Ministry of Defence

JSP 886
THE DEFENCE LOGISTIC SUPPORT CHAIN MANUAL

VOLUME 7
INTEGRATED LOGISTICS SUPPORT

PART 8.11
QUALITY MANAGEMENT

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CHAPTER 1: QUALITY IN THE MINISTRY OF DEFENCE

CONTEXT

1. Quality in the Ministry of Defence (MOD) encompasses the disciplines of Quality Assurance (QA) and Quality Management (QM). Both are closely related and act together as enablers to the delivery of product, equipment and services that satisfy the customer's requirements.

PRECEDENCE AND AUTHORITY

2. Chief of Defence Materiel (CDM) is tasked in a letter of delegation from 2nd PUS to ensure the quality of Defence equipment supplied to the front line.

3. CDM is required to establish the role of a MOD Quality Assurance Authority (MOD QAA), who is responsible for defining the quality policy and requirements across the MOD; and setting the standards and policy for quality assurance and quality management which MOD organisations or individuals will apply in the acquisition of Defence equipment and through life support activities across the Department.

4. The responsibilities of the MOD QAA are delegated to Director Safety and Engineering (DS&E).

ASSURANCE AND PROCESS

Assurance

5. The details for assurance on QA and QM governing policy are provided on the Acquisition Operating Framework (AOF), within the Project and Programme Management.

Process

6. Guidance on the processes required to implement Quality related activities throughout the Acquisition Lifecycle is contained in subsequent chapters below, the Acquisition Operating Framework (AOF), Managing Quality website and summarised in the 'Quality in your Pocket' handbook.

KEY PRINCIPLES

7. QA refers to a programme for the systematic monitoring and evaluation of the various aspects of a project, service, or facility to ensure that standards of quality are being met

8. QM is focused on the product / service quality, and also the means to achieve it. Quality management therefore uses quality assurance and control of processes as well as products to achieve more consistent quality.

ASSOCIATED STANDARDS AND GUIDANCE

9. The following are the primary sources on Quality Assurance:

Def Stan 05-61 Pt 1:	Quality Assurance Procedural Requirements: Concessions.
Def Stan 05-61 Pt 4:	Quality Assurance Procedural Requirements: Contractors Working Parties.

Def Stan 05-61 Pt 9:	Quality Assurance Procedural Requirements – Independent Inspection Requirements for Safety Critical Items.
NATO AQAP 2000:	The NATO Policy on an Integrated Systems Approach to Quality through the Life Cycle.
NATO AQAP 2009:	NATO Guidance on the use of the AQAP 2000 series.
NATO AQAP 2070:	NATO Mutual Government Quality Assurance.
NATO AQAP 2105:	NATO requirements for Deliverable Quality Plans.
NATO AQAP 2110:	NATO Quality Assurance Requirements for Design, Development and Production.
NATO AQAP 2120:	NATO Quality Assurance Requirements for Production.
NATO AQAP 2130:	NATO Quality Assurance requirements for Inspection and Test.
NATO AQAP 2131:	NATO Quality Assurance Requirements for Final Inspection.
NATO AQAP 2210:	NATO Supplementary Software Quality assurance Requirements.
BS EN ISO 9000:2005:	Quality Management Systems – Fundamentals and Vocabulary.
BS EN ISO 9001:2008:	Quality Management System Requirements.
BS EN ISO 9004:2000:	Quality Management systems – Guidelines for performance improvements
Quality in your Pocket:	A Guide to Defence Quality Assurance.
JAP100A-01:	Military Aviation Engineering Policy and Regulations.
AP 100C-10:	RAF Manual of Quality Assurance and Continual Improvement.

DEME(A) Engineering Standards.

Naval Aviation Air Engineering Quality Manual.

Acquisition Operating Framework (AOF): Managing Quality.

OWNERSHIP

1. The policy, processes and procedures described in JSP 886: The Defence Logistics Support Chain Manual, are owned by Director Joint Support Chain (DJSC). Head Supply Chain Management (SCM-Hd) is responsible for the management of JSC policy on behalf of DJSC. The policy for Quality is sponsored by DES JCS SCM-Eng TLS P-Eng. Enquiries about the content, accessibility and presentation of document are to be addressed as follows:

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CHAPTER 2: ROLES AND RESPONSIBILITIES

DEFENCE QUALITY ASSURANCE AUTHORITY

1. DS&E operates under a letter of delegation from CDM as the Defence Quality Assurance Authority (DQAA). The DQAA is the MOD authority on matters of policy and standards pertaining to quality; this responsibility includes consulting with stakeholders, both internally and externally, to the MOD in order to develop and improve policy, processes and standards. The two main consultation channels are: internally via the Quality Assurance Consultative Group (QACG) and externally with the Defence Industries Quality Forum (DIQF).

DEFENCE QUALITY ASSURANCE POLICY

2. Defence Quality Assurance (DQA) Policy acts as the executive of the DQAA. The DQA Policy Deputy Head is responsible for developing and maintaining a framework of policies, processes and standards establishing quality assurance and quality management to support acquisition management.

Top Management

3. Within the context of this document and the Quality Management System (QMS) the term Top Management will be used to describe the Project Team Leader, Commanding Officer or equivalent individual who has senior management responsibility within an acquisition or Military establishment; the senior management board may also be considered Top Management.

4. Top Management is responsible for ensuring a QMS is established in their organisation in accordance with Chapter 4 below, to ensure optimal performance and safety is achieved and maintained in the acquisition of defence equipment and through life support activities.

Quality Subject Matter Expert (SME)

5. The Quality SME is responsible for implementing quality assurance and quality management policies, standards and processes, on behalf of top management, within the procurement or military establishment.

6. The role of the Quality SME may be quality assurance or quality management. Further details on the roles and the Job codes are at the following link: PPPA Services - HRMS Data: Job Families, Job Codes and Typical Posts.

7. Job Code Government Quality Assurance 320 relates to the role of the Quality Assurance Focal Point (QAFP) in a project team; and the Government Quality Assurance Representative (GQAR). The quality assurance role is associated with the risk reduction process of the product and contractor.

8. The QAFP co-ordinates and monitors all project related quality assurance activities in relation to contracts and is the main point of contact for the GQAR.

9. The GQAR is responsible for carrying out Risk Based Surveillance, as tasked by the Project team, on the contractual elements of the Supplier's QMS, processes and products

to provide confidence to the acquirer that the Supplier is fulfilling the requirements of the contract.

10. Job code Quality Management 324 relates to all staff involved in the day-to-day activity associated with internal management controls (control of processes etc) within an organisation.

CHAPTER 3: QUALITY ASSURANCE

QUALITY ASSURANCE PROCESS

1. Quality assurance is the process of verifying or determining whether products or services meet or exceed customer expectations. Quality assurance is a process-driven approach with specific steps to help define and attain goals. This process considers design, development, production, and service.

2. Quality Assurance is an essential element in the process of acquiring defence materiel and services that meet requirements and expectations. Not only does effective quality assurance lead to the achievement of customer satisfaction, but it also makes a significant contribution towards managing costs, time, performance and risks. Key activities that support the realisation of quality products and services include planning for quality; having effective internal quality management; selecting competent Suppliers with the capability to deliver fully compliant products; specifying appropriate contractual quality management requirements; and conducting government quality assurance surveillance.

QUALITY ASSURANCE POLICY

3. Top Management is responsible for the effective discharge of QA activities within the organisation. The management of QA activities may be delegated to a competent QA SME. Planning for quality shall be implemented throughout the life cycle of defence materiel, including the assessment and monitoring of associated risks. All risks are to be included in the organisation's risk register.

QUALITY ASSURANCE TOOLS

4. Guidance on the MOD tools and processes required to implement QA activities throughout the Acquisition Lifecycle is contained on the Acquisition Operating Framework (AOF) Managing Quality Website and summarised in the 'Quality in your Pocket' Handbook (available through the DQA Helpline).

QUALITY GOVERNANCE

5. Governance is required in all organisations; by understanding and reviewing the processes used internally, the organisation can ensure they are fit for purpose, up to date and are consistently applied.

CHAPTER 4: QUALITY MANAGEMENT

INTRODUCTION

1. Quality management is a series of coordinated processes or activities to direct and control an organisation with regard to quality, which increases an organisation's ability to fulfil quality requirements.

QUALITY MANAGEMENT POLICY

2. The International Standard for Quality Management Systems is BS EN ISO 9001:2008, this describes the controls that are necessary to successfully lead, operate and continually improve an organisation. All organisations within DE&S, Front Line Command HQs and Units shall implement a QMS that at least meets the principles of ISO 9001:2008 to demonstrate control of processes.

QUALITY MANAGEMENT PRINCIPLES

3. The ISO 9000:2005 standard defines the eight quality management principles that can be used by top management to lead teams, groups and / or organisations. These form the basis of a defined QMS:

a. **Customer Focus**. Organisations depend on their customers and therefore shall understand current and future customer needs, shall meet customer requirements and strive to exceed customer expectations

b. **Leadership**. Leaders establish unity of purpose and direction of the organisation. They shall create and maintain the internal environment in which people can become fully involved in achieving the organization's objectives.

c. **Involvement of People**. People at all levels are the essence of an organization and their full involvement enables their abilities to be used for the organization's benefit.

d. **Process Approach**. A desired result is achieved more efficiently when activities and related resources are managed as a process.

e. **System Approach to Management**. Identifying, understanding and managing interrelated processes as a system contributes to the organization's effectiveness and efficiency in achieving its objectives.

f. **Continual Improvement**. Continual improvement of the organization's overall performance shall be a permanent objective of the organization.

g. **Factual Approach to Decision Making**. Effective decisions are based on the analysis of data and information.

h. **Mutually Beneficial Supplier Relationships**. An organization and its suppliers are interdependent and a mutually beneficial relationship enhances the ability of both to create value.

IMPLEMENTATION OF A QUALITY MANAGEMENT SYSTEM

4. The introduction of a Quality Management System enables an organisation to analyse the customer requirements. This then allows those processes to be defined which contribute to the achievement of a product that is acceptable to the customer, and also to maintain control of those processes.

5. Once established in the organisation, a QMS will provide a framework to maintain and continually develop the effectiveness of the system. The key activities in order to achieve an effective Quality Management System are:

a. PDCA Cycle: Plan - Do - Check -Act.

b. Planning of activities so as to build in quality from the outset.

c. Personal responsibility for outputs with an emphasis on “right first time”.

d. Review of process outputs so that errors can be detected and removed at the earliest possible stage.

e. Timely feed back on performance at project, process and individual level.

f. Continual improvement so that performance can be improved.

COMPLIANCE WITH ISO 9001:2008

6. The JSP gives a précis of the principles of ISO 9001:2008. Organisations wishing to obtain compliance with ISO 9001:2008 must refer to the referenced standard, and prepare the appropriate documents describing the individual organisation quality policy and structure and any procedures and operating instructions specific to that organisation.

7. It is important to note that documented procedures are only required on a value added basis. However, the following documented procedures are mandatory for full compliance with ISO 9001:2008:

a. Document Control.

b. Quality Records.

c. Internal Audit.

d. Non-Conformity Control.

e. Corrective Action.

f. Preventive Action.

DOCUMENTATION

8. All documentation, including records required by the QMS are to be controlled. The documents are to be reviewed and approved prior to issue, then maintained to ensure that the correct documentation is available for use. Records are to be established and maintained to provide evidence of conformity to requirements. The retention period for all records is to be defined.

9. JSP 441 Defence Records Manual identifies effective methods of storing, reviewing and disposing of information in an efficient and cost effective way. It also sets out the statutory obligations of the MOD under the Public Records Acts of 1958 and 1967.

MANAGEMENT RESPONSIBILITY

10. Top Management is to provide commitment to the QMS and its continuous improvement. Each organisation will determine and document their quality policy and objectives and ensure the requirements are flowed down within the organisation, along with the importance of meeting all safety, regulatory and statutory requirements, whilst ensuring the Military output is maintained.

MANAGEMENT REVIEW

11. A Management Review of the QMS will be conducted at planned intervals; details of meetings are to be recorded and used to measure the improvement of the QMS and its continued suitability to meet the required military output. The Management Review ensures that Top Management have visibility of all issues that are critical to the success of the business and are in a position to implement proactive actions that are designed to ensure the continued effectiveness and efficiency of the business.

12. The review will look at the system to ensure the user / customer needs and expectations are being met, identify any weakness in the system and evaluate any improvements; review any complaints received; identify the cause and recommend corrective actions.

13. The following information can be used in the review process:

a. Review Input:

(1) Analysis of internal audit reports.

(2) Customer feedback.

(3) Product conformity.

(4) Preventive and Corrective Actions.

(5) Follow-up actions from previous management reviews.

(6) Changes which may affect the quality management system.

(7) Recommendations for improvement.

b. Review Output:

(1) Improvement of the effectiveness of the QMS.

(2) Improvement of product in relation to customer requirement.

(3) Resource requirements.

RESOURCE MANAGEMENT

14. Top Management is responsible for ensuring the resources are available to implement, maintain and continue to improve the QMS and meet the customer requirements. Resources include the availability of suitably trained and authorised staff to carry out the tasks required, and the infrastructure, including buildings, equipment and support services, that is suitably managed to meet the requirements of the Military output.

15. The processes required to maintain output are to be established, to ensure the required military output is maintained. Records are to be maintained to provide the evidence the requirements are met.

PRODUCT REALISATION

16. Each organisation is required to review and agree the customer requirements, taking into account regulatory, statutory and organisational requirements. The requirements are to be defined in a Customer Supplier Agreement (CSA) and shall be subject to a 12 monthly review, or at agreed intervals.

DESIGN AND DEVELOPMENT

17. Activities for new and in-service equipment are normally contracted out to the appropriate Design Authority Organisation or contractor with appropriate certification. Service modifications shall be compliant with the relevant Service requirement, and Configuration Management maintained in accordance with JSP 886 Volume 7 Part 8.12.

PURCHASING

18. All equipment and services are to be purchased in accordance with JSP 886; the Commercial Managers Toolkit and the Managing Quality detailed on the AOF.

SERVICE PROVISION

19. Each organisation is to establish the objectives required to meet and maintain the required military output. Manuals, processes, procedures and work instructions are to be established to ensure the required Military output is maintained. All processes are to be validated by the Process owners, to ensure the equipment meets its capability requirements, and prior to release to service all equipment shall comply with the safety, regulatory and legislation requirements.

MONITORING AND MEASURING DEVICES

20. The calibration of all equipment shall be controlled in accordance with JSP 509 and JSP 886 Volume 5, Part 1.

MEASUREMENT, ANALYSIS AND IMPROVEMENT

21. **Customer Satisfaction.** Customer feed back against the CSA shall be reviewed on a regular basis. Where the required results / requirements are not met, corrective action is to be taken to ensure conformity of the process.

Audit Programme

22. **Internal Audits.** Each organisation is to introduce a programme of internal audits to ensure the quality management system conforms to the planned arrangements. An internal audit has 3 objectives:

a. To ensure the process under review is value added and contributes to organisational goals

b. To ensure compliance with the process under review

c. To identify opportunities to improve the process and enhance business efficiency.

23. The internal audit programme shall be developed against the following criteria:

a. Identification of key risk areas critical to business success.

b. Determine the processes and responsibilities impacted by the potential risks.

c. Determine the resources and competence required to assess the process at risk delivers outputs that contribute to the business objective.

d. Generate and implement a risk based audit programme.

24. The audit programme shall be responsive and reflect business needs. The key outputs will be the audit findings and auditor feedback in the form of conclusions and recommendations. All audit reports are to be reported to Top Management for assessment and follow up:

a. **FLC Audit Programme**. FLCs are to introduce an internal audit programme in accordance with their own requirements.

b. **Partnering Audit Agreement.** An Exemplar Partnering Audit Arrangement document has been developed. Although not mandated, this provides a framework of principles for a Partnering Audit Arrangement between Industry and the MOD within the Military Air Environment (MAE). Although developed for the MAE within the Forward and Depth Organisations, the fundamentals of the Partnering Audit Arrangement may be utilised within the Maritime and Land Environments.

IMPROVEMENT

25. To ensure the required military output is maintained, Top Management shall review the effectiveness of the QMS. This will include the review of various measurables which may include, but not be limited to, audit results, corrective and preventive actions and management reviews:

a. **Corrective Action**. Corrective action shall be used as tool for improvement. All corrective action shall evaluate the problem and the potential impact, including cost, performance, safety and satisfaction of customers. The defined corrective action shall be focussed on eliminating the cause of non-conformities to prevent further occurrences.

b. **Preventive Action**. Preventive action planning shall be established to eliminate the causes of potential nonconformities in order to prevent their occurrence.