirements for identification and control of non-conformances will be carried out.

4.8.5 Analysis of data

The Deliverable Quality Plan shall describe how analysis of data will be performed in order to demonstrate the suitability and effectiveness of the planned activities and where improvements can be made.

4.8.6 Improvement

The Deliverable Quality Plan shall describe how continual improvement, corrective and preventive actions will be carried out.

4.9 NATO Additional Requirements

The planning of applicable NATO additional requirements activities derived from the quality related requirements and risks shall be defined, but is not limited, to the requirements below.

The Deliverable Quality Plan shall describe how the GQAR and/or acquirer access to supplier and sub-suppliers are given and how support for GQA activities will be provided.

The Deliverable Quality Plan shall describe how the supplier will ensure that only acceptable products intended for delivery are released to the acquirer.

4.10 Referenced Documents

4.10.1 Contractual documents

Where applicable, the Deliverable Quality Plan shall refer to other plans or their appropriate sections and quality related contractual documents.

The interfaces and relationships to these and other planning documents required in contracts shall be described.

4.10.2 Supplier internal quality related documents

Where applicable, the Deliverable Quality Plan shall refer to the supplier’s Quality Management System.

4.10.3 Other documents

Deliverable Quality Plan shall list other relevant and contract related documents.

4.10.4 Order of precedence

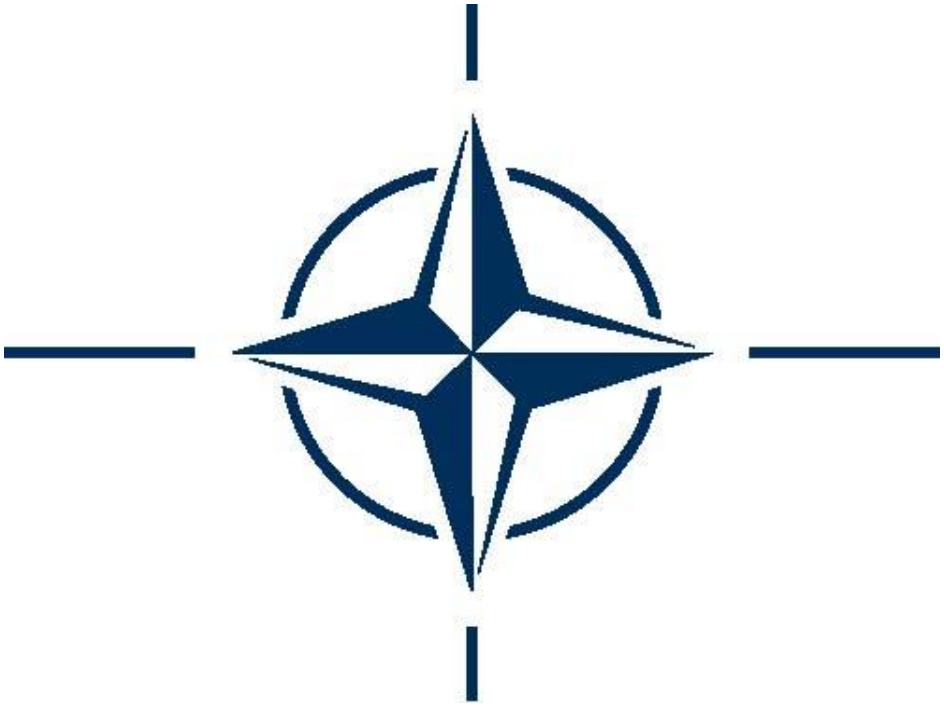
The order of precedence of referenced documents and their relationship to the contract, including the Deliverable Quality Plan, shall be specified.

NATO STANDARD

ACMP-2100

THE CORE SET OF CONFIGURATION MANAGEMENT CONTRACTUAL REQUIREMENTS

Edition A Version 2
MARCH 2017



NORTH ATLANTIC TREATY ORGANIZATION

ALLIED CONFIGURATION MANAGEMENT PUBLICATION

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NATO LETTER OF PROMULGATION

6 March 2017

1. The enclosed Allied Configuration Management Publication ACMP-2100, THE CORE SET OF CONFIGURATION MANAGEMENT CONTRACTUAL REQUIREMENTS, Edition A, Version 2, which has been approved by the nations in the Life Cycle Management Group (AC/327), is promulgated herewith. The agreement of nations to use this publication is recorded in STANAG 4427.

2. ACMP-2100, Edition A, Version 2 is effective upon receipt and supersedes ACMP-2100, Edition A, Version 1 which shall be destroyed in accordance with the local procedure for the destruction of documents.

4. This publication shall be handled in accordance with C-M(2002)60.

Edvardas MAŽEIKIS
Major General, LTUAF
Director, NATO Standardization Office

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RECORD OF RESERVATIONS

CHAPTER	RECORD OF RESERVATION BY NATIONS
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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RECORD OF SPECIFIC RESERVATIONS

[Nation]	[detail of reservation]
Note: The reservations listed on this page include only those that were recorded at time of promulgation and may not be complete. Refer to the NATO Standardization Document Database for the complete list of existing reservations.	

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FOREWORD

Configuration Management (CM) is a critical process for NATO lifecycle management. This publication defines the core CM requirements for Suppliers in all lifecycle stages. It is a NATO adoption of ISO 10007:2003[1], supplemented by additional NATO requirements in Chapter 5, and is entirely applicable in all NATO programmes (thus denoted “core CM requirements”). If the requirements provided in this publication are found insufficient to meet the actual needs for all Life Cycle stages of the programme, further CM requirements may be defined and added to the contract by using the corresponding guidance on CM.

This publication has been developed to provide Acquirers with means to contractually invoke core Configuration Management requirements within NATO multinational joint projects and National programmes during the product Life Cycle.

CM helps to assure that the product design will be consistent with the Acquirer’s requirements and that product and system interfaces remain compatible; including spares, test equipment, tools, ancillaries and supporting documentation. Effective CM provides a framework to ensure that all users are kept informed of currently approved/released configuration information.

Configuration management documents the product’s configuration. It provides identification and traceability, the status of achievement of its physical and functional requirements, and access to accurate information in all stages of the Life Cycle.

Configuration baselines are established by defining materiel, both functionally and physically, by means of drawings, specifications and other relevant data and documentation.

The term “product” in this publication should be interpreted as applicable to the generic product categories; e.g., documents, facilities, firmware, hardware, software, tools, materials, processes, services, systems.

Configuration Management (CM)[2] applies appropriate processes and tools to establish and maintain consistency between the product and the product requirements and attributes defined in product configuration information. A disciplined CM process ensures that products conform to their requirements and are identified and documented in sufficient detail to support the product Life Cycle. CM assures accurate product configuration information and enables product interchangeability and safe product operation and maintenance to be achieved.

[1] Whenever “ISO 10007” is used in this publication text, it refers to ISO 10007:2003.
[2] Source: GEIA-HB-649

CHAPTER 1 GENERAL

ACMP-2100 contains the NATO core set of contractual requirements for Configuration Management. A system needs to be established, documented, applied, maintained, assessed and improved, and/or evaluated, in accordance with requirements contained in the subsequent sections.

1.1. Purpose

1. This publication contains the set of core CM requirements, which if applied appropriately, can provide confidence in the Supplier's capability to deliver products that conform to Acquirer's contract requirements.

2. The responsibilities and authorities for CM are at first outlined, before describing the configuration management process that includes configuration management planning, configuration identification, change control, configuration status accounting and configuration audit.

1.2 Composition of requirements in ACMP-2100

1. The NATO requirement for an ISO 10007 based CM process and any applicable changes or deletions of ISO content is defined in Chapter 4 of this publication:

   a. "Specific Change": a change to one or more words, a sentence and/or section of the ISO 10007 text (shown with *italic letters*).

   b. "General Change": a replacement of one or more words throughout the ISO 10007 to turn the text into contractual requirement(s).

2. Additional NATO specific requirements are defined in Chapter 5 of this publication.

1.3 Applicability

1. This publication is primarily intended for use in a contract between two or more parties.

2. When referenced in a contract, this publication shall apply to all of the processes necessary for the Supplier to fulfil the contractual requirements.

3. This publication may also be used internally by a Supplier or a potential Supplier to cover the Configuration Management aspects of the Management System (MS).

4. Where identified by the Acquirer, this publication can be used in conjunction with other appropriate standards to manage processes of the MS.

5. Order of precedence
If inconsistencies exist between the contract requirements and this publication, the contract requirements shall prevail. In the event of a conflict between the text of this publication and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

1.4 Compliance with this publication

1. Compliance with this publication for a contract is defined as the fulfilment of the requirements of Chapters 4 and 5.

2. In this publication, NOTEs are not contractual requirements.

CHAPTER 2 REFERENCES

2.1. Normative references

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

1. ISO 9000 Quality management systems – Fundamentals and vocabulary
2. ISO 10007:2003 Quality management system – Guidelines for configuration management

2.2. Informative references

1. STANAG 4427 Configuration Management in System Life Cycle Management
2. ANSI/EIA-649 Configuration Management Standard
3. MIL-HDBK-61 Military Handbook, Configuration Management Guidance
4. DEF STAN 05-57 Configuration Management of Defence Material
5. prEN 9223 part 100 through 105 Programme Management – Configuration Management

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CHAPTER 3 TERMS AND DEFINITIONS

3.1. ISO 10007 Terms and Definition applies

3.2. Additional NATO terms, definitions and notes

1. Concession

NOTE A:
Concessions are not to be confused with approved alternates or substitutes, which are in the configuration baseline.

2. Dispositioning Authority

NOTE A:
NATO considers the Dispositioning Authority to be a person who may be supported by a CCB, which is not mandatory unless stated in the contract.

3. Acquirer

A governmental or NATO organization that defines the requirements for the delivery of a product by a supplier and enters into a contractual relationship with that supplier.

Note:
The acquirer is often known by a variety of names like owner, buyer, stakeholder, requirer, project management office, purchaser, customer, etc.

4. Product

Examples: document; facility; firmware; hardware; software; tool; material; process; service; system.

5. Release

A configuration management action whereby a particular version of a product or product configuration information is made available for a specific purpose.

6. Supplier

An organization that acts in a contract as the provider of products to the acquirer.

Notes:

The supplier is often known by a variety of names like contractor, producer, seller, or vendor.

Sometimes the acquirer and the supplier are part of the same organization.

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CHAPTER 4 REQUIREMENT FOR CONFORMANCE TO ISO 10007

A Configuration Management system shall be established, documented, applied, maintained, assessed and improved, and/or evaluated, in accordance with ISO 10007, incorporating the following changes to the ISO 10007.

4.1 Specific changes to the ISO 10007 wording

Changes shown with *italic letters.*

ISO 10007 paragraph 5.2 Configuration management planning

- Change last line to:

Annex A of ISO 10007 describes a potential structure and content for a configuration management plan*, and is only informative*.

ISO 10007 paragraph 5.3.2 Product configuration information

- Change first paragraph to:

Product configuration information comprises both product definition and product operational information. This typically includes requirements, specifications, design drawings, parts lists, software documents and listings, models, *markings, audit information, effectivity,* test specifications, maintenance and operating handbooks.

4.2 General changes to the ISO 10007 wording

Whenever the ISO 10007 uses the word “should” or “may” in section 4 and 5, it is to be read as “shall”, and compliance by the Supplier is mandatory, unless otherwise determined by the Acquirer.

Whenever the ISO 10007 uses the phrase “Life Cycle of the product”, it is to be read “contract”.

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CHAPTER 5 NATO SPECIFIC REQUIREMENTS

5.1. Requirements for Sub-suppliers

1. The Supplier shall consign the applicable contractual configuration management requirements to its Sub-suppliers by referencing the stated contractual requirement.

2. The supplier shall ensure that the procedures and processes required to fulfil contract requirements are fully implemented at the sub-suppliers facilities.

5.2. Configuration Management Planning

1. The Supplier shall provide access to the Configuration Management Plan (CMP) to the Acquirer.

2. The Acquirer reserves the right to reject the CMP.

3. The Supplier shall define the CM organization and its relation to the overall organization in the CMP.

5.3. Product Configuration Information

1. As a minimum, for each CI, the Supplier shall develop and maintain configuration information.

2. As a minimum the Supplier shall include the NCAGE in the information related to the CI(s).

3. The Supplier shall only use configuration information that has been formally released.

4. Configuration Information shall take into account any access limitations; as a minimum, Security classifications and proprietary license constraints.

5.4. Change Control

1. The Supplier assumes total risk for the implementation of changes incorporated prior to approval by the Dispositioning Authority.

ACMP-2100(A)(2)