QM003 Quality Requirements for Suppliers Issue 4 is a non-classified Lockheed Martin UK Ampthill Ltd publication.

It is permissible to distribute copies of this publication to sub-contractors, suppliers and the sub-tier supply chain.

This document supersedes QM003 Issue 3 and:

- QM003-A Quality Requirements for Suppliers (UK Military Contracts)
- QM003-B Quality Requirements for Suppliers (Non-UK Military Contracts)
- QM003-C Quality Requirements for Suppliers (Business Supplies)

For more information visit: [http://www.lockheedmartin.co.uk/uk/suppliers.html](http://www.lockheedmartin.co.uk/uk/suppliers.html)
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1. Foreword

Lockheed Martin builds sustainable supplier capacity by partnering with our supply chain to reduce adverse environmental impacts, to promote human rights, health, safety and ethical behaviour, and to enable responsible supplier growth and raise standards.

We define Sustainable Supply Chain Management (SSCM) as “management of our supply base to drive affordability and innovation through social responsibility and environmental stewardship.” The objective of SSCM is to ensure alignment of our supply base’s social, ethical, environmental, safety and health responsibilities with Lockheed Martin’s sustainability commitments. The Lockheed Martin UK Ltd Quality Policy can be obtained upon request.

Our business depends on a reliable, global network of skilled suppliers that provide the materials, parts and services to make our products and deliver them to our customers mission-ready and on time. Goods and services provided by our suppliers have a key impact on the quality of the products, solutions and services we offer our customers. To maintain a high level of quality, we are determined to establish and maintain close and long-lasting relationships with our suppliers.

LMUK Terms and Conditions of trade shall apply to all contracts unless otherwise agreed.

Please note  indicates an item of high importance that is sometimes overlooked by suppliers and causes potential high risk to product conformance.

2. Scope

The aim of this document is to formally communicate the Lockheed Martin UK Ltd (LMUK) quality requirements to the supply chain. This document includes hyperlinks and is best read in its electronic form. This document supersedes any previously issued LMUK Quality Requirements for Suppliers QM003 document defining supplier requirements.

2.1 Definitions and Terms

In this Quality Requirements for Suppliers QM003 document, the terms "shall" and "must" mean that the described action is mandatory; "should" means that the described action is expected with some flexibility allowed in the method of compliance; and “may” means that the described action is permissible or discretionary.

The term “supplier” means vendor, supplier of goods and services, sub-contractor and distributor. Questions concerning this manual should be directed to your respective LMUK Buyer or Supplier Quality Engineer (SQE).

2.2 Order of Precedence

Any inconsistencies in this document shall be resolved in accordance with the following descending order of precedence: (1) the drawing, design data and any approved concession deviation (2) the Purchase Order, release document, as applicable, including any special terms and conditions; (3) any Statement of Work; (4) QM003.

As the world’s leading provider of Global Security Solutions, Lockheed Martin maintains the highest standards for ethical business practices and performance in every aspect of its business conduct.
3. Supplier Approval

3.1 Supplier Approval Requirements

The minimum quality requirement for suppliers of goods and services to LMUK shall be Quality Management System (QMS) certification to ISO9001 by a UKAS (or equivalent) accredited certification body. This requirement guarantees the supplier has put in place a consistent QMS able to satisfy our basic needs. Suppliers that provide goods and services that are used in projects for aviation, defence and space applications should be certified to AS9100 or equivalent and listed on the IAQG Online Aerospace Supplier Information System (OASIS).

Where appropriate, suppliers shall be subject to on-site audit and / or site visit by the LMUK supplier quality engineer and / or supply chain representative. In some instances LMUK will be unable to raise a purchase order until supplier approval has been granted. Scheduled verification audits, site visits and business to business meetings shall be supported when required.

3.1.1 Exceptions

Requirement exceptions for suppliers that do not meet the minimum quality certification shall be authorised on the basis of:

- The supplier is mandated by our customer.
- The supplier is the manufacturer of a single sourced product mandated by our customer.
- The supplier is the only distributor of a product mandated by our customer.
- The supplier provides goods or services that have no direct or indirect effect on the goods and services we provide our customer.

3.1.2 Supporting Documentation

Documents required to complete the supplier approval process are:

- Form F0189 Supplier Quality Assessment and / or F0183 Supplier Assessment Questionnaire
- QMS certification
- Confidentiality or non-disclosure agreement (NDA) if applicable
- Inclusion on a Technical Assistance Agreement (TAA) if applicable

3.1.3 Special Measures

Where the above criteria and exceptions cannot be met, depending on the product, its application, value and criticality, special authorisation may be granted where evidence of compliance can be provided.

This may include LMUK audit to a set of alternative basic quality requirements.

3.2 Special Processes

Suppliers and supplier sub-contractors providing special processes shall have a documented process control schedule (for example: Process Flow Chart, PFMEA, Job card traveller - or similar, Process Control Plan & Inspection Plan) suitable of meeting all requirements prior to the commencement of production. This will include identifying key characteristics in all preparatory treatments, post treatments, processing, significant surfaces, tests and all other processes and treatments. In some
instances depending on the criticality of product the process control plan/schedule shall be subject to LMUK approval.

Suppliers and supplier sub-contractors providing special processes may be Nadcap accredited for the special process they provide. Nadcap Welding approval however will require additional scope coverage and as such must be audited by Lockheed Special Process Supplier Quality Engineer (SQE).

3.3 Site Visits and Supplier Audits

Where appropriate, suppliers shall be subject to on-site audit and / or site visit by the LMUK supplier quality engineer and / or supply chain representative. In some instances LMUK will be unable to raise a purchase order until supplier approval has been granted. Scheduled verification audits, site visits and business to business meetings shall be supported when required.

3.4 Scope of Approval

Suppliers approved for use will be allocated to the LM Supplier database stating the scope detail on their approval. Suppliers shall not conduct work for LM outside their scope of approval unless authorised by LM Quality department through audit ie special process audits or LM specific approvals.

3.5 Approval updates – Supplier Responsibilities

It is a requirement of the conditions of supply into LMUK that the contractor / supplier fully understands and adheres to the following. It is the supplier’s responsibility to ensure:

- LMUK shall be provided up-to-date copies of Quality Management System certification including scope of certification.

- LMUK shall be informed by the approved supplier when approval bodies are changed and certificates are re-issued or revoked.

- LMUK shall be informed by the approved supplier when certificates scopes are amended which would affect work currently undertaken or scheduled for future delivery. This would also include any change of address.

- LMUK shall be informed if due to any circumstance welder’s skill base alters ie coded welders certification lapses – in this instance the Special Process Auditor must be informed.

3.6 Right of Access

Suppliers and their sub-suppliers shall provide to LMUK, their customer and the Government Quality Assurance Representative (GQAR):

- The right of access to facilities where parts of the contracted activities are being performed including sub-suppliers premises

- Information pertaining to the fulfilment of requirements in the contract

- Unrestricted opportunity to evaluate supplier compliance with this document

- Unrestricted opportunity to conduct verification of product conformity to contract requirements

- Assistance for evaluation, verification, validation, testing, inspection or release of the product to verify that contract requirements have been accomplished at the supplier’s or sub-suppliers premises
- Working area and facilities
- The necessary equipment available for reasonable use for performing verification
- Supplier and/or sub-suppliers personnel for operation of verification equipment as required
- Access to information and communication facilities
- The necessary supplier documentation, to confirm product conformance to specification
- Copies of necessary documents, including those on electronic media
- Confirmation of capacity constraints

4. Quality Management Requirements

LMUK are required by AS9100 to apply appropriate controls to their direct and sub tier external providers to ensure that requirements are met (AS9100 para 8.4.1). The sections following detail the minimum controls that the supplier **shall** implement to meet those requirements.

Suppliers **shall** plan, implement, and control the processes needed to meet the requirements for the provision of products and services to LM. Specifically this will be focused on the following:

- Review of the Requirements for Products and Services
- Design and Development provision (inputs, controls and outputs)
- Configuration Management
- Process Control
- Control of Externally provided Processes, Products and Services (importantly):
  - Control of Equipment’s, Tools and Software
  - Validation of Special Process
  - Production Process Verification
  - Release of Product and Services
  - Control of Non Conformance
  - Performance Evaluation
  - Improvement Activities

4.1 Review of the Requirements for Products and Services

The supplier **shall** ensure that they have the ability to meet LM’s requirements for products and services – formally known as contract review. This review will cover but not be limited to

- Scope of certified approval against what product or service is being requested
- Technical ability ie can equipment or employee skills meet the requirements of the drawings.
- Capacity constraints
- Statutory and regulatory requirements
- Contract or order requirements differing from those agreed at tender
- Drawing pack ie tolerancing, datum’s and geometric tolerancing, material requirements (ensuring the material is available in size and condition stated), special processes, specific drawing notes including adherence to standards quoted within the context, destructive and non-destructive testing requirements ie mechanical, electrical, software etc.

- Design and verification – if undertaking this requirement for LM understand the conditions of the contract as highlighted in para 4.2

- Reference documentation - it is the responsibility of suppliers to obtain, review, work to and maintain current issues of specifications and standards from appropriate sources.

- Additional Resources – when reviewing the process controls required to assure compliance to the documentation pack, should the requirement for fixturing, hard gauging, specialist test equipment, specialised training etc be identified this **must** be communicated to LM. It is not acceptable if risk is identified and no action is undertaken or communicated to LM due to timescales or financial constraints. This will also apply to sub-contractors undertaking work on the product.

- Supplier selection of sub-contractors. LM must be informed if sections of work are to be subcontracted. LM reserve the right to audit that supplier if it is deemed a perceived risk to contractual requirements (see 4.5). Special Processes are covered in section 3.2

4.2 Design and Development Provision

If undertaking design and development work for LM the subcontractor is bound by the requirements of ISO9001 as a minimum. If identified by LM the additional requirements of AS9100 for aerospace contracts will be required e.g. provision for obsolescence.

4.3 Configuration Management

The supplier **shall** plan, implement and control a process for configuration management to ensure the identification and implementation of changes when required by LM in the supply of products and services. If a change is requested by LM and can be accommodated this **must** be detailed in a change to LM’s original purchase order and detailed on all supplier process documentation.

4.4 Process Control and Verification

LM require the supplier to demonstrate control through the production process. The supplier **shall** demonstrate confidence that the processes have been carried out as planned and therefore be able to demonstrate the conformity of those products and services. This can be undertaken by the flow of information associated in the following documentation.

The following is an example of how the supplier can incorporate these activities that will show the flow of information needed to control the process (similar processes and documentation that meet the requirement are acceptable):

- **Value Stream Mapping**

- **Process Flow Diagrams** (identifying key characteristics, inspection stages, processes, frozen operations if identified by LM (no changes allowed unless agreed by LM delegate), associated documentation. Examples of layouts can be requested.
- PFMEA – Process Failure Mode Effect Analysis. Critical in analysis of the process flow showing anticipation of risks and actions to nullify those risks to the process
- Control plans – detailing the stages of the process where inspection and our documenting of special process monitors are required
- Inspections plans – identifying by whom (level of trained operators), with what (equipment’s to be used), how (standard operation) and the frequency of how those checks/inspection will be carried out.

Further to this the supplier **shall** demonstrate the eradication of variability in the process *(if required by LM on critical processes)* by the use of process capability measurement, statistical process control and MSA studies i.e. Gauge R&R. When specified by LM these activities should be covered in a Quality Plan agreed with both parties and the requirements flowed down the supply chain if needed. A Quality Plan will be required when specific controls not covered by ISO9001, AS9100 certification or detailed in QM003 are required by LMUK.

### 4.5 Control of Externally Provided Processes, Products and Services

The supplier, as the recipient of the contract, **shall** be responsible for meeting all requirements, including work performed by the supplier’s sub-tier suppliers (also known as sub-suppliers or subcontract suppliers).

Where the supplier intends to sub-contract work or service normally undertaken by the supplier, **a written agreement shall be in place between LMUK and the supplier** indicating the reason for the sub-contract and the sub-tier sub-contractor to be used.

When the supplier uses sub-tier sources to perform work on products and/or services for LMUK, the supplier **shall** flow down to its sub-tier sources, all of the applicable technical and quality requirements contained in the LMUK contract. This will:

- ensure that externally provided processes remain within the control of their own quality management system
- define both the controls that it intends to apply to an external supplier and those it intends to apply to the delivered product.

LMUK representatives, customers and/or end users **shall** be allowed access to the sub-supplier’s plant and facilities for the purpose of surveillance and inspection.

### 4.6 Control of Equipment, Tools and Software

Equipment, tools and software programs used to automate, control, monitor or measure production processes shall be validated prior to release for production and shall be maintained. The supplier shall be responsible for maintaining traceability to national standards whether those items are calibrated internally or externally.

Storage requirements shall be defined for production equipment or tooling in storage including any necessary periodic preservation or condition checks. Items that have an extended replacement period (i.e. mould tools, die sets, software programs) are required to be detailed in a risk avoidance document that will detail the suppliers disaster recovery plan in such an event – see section 12.
4.7 Validation of Special Processes

A special process is a process that generates outputs that cannot be measured, monitored, or verified non-destructively or cost effectively. Deficiencies cannot be detected until after products are in use.

In order to prevent output deficiencies, special processes must be periodically validated in order to prove that they can generate planned results. Periodic validation is usually performed which will define:
- the criteria for the review and approval of the process
- the maintenance of the approval
- approval of the facilities and equipment
- qualification of persons – see para 7
- specific methods and procedures for implementation and monitoring the processes
- detail the documentation to be retained

4.8 Production Process Verification

When indicated on the purchase order the supplier shall produce a First Article Inspection report (FAIR) to verify the manufacturing process using a representative item from the first manufacturing run of a new part or assembly. The purpose of the FAIR is to verify that the production processes, production documentation and tooling are capable of producing parts and assemblies that meet requirements. This process shall be repeated when changes occur that invalidate the original results (this will include transfer of work to another site, drawing changes, process changes etc.). The FAI requirement, once invoked, shall continue to apply even after initial acceptance.

The FAIR will be produced in accordance with AS9102 and shall be provided with the delivery of goods. Guidance on how LM require First Articles to be completed is detailed in LM’s ‘First Article Inspection Guidebook’. A copy can be supplied by your LM Supplier Quality Engineer. It is strongly advised this is reviewed and its requirements understood. Its content details when a Partial/delta FAI is required but as an aid:

A Partial/Delta FAI is required to the original when:

- A change in design potentially affects form, fit or function.
- A change in manufacturing source, process, inspection method, location of manufacturer, tooling, or material potentially affects form, fit or function.

The FAIRs shall include all certification indicating conformity of materials, special processes, calibration, testing and personnel training qualification where applicable.

4.9 Release of Product and Services

Suppliers shall supply conforming goods and services on time in full (OTIF) including all required correct documentation and certification where applicable.

Certification refers to any document that states the goods or services meet or conform to specification or purchase order requirements. These include, but are not limited to; Certificate of Conformity,

The certifying document shall be deemed as an authorised contractual guarantee that the goods and services reference on the certificate meet drawing, specifications, technical data and purchase order requirements. A signed copy or digital signature will be acceptable but Certificates must be traceable to the certifying quality representative or company official as per ISO9001 requirements.

4.9.1 Supplier Documentation

The following data/information shall be included on each certification document (normally referred to as a CoF or Release Note)

- Certificate or delivery unique identifier / Certification / Delivery Note number
- Certificate Date
- Purchase order number
- Drawing number and / or part number and revision (as stated on Purchase Order)
- Batch unique identifier (Batch number / Lot number / Date code / Serial number)
- Quantity
- Supplier Name and Address
- Statement that goods and / or services conform to the specified requirements
- Original Manufacturer’s name, part number and lot / date code (when applicable)
- Reference to all concessions/Production permits applicable
- Reference to current First Article Inspection Report where applicable
- Reference to the Quality Management System release.

Suppliers shall ensure the correct documentation is supplied with products and services. This is further illustrated in appendix 1 - Delivery Documentation Requirement Flowchart below.

Additional Delivery Quality Conditions required by NATO & Military contracts will be stated on LM’s purchase order. These will define the requirements for traceability and certification above those detailed in QM003 and ISO9001. These will only apply when indicated by the delivery quality condition (Q Code) on the purchase order or other documentation associated with the contract. See appendix 2

<table>
<thead>
<tr>
<th>Q Code</th>
<th>Description</th>
<th>Flow-Down Requirement in Addition to ISO9001 &amp; QM003</th>
</tr>
</thead>
<tbody>
<tr>
<td>QM003-A</td>
<td>Quality Requirements for NATO Contracts</td>
<td>AQAP 2110 D / 2105 Applies</td>
</tr>
<tr>
<td>QM003-B</td>
<td>Quality Requirements for Non-Military Contracts</td>
<td>ISO 10005 / 10007 Applies</td>
</tr>
<tr>
<td>QM003-C</td>
<td>Quality Requirements for Business Supplies</td>
<td>No additional requirement</td>
</tr>
</tbody>
</table>

4.9.2 Certificate of Conformance

For deliveries that apply quality condition QM003-A & QM003-B (see appendix 1) a certificate of conformity shall be supplied with delivered goods or services that meet the above traceability
Quality Requirements for Suppliers

requirements. Please read section 13 which further expands the requirements for Chemicals and Hazardous Substances

4.9.3 Calibration and Test Certification

In addition, where calibration and test certification are issued to LMKUK information shall include:

- The calibrated test apparatus / instrument / standard used. These will be traceable to UKAS or the national equivalent from sources other than the UK.

- Calibration / test specification used including tolerances and criteria.

- Items outside specified limits will be identified, especially if the item has undergone authorised repair to bring it into specification.

4.9.4 Late Deliveries / Short Deliveries

If non-delivery, short or late deliveries are anticipated, suppliers shall immediately notify the buyer indicated on the purchase order.

4.9.5 Completeness of Supplied Documentation

Certification documentation supplied to the requirements of any LM purchase order will be rejected and deemed not complete should it transgress any of the following:

- Certification supplied with CofC is illegible i.e. faint, blurred or ambiguous

- Certification supplied with concession/production permit whose approval is outstanding

- Incorrect / different material or treatment certificates being referenced or certificates that do not tie up with FAI documentation

- No quality representative authorising release is identified on the CofC.

- Alternative material and or treatments – will be rejected if authorised certification is not attached to the CofC i.e. production permit or concession, Defence Standard reference, Mil Specs alternative and the prior agreement of LMUK.

4.10 Control of Non Conformance

LM will inform the supplier of nonconformities that are highlighted at any stage of LM’s process flow including, but not limited to, trials and subsequent service. The supplier shall respond to the Supplier Corrective Action Report (SCAR) when raised. The SCAR is structured around the 8D process which details the requirement for the following:

- Problem statement

- Containment Action (in production, in stores, in transit, delivered product)

- Root Cause Analysis (see below)

- Corrective Action

- Implement Corrective Action

- Define and Plan Preventative action to prevent reoccurrence

- Review of Implementation or actions
SCAR’s shall be processed to the following timescales by the supplier:

- Supplier has 5 working days to acknowledge receipt and undertake containment action
- Supplier then has a further 25 calendar days to respond with a detailed corrective action
- Supplier will submit on or before the agreed verification date, evidence of the implemented corrective/preventative action. This evidence will allow the LM Supplier Quality Engineer to close the SCAR.

Note: A DRACAS SCAR is a non-conformance which is identified on field trials / in service and must be treated with high priority. This will be identified on the SCAR and is subject to the agreed terms and conditions as agreed with LM in all instances.

4.10.1 Root Cause Analysis (RCA)

When nonconformities occur the supplier must perform Root Cause Analysis (RCA) and corrective action activities to prevent recurrence of the problem. LM recommend that the suppliers Improvement teams use industry standard root cause analysis tools to aid in identifying these issues i.e. 5 why methodology & Cause and Effect Diagram (Ishikawa or fishbone).

4.11 Application for Concession or Production / Deviation Permit

Suppliers shall generate the Concession or Deviation Permit in accordance with LMUK Form F0045, or their own form provided it incorporates the requirements listed in Def-Stan 05-61 Part 1. This must include the proposed corrective action to eliminate the cause and prevent reoccurrence.

4.11.1 Production Permit

Production Permits / Deviations are considered permission to produce an item that deviates from design data. This may be because of design anomalies, material availability issues or other unforeseen reasons prior to manufacture. Requirement for a production / deviation permit should be identified by the supplier at contract review or production planning.

Completed production / deviation permits shall be submitted to the procurement representative indicated on the purchase order. All Production permits must be referenced on the applicable certificate of conformity (using the LM approved concession number).

Any production prior to production / deviation permit approval shall not occur unless entirely at the suppliers own risk. Products delivered against a LMUK approved production / deviation permit are not considered as nonconforming.

4.11.2 Concessions

It is the policy of LMUK not to accept a product that fails to meet the required standard. In certain circumstances however, concessions will be considered by LM. This will allow, when approved, the supplier to deliver product against agreed deviations for a set number of product or parts.

Completed concession forms shall be submitted to the procurement representative indicated on the purchase order.

Delivery of nonconforming product shall not occur unless an approved concession is in place. All concessions must be referenced on the applicable certificate of conformity (using the LM approved concession number).
5. Record Retention / Destruction Requirement

Suppliers shall retain records relating to processing, testing, calibration, manufacture, supply, traceability and certification for a minimum of 7 years unless otherwise stated by contract.

Any loss or potential compromise of any classified material must be reported to LM without delay.

All OFFICIAL-SENSITIVE documents must be returned to Lockheed Martin UK Ampthill either:

   a. When they are no-longer required as part of the sub-contract; or
   b. At the end of the sub-contract.

Requests to destroy programme-related OFFICIAL-SENSITIVE information locally on the sub-contractor’s site must be passed to the Lockheed Martin UK, Ampthill Programme/Project Manager and Lockheed Martin UK Ampthill, Security Office for authorisation in accordance with LM contract conditions.

At a minimum, all OFFICIAL-SENSITIVE hard copy information must be destroyed using a cross-cut shredder which makes the reconstitution of the material highly unlikely. Unwanted UK OFFICIAL-SENSITIVE information/material that cannot be destroyed in such a way shall be returned to the Authority.

6. Performance Evaluation

LM requirements for suppliers monitoring, measurement, analysis and evaluation of internal performance is detailed in ISO 9001 para 9. No additional LM requirement is required.

7. Competence, Training and Awareness

The supplier shall ensure personnel processing orders or performing work affecting conformity to product or service are trained and aware of the relevance and importance of their activities in relation to meeting the requirements of LMUK purchase orders and associated documentation.

The supplier will as a minimum produce a skills matrix which details the training undertaken by the operative in relation to the processes specific to LMUK product. For example:

- Coded welders (refer to LM Special Process Auditor for preferred suppliers of approvals)
- IPC trained operatives in harnessing
- FOD awareness
- Internal procedures relevant to their scope of work on LM product

The skills matrix shall be maintained by supervisory/management level and demonstrate control of those activities. The skills matrix procedure shall also detail how risks associated with highly skilled operators are covered i.e. sickness, leave, succession planning etc. and the business decision on how that risk will be covered as well as capacity constraints.

It is highly recommended that the free resources provided by the Society of Automotive Engineers (SAE) International Aerospace Quality Group (IAQG) in the form of the Supply Chain Management Handbook (SCMH) is utilised to its full potential by all suppliers. This online document contains invaluable training and guidance material on every element of Aviation, Space and Defence (AS&D) requirements including first article inspection, configuration management, quality plans, counterfeit management and contract review.
8. Identification and Traceability

Traceability is an important factor in high end and safety critical products and is a basic requirement unless agreed in writing. Suppliers shall provide documentation that includes revision / issue nos., batch numbers, lot codes or where relevant date codes and serial numbers of goods provided.

8.1 Serialisation and Part Marking

Serialisation and part marking identification shall be in accordance with the purchase order, design data, drawing or any contractually agreed specification or standard.

8.2 Traceability to Source/Origin of Raw Material

Where the delivery quality conditions are QM003-A or QM003-B and any applicable Quality Plan requires demonstration of traceability and design provenance through the supply chain, the supplier shall include in any relevant sub-contract the requirement for certification from its sub-tier suppliers. The supplier shall ensure that full traceability is maintained throughout the sub-tier supply chain and can be provided on LM request. Material shall be identified and traceable to manufacturer’s part number, lot number, date code for all electronic and electrical parts, raw material, mechanical machined parts.

9. Preservation of Product

The supplier shall preserve the product during internal processing, storage and delivery to the intended destination.

9.1 Workmanship Acceptance Criteria for Surface Engineering

Unless otherwise stated, the following workmanship acceptance criteria shall be used; Supplied product with surface finishes for functional or cosmetic applications shall meet the requirements of the drawing (or referenced specification) for surface conditions, uniform in appearance, free from blisters (adhesion), pits, nodules, scratches, stains. This includes but is not limited to electroplated, conversion coated, anodised, painted, mechanically finished and passivated surfaces.

9.2 Deviation from Design Data

Deviation from design data shall not occur unless an approved deviation permit from LMUK is obtained. See section 4.11.

9.3 Foreign Object Debris (FOD)

The supplier shall establish a process to detect and prevent Foreign Object Debris. This should be in accordance with NAS412 or AS9146. As a minimum the process shall include:

- FOD process review
- Training of FOD practices
- Material handling and product protection
- Tool / hardware accountability
- Lost items search and documentation process
- Physical entry control into FOD critical areas
- Inspection for foreign objects prior to closing apertures and compartments during assembly

9.4 Moisture Sensitive Level (MSL)

Moisture sensitive components **shall** be packaged in accordance with [IPC/JEDEC J-STD 033](http://www.ipc.org). The Moisture Sensitivity Level (MSL) **must** be clearly identified on the outer packaging.

9.5 Electrostatic Discharge (ESD)

Where appropriate, suppliers **shall** provide adequate protection measures against ESD damage to goods and LMUK property. This **should** be in accordance with [MIL-STD-1686](http://www.mil-std.com) or [ANSI/ESD S20.20](http://www.ansi.org). Electronic Components **shall** be handled, packaged and supplied in accordance with [BS EN 61340-5-1](http://www.bsi.org.uk) or as specified in the contract conditions with LM.

9.6 Shelf Life

Goods and products containing items with finite shelf life **shall** have the expiry date identified on the product and the delivery documentation. The remaining shelf life **must** be a minimum of 80% of the total shelf life for the material at time of delivery unless otherwise specified.

9.7 Packaging

The supplier **shall** adequately plan for packaging designed to prevent product contamination, deterioration, damage or loss. Suppliers **should** provide expendable packaging or returnable containers, where appropriate, of sufficient density and protection from likely damage that could occur. The use of approved industry standard labelling and bar-coding **shall** be in accordance with any contractually agreed packaging specification.

10. Counterfeit Product Prevention and Conflict Minerals

10.1 Counterfeit Product Prevention

Where appropriate, the supplier **shall** establish and maintain a counterfeit parts / material prevention and control plan using [AS5553](http://www.as5553.org) and/or [AS6174](http://www.as6174.org) to ensure that counterfeit work is not delivered. The purpose of the supplier’s plan **shall** be to develop a robust process to prevent the delivery of counterfeit commodities and to control commodities identified as counterfeit. Where possible, semi-conductor distributors **should** be certified to [AS6081](http://www.as6081.org).

10.2 Conflict Minerals

Conflict minerals are minerals mined in conditions of armed conflict and human rights abuses, and which are sold or traded by armed groups. Suppliers **shall** be aware of the [OECD Due Diligence Guidance](http://www.oecd.org). Further information can be found at the [Lockheed Martin Conflict Minerals webpage](http://www.lockheedmartin.com).

11. Obsolescence Management

Obsolescence Management is ‘the co-ordinated activities to direct and control an organisation with regard to obsolescence’. The suppliers **shall** notify LMUK of any pending obsolescence, the relevant last time buy date and last time ship date at least 6 months prior to the last time buy date.


Suppliers **should** have in place a business continuity plan in accordance with [ISO 22301](http://www.iso.org). This includes requirements to plan, establish, implement, operate, monitor, review, maintain and continually improve...
a documented management system to protect against, reduce the likelihood of occurrence, prepare for, respond to, and recover from disruptive incidents when they arise.

Essentially this is a management plan that ensures no disruption to the supply of goods to LM should the business fall foul of environmental circumstances such as fire, flood, power failure etc. This will include but not be limited to safety stocks of goods, fire protection of tooling/Jigs, safeguarding essential key machinery, off site holding of key software etc.

The extent of application of these requirements depends on the supplier’s operating environment and complexity.

13. Chemicals and Hazardous Substances

Nothing in this section shall reduce or limit any statutory duty or legal obligation of LMUK or the supplier.

13.1 Safety Data Sheets

Safety data sheets (SDS) provide information on chemical products that help users of those chemicals to make a risk assessment. They describe the hazards the chemical presents, and give information on handling, storage and emergency measures in case of accident. By law suppliers of chemicals must provide an up to date safety data sheet if a substance is classified as dangerous in accordance with the Classification, Labelling and Packaging (CLP) Regulation 1272/2008.

If the supplier is required, under, or in connection with the contract, to supply articles or components of articles that, in the course of their use, maintenance, disposal, or in the event of an accident, may release hazardous materials or substances, they shall provide to LMUK a list of those hazardous materials or substances, and for each hazardous material or substance listed, provide an SDS.

13.2 Registration, Evaluation, Authorisation and Restriction of Chemicals (Reach)

REACH applies to substances manufactured or imported into the EU in quantities of 1 tonne or more per year. Generally, it applies to all individual chemical substances on their own, in preparations or in articles. The supplier shall disclose such information to LMUK for the purpose of compliance with the REACH regulation. For more information please contact the Lockheed Martin REACH Program Office at reach.info@lmco.com

13.3 Lead, Asbestos and Radioactive Substances

Special regulations apply to Lead, Asbestos and radioactive substances. In addition refer to DEFCON 624 for Asbestos. Adequate packaging must be provided to prevent exposure of staff to these substances in accordance with the relevant Health and Safety Executive (HSE) Approved code of practise (ACOP)

14. Sensitive and LMUK Propriety Data

LMUK propriety and customer technical data must only be shared with 3rd party suppliers who have:

- Been approved by LMUK and the owner of the technical data.
- Confirmed in writing (e.g., hardcopy letter, email with return address header) that they are authorized to receive such data and they understand the implications of and requirements for handling sensitive and proprietary technical data.
Principally where data is identified as sensitive or LMUK Proprietary Data, restrictions apply to the control, handling and monitoring of such data. Only authorised personnel shall have access to restricted data and the data shall be controlled in such a way as to prevent unauthorized transmission or access.

Suppliers that require Restricted and Official Sensitive Classification data shall have a procedure in place for the control, handling and monitoring of such data. LMPI is always handled in accordance with the LM terms and conditions.

Where a supplier is identified on a Technical Assistance Agreement (TAA) or Manufacturing Licence Agreement (MLA), the organisation must complete a Non-Disclosure Agreement (NDA) when requested by LMUK and shall continue to maintain access controls in accordance with the NDA and any Technology Control Plan (TCP) that LMUK and the organisation enter into. LM reserve the right to issue an NDA where LMN deem sensitive information will be shared with the supplier.

14.1 Sub-Tier Suppliers

Sub-tier suppliers and sub-contractors used by the supplier that have access to any sensitive or LMUK proprietary data must be authorized with an NDA in place.

14.2 Disposal of Sensitive and LMUK Proprietary Data

Hard-copy documentation that is no longer needed must be disposed of in shredder bins or confidential material disposal bins. Scrap products and components shall be destroyed, rendered unusable and unrecoverable and specific disposal sanctioned by LMUK Supply Chain.

15. Munitions

15.1 Weapons

Suppliers transporting weapons or weapon component parts must hold a current Home Office approval to transport goods controlled under the Firearms Act 1968, Section 5 (as amended). Home Office Guidance can be found here.

15.2 Explosives

For explosive items, the supplier shall contact Head of Safety Services at LMUK Ampthill, 3 business days prior to delivery. Release documentation for explosive items must include a copy of the National Competent Authority Classification and a Certificate of Correctness signed by the supplier’s authorised person. Release documentation must include the National Competent Authority Classification Number, United Nations (UN) Number, Hazard Division and Net Explosive Quantity. All packages must bear a UN Mark and be classified and labelled in accordance with UK Government Statutory Instrument 1994 No. 669 (The Carriage of Dangerous Goods by Road and Rail [Classification, Packaging and Labelling] Regulations 1994) UK Government Statutory Instrument 2014 No. 1638 (The Explosives Regulations 2014, Health and Safety) shall apply to all explosive items. Packaging shall be in accordance with DEFCON 130 Packaging for Explosives.
Appendix 1 – Additional Flow-Down Requirement Selection Flowchart

- **Start**
- **Supplier has ISO9001 certification?**
  - **Yes (Y)**: Quality requirement necessary
  - **No (N)**: Use alternative supplier
- **Delivery Quality Condition?**
  - **Yes (Y)**: Quality requirement(s) apply
  - **No (N)**: Special Measures Invoked?
- **Supplier has AS9100 certification?**
  - **Yes (Y)**: No additional quality requirement
  - **No (N)**: Supplier has AS9100 certification?
- **Delivery Quality Plan Required?**
  - **No (N)**: General requirements apply
  - **Yes (Y)**: Use alternative supplier
Appendix 2 – Delivery Documentation Requirement Flowchart

Start

Product or Service?

Part or assembly produced from manufacturing process?

FAIR already exists with no changes to processes?

Produced within last 2 years?

Commercial off the shelf (COTS) item?

Product

Y

N

AS9102 First Article Inspection Report

Certificate of Conformity

Delivery Advice Note

Y

N

Material Safety Data Sheet (MSDS)

Delivery Advice Note

Y

N

Chemical or hazardous material?

Raw material

Y

N

Certified Mill Test Report or Material Test Report

Delivery Advice Note

Y

N

Test or calibration?

Service

Test/ Calibration Certificate

Service report or delivery note of service

Delivery Advice Note

Y

N

Certificate of Conformity Reference applicable FAIR No.

Delivery Advice Note

Y

N

Delivery Advice Note

Y

N

Certificate of Conformity

Delivery Advice Note

Y

N

Commercial off the shelf (COTS) item?

Y

N

Certificate of Conformity

Delivery Advice Note
Appendix 3 - Additional AQAP Guidance notes

AQAP 2110 EDITION D Quality Requirements for Design, Development and Production
(ref QM003-A – Quality Requirements for NATO Contracts)

Allied Quality Assurance Publications (AQAP) are standards for quality assurance systems that have been
developed by the North Atlantic Treaty Organization (NATO). AQAP 2110 Quality Assurance Requirements
for Design, Development and Production defines requirements, which, if applied appropriately, provide
confidence in the supplier’s capability to deliver products that conform to LMUK contract requirements.

The common ISO 9001 baseline inherently makes AS9100 and AQAP 2110 appear almost identical. It is
acceptable for a supplier to offer a QMS that complies with the provisions of AS9100 as a satisfactory
response to the QMS requirements of AQAP 2110, under two conditions:

- The supplier formally states that, “All AS9100 requirements applicable to the organization are
  applicable to this contract”;

- The supplier formally states that, “No exclusions to AS9100 taken by the organization shall in any
  way diminish, alter, or relieve the AQAP 2110 requirements of this contract”.

These formal statements should be made in the Deliverable Quality Plan (DQP). See BS EN 9137 or ARP9137
Guidance for the Application of AQAP 2110 within a Quality Management System for further information.

AQAP 2120 Quality Requirements for Production

AQAP 2130 Quality Requirements for Inspection and Test

AQAP 2210 Supplementary Software Quality Assurance Requirements
(as per QM003-A – Quality Requirements for NATO Contracts)

AQAP 2210 is intended for use with AQAP 2110 as a software specific and project oriented supplement, and
defines the requirements for the Software Quality Management Activities as related to the Project to be
documented in a Software Project Quality Plan. These activities are based on the supplier’s software quality
system. The publication also requires the evaluation of the software quality management activities to ensure
their effectiveness.

AQAP 2105 Deliverable Quality Plan
(as per QM003-A – Quality Requirements for NATO Contracts)

Where required suppliers shall submit a Deliverable Quality Plan (DQP) in accordance with AQAP 2105 which
describes the framework in which the contract will be accomplished and is subject to approval by LMUK
quality department.

The quality plan is considered as the key document which shall define all relevant standards and procedures
to ensure that work is completed successfully to the required level of quality. The supplier must ensure that
their own personnel are aware of the existence, purpose and content of the quality plan. Form F0389
Deliverable Quality Plan template may be used to meet this requirement.

AQAP 2131 Quality Requirements for Final Inspection
AQAP 2131 does not apply within the scope of this document.
AQAP 2310 Quality Requirements for Aviation, Space and Defence Suppliers
AQAP 2310 is invoked when suppliers hold AS9100 (or equivalent) certification where AQAP 2110 does not apply.

QUALITY PLAN (ISO 10005)
(as per QM003-B – Quality Requirements for NATO Contracts)
Where required suppliers shall submit a (Deliverable) Quality Plan (DQP) in accordance with AQAP standards or as detailed with the contractual requirements which describes the framework in which the contract will be accomplished and is subject to approval by LMUK quality department.

The quality plan is considered as the key document which shall define all relevant standards, procedures and specific customer requirements to ensure conformance to requirements.

The supplier must ensure that their own personnel are aware of the existence, purpose and content of the quality plan. Form F0389 Deliverable Quality Plan template may be used to meet this requirement.

ISO 10007 CONFIGURATION MANAGEMENT PLAN
(as per QM003-B – Quality Requirements for NATO Contracts)
Where required suppliers shall prepare and operate a Configuration Management Plan, which describes the application of configuration management to the contract in accordance with AQAP standards or as detailed with the contractual requirements.
### 16. QM003 Document Changes

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