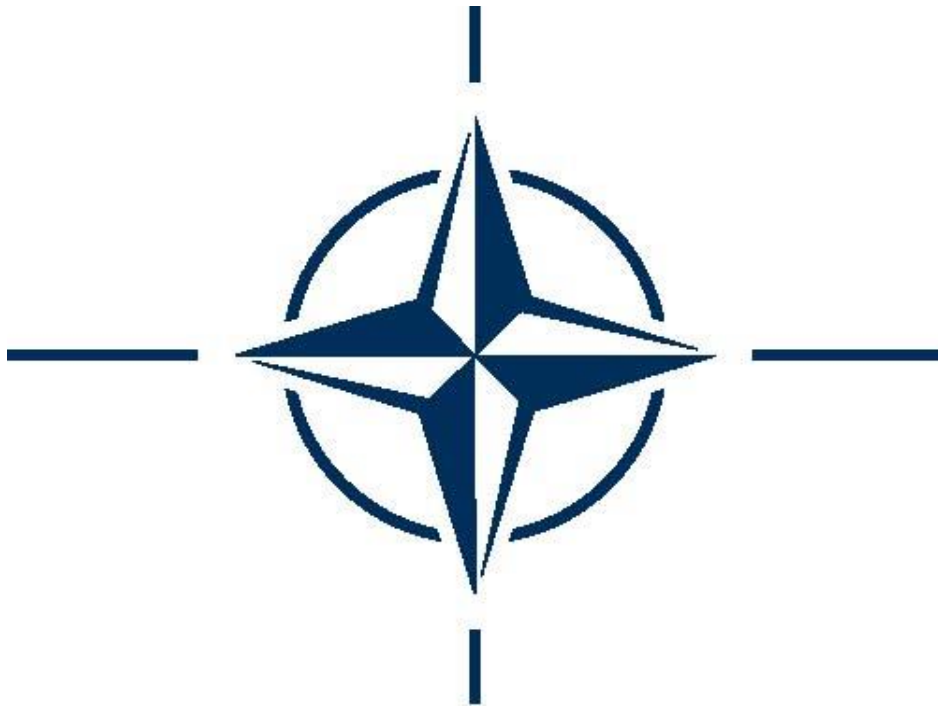


**NATO STANDARD**

**AQAP-2105**

**NATO REQUIREMENTS FOR  
QUALITY PLANS**

**Edition C Version 1  
JANUARY 2019**



**NORTH ATLANTIC TREATY ORGANIZATION  
ALLIED QUALITY ASSURANCE PUBLICATION**

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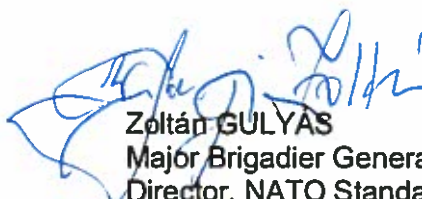
**NORTH ATLANTIC TREATY ORGANIZATION (NATO)**

**NATO STANDARDIZATION OFFICE (NSO)**

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15 January 2019

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<b>CHAPTER 1      INTRODUCTION</b>
------------------------------------

**1.1    GENERAL**

This publication contains the NATO requirements for Quality Plans to be used in contracts. This publication provides the process and contents of a contractual Quality Plan.

The Suppliers Quality Plan will be evaluated according to these requirements.

Note: This publication can be used for pre-contractual evaluation purposes.

**1.2    PURPOSE**

This publication defines the NATO requirements for a Quality Plan in accordance with AQAP-2310, AQAP-2110 and AQAP-2210.

The Quality Plan specifies how all contract requirements are fulfilled, including AQAP requirements required in the contract.

The Quality Plan defines the Supplier's activities, processes, responsibilities, resources and describes how they are controlled.

**1.3    APPLICABILITY**

This publication is intended for use in contracts between an Acquirer and a Supplier, and/or between a Supplier and its external providers. If inconsistencies exist between the contract requirements and this publication, the contract requirements shall prevail.

This publication is intended for use in conjunction with AQAP-2310, AQAP-2110 and AQAP-2210.

**1.4    REFERENCES**

The documents referenced in this publication are listed below:

AQAP-2310	NATO Quality Assurance Requirements for Aviation, Space and Defence Suppliers
AQAP-2110	NATO Quality Assurance Requirements for Design, Development and Production
AQAP-2210	NATO Supplementary Software Quality Assurance Requirements to AQAP-2110 or AQAP-2310

ISO 9000:2015      Quality Management Systems – Fundamentals and Vocabulary  
AS 9145              Requirements for Advanced Product Quality Planning and  
                                 Production Part Approval Process

## **1.5    DEFINITIONS**

The definitions of ISO 9000:2015, AQAP-2310, AQAP-2110 and AQAP-2210 shall apply to this publication.

## **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
AS	aerospace standard

<b>CHAPTER 2      REQUIREMENTS</b>
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**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 as documented as part of the contract with the Acquirer.

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<b>CHAPTER 3            ESTABLISHMENT PROCESS OF THE QUALITY PLAN</b>
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### **3.1    PREPARATION**

3.1.1 As a prerequisite to the preparation of the Quality Plan, the Supplier shall undertake a review of all contract requirements and perform risk identification to determine the necessary management, technical and other necessary activities that need to be planned and implemented. This review and risks identified shall be retained as documented information. Critical characteristics shall be identified and activities, which may not be part of the Supplier's usual business processes, shall be included. The appropriate operations, procedures, processes and techniques must be planned and scheduled. The means of verification and validation shall be identified.

It is appropriate to adapt the Quality Plan according to:

- the extent of the contract,
- the complexity of the product,
- the applied techniques and processes,
- the experiences of the Supplier from manufacturing of similar products and
- the scope of cooperation with external providers.

3.1.2 The Quality Plan and its related process documentation shall be prepared and submitted prior to the start of any activities relating to the contract.

3.1.3 Unless otherwise specified, the Supplier shall review and update the Quality Plan for the phases identified below in order to ensure the validity of the Quality Plan prior to each phase:

- Planning phase
- Product Design and Development phase
- Process Design and Development phase
- Product and Process Validation phase
- On-going Production, Use, and Post-delivery Service phases.

Note: More information about these phases can be found in AS 9145.

3.1.4 The Quality Plan shall be clearly linked to the contract and the product, and shall be maintained as documented information.

3.1.5 The Quality Plan shall include or refer to all applicable contractual Supplier processes and procedures within the Supplier's Quality Management System. The Quality Plan shall refer to all applicable contractual documents and plans, such as the contract, Project Management Plan, Configuration Management Plan, Risk Management Plan and their overall precedence.

### **3.2 APPROVAL/SUBMISSION**

3.2.1 Once the Quality Plan has been approved by the Supplier authorized personnel, it shall be submitted to the GQAR and/or Acquirer for evaluation, prior to the start of work, unless otherwise agreed.

3.2.2 The GQAR or the Acquirer reserves the right to reject the Quality Plan and any revisions if not compliant with the contract requirements or this publication.

### **3.3 IMPLEMENTATION**

3.3.1 The Supplier shall ensure that all processes and content within the Quality Plan are:

- Verified as being fit for purpose,
- Available and implemented by all responsible parties,
- Reviewed (as detailed in 3.4) to ensure suitability and compliance.

3.3.2 Records of audit results (as detailed in 4.13.3) shall be maintained for the life of the contract and be made available to the GQAR and/or Acquirer upon request.

### **3.4 REVIEWS, REVISIONS AND CHANGE CONTROL**

3.4.1 The Quality Plan shall be reviewed periodically by the Supplier as a minimum at each development and production phase as detailed in 3.1.3 above through the contract life cycle.

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

3.4.3 The Supplier's procedure for the amendment and review of the Quality Plan shall be included in the Quality Plan.

3.4.4 The Supplier shall ensure that any changes related to the Quality Plan are controlled, with the identity, approval status, version and date of issue are clearly identified in the Quality Plan.

<b>CHAPTER 4      CONTENT OF THE QUALITY PLAN</b>
---

#### **4.1      GENERAL**

4.1.1 The scope of the Quality Management System shall be documented in the Quality Plan as it applies to the contract.

The content of the Quality Plan shall be precise and detailed enough to reflect the ongoing Supplier contractual activities specific to the contract.

4.1.2 The Quality Plan shall refer to and/or include all procedures, plans and other documents applicable to the contract. The Quality Plan shall specify the activities (managerial and technical) to be implemented, either directly or by reference to procedures and documents.

#### **4.2      PROJECT DESCRIPTION**

The purpose and applicability of the project shall be briefly described.

#### **4.3      ACRONYMS, ABBREVIATIONS AND DEFINITIONS**

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

#### **4.4      QUALITY MANAGEMENT SYSTEM ACTIVITIES**

The planning of quality management activities, as applied to the achievement of contractual requirements, shall be described; inclusive of arrangements where work is conducted at locations external to the Supplier premises. The flow-down of requirements to the places where work is being performed shall be described.

##### **4.4.1      Processes (general requirements)**

1. The Quality Plan shall include how processes are identified along with their application, sequence and interaction.
2. Criteria and methods to ensure that processes are effective shall be included, as well as resources to support and monitor their implementation. Emphasis shall be put on processes that are complex or involving significant levels of risk as well as new processes.
3. The Quality Plan shall include how the Supplier will control externally provided products, processes and activities, including the avoidance, detection, mitigation and disposition of counterfeit material.

4. The Quality Plan shall include how processes are monitored, measured, analyzed and continually improved. Appropriate performance indicators shall be determined.

#### **4.4.2 Documentation requirements**

The Quality Plan shall describe how documentation requirements, including quality policy, quality objectives, scope of quality management system, 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 product baselines e.g. prior to design reviews.

#### **4.5 REFERENCED DOCUMENTS**

4.5.1 Where applicable, the Quality Plan shall refer to other quality related contractual documents and plans. The interfaces and relationships to these documents shall be described.

4.5.2 The Quality Plan shall list contractual and other related documents that are used by the Supplier to provide assurance of product conformance.

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

#### **4.6 ACCESS TO SUPPLIER AND EXTERNAL PROVIDERS AND SUPPORT FOR GQA ACTIVITIES**

The Quality Plan shall describe the provisions and support to be provided to the GQAR and/or Acquirer for access to the Supplier and/or external providers.

#### **4.7 ORGANIZATION ROLE, RESPONSIBILITIES AND AUTHORITIES**

4.7.1 The 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 the Management Representative, shall be described. The independence of personnel designated for contract related quality responsibilities shall be clearly documented. The inter-relationships between those responsible personnel shall be explained.

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

#### **4.8 RISK MANAGEMENT**

The Quality Plan shall describe the contract specific activities for Risk Management and/or give reference to the required Risk Management Plan.

## **4.9 SUPPORT**

The Quality Plan shall describe how the Supplier manages resources.

### **4.9.1 Resource management**

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

### **4.9.2 Monitoring and measuring resources**

The Quality Plan shall describe the processes used to ensure that measurement processes and measuring equipment meet requirements. The measurement management system shall be described; including the metrological function, measurement processes and the metrological confirmation process. The control of monitoring and measuring equipment in order to provide evidence of product conformity to contract requirements shall be described.

## **4.10 OPERATION**

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

### **4.10.1 Operational planning and control**

1. The Quality Plan shall describe the activities related to how the planning process for product realization/operation will be carried out. This shall include, or be referenced to, the requirement and solution compliance matrix. It shall describe how the matrix is maintained and controlled.
2. The Quality Plan shall describe how the contract specific activities for identification, management, traceability, review and validation of requirements is planned. Giving reference to related processes, documents (i.e.: system requirement specification) and test procedures.

### **4.10.2 Configuration management**

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

### **4.10.3 Customer communications**

The Quality Plan shall describe the arrangements for communication with the GQAR and/or Acquirer.

#### **4.10.4 Determining the requirements related to products**

The Quality Plan shall identify and describe the activities associated with determining and reviewing requirements.

#### **4.10.5 Design and development controls**

The Quality Plan shall describe how design and development of products are performed, including processes for design and development planning, inputs, controls, reviews, evaluation, acceptance criteria, verification, validation, outputs and changes.

#### **4.10.6 Dependability**

The Quality Plan shall describe the contract specific activities for Dependability, if required in the contract.

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

#### **4.10.7 Control of externally provided processes, products and services**

The Quality Plan shall describe how externally provided products are controlled through the supply chain. This shall include the flow down of requirements, the acquisition process, ensuring product conformity, Supplier evaluation and selection, quality auditing and other activities associated with externally provided products through the supply chain. Specific risks related to the supply chain products shall be identified and managed as part of Suppliers Risk Management. See 4.8 Risk Management above.

#### **4.10.8 Control of production and service provision**

1. The Quality Plan shall describe how the production and service provisioning is carried out under controlled conditions. The process that includes all operations in sequential order from receipt of purchased products through to the storage and release of products shall be included.
2. The Quality Plan shall identify all special processes implemented for the contract. For special processes not yet validated, the Quality Plan shall describe activities in order to achieve this validation.

#### **4.11 RELEASE OF PRODUCTS**

4.11.1 The Quality Plan shall describe how the Supplier will ensure that only acceptable products intended for delivery are released to the Acquirer. The Quality Plan shall refer to the contract specific arrangements for release authority, which may include the use of a Certificate of Conformity.

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

#### **4.12 IMPROVEMENT**

4.12.1 The Quality Plan shall identify the processes/procedures that are required for product/service improvement.

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

#### **4.13 PERFORMANCE EVALUATION**

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

##### **4.13.1 Customer satisfaction**

The Quality Plan shall describe how the Supplier monitors, measures and improves customer satisfaction.

##### **4.13.2 Analysis and evaluation**

The Quality Plan shall describe the analysis of data used in order to demonstrate the suitability and effectiveness of planned activities that lead to improvements.

##### **4.13.3 Internal audit**

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

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<p><b>CHAPTER 5      SOFTWARE PROJECT QUALITY PLAN</b></p>
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If a Software Project Quality Plan (Ref AQAP-2210 2.2.2) is required by the contract, the software specific activities shall be covered by the requirements in chapter 4 of this publication.

**AQAP-2105(C)(1)**