

# SUPPLIERS QUALITY ASSURANCE REQUIREMENTS

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Issue 6  
Change No: 038548

BMS420100

## Muirhead Aerospace Ltd

Locations:

- Oakfield Road, Penge  
London SE20 8EW
- East Portway Industrial Estate,  
Andover

# SUPPLIER QUALITY ASSURANCE REQUIREMENTS

### APPROVAL

-----  
**Mark Wright**

Quality Manager

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**Mark Pugh**

Materials Manager

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**Graham Payne**

Managing Director

| *shows latest changes*

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## 1. SCOPE

This document details the minimum Quality Management Organisation and System requirements expected by Muirhead Aerospace Ltd of its Suppliers, Sub-Contractors and Stockist Distributors.

The standards defined are mandatory and supplement the quality requirements and conditions of the Muirhead Aerospace purchase order.

In the event of conflict between the requirements of this document and the requirements of the purchase order, the purchase order requirement shall prevail unless otherwise agreed with Muirhead Aerospace Quality or Purchasing representative in writing.

This document is available via the Muirhead Aerospace website <http://www.muirheadaerospace.com/our-company/supplier-management.html> and must be reviewed regularly for issue changes, these reviews must be recorded.

## 2. CONTENTS

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## 3. INTRODUCTION

- 3.1 To maximise effectiveness, Muirhead Aerospace Ltd policy is to co-operate fully with a restricted number of key suppliers. The aim is to assist and encourage them to achieve high levels of performance in quality, cost and delivery leading to **Preferred Supplier** status.
- 3.2 Suppliers are monitored closely, and measures are established, in order to achieve the highest level of performance. This document details those requirements.
- 3.3 Non-conformances will adversely affect Vendor Performance Ratings. Suppliers shall apply this document in full and avoid submitting non-conformances where possible.
- 3.4 **Any deviations** to these requirements should be submitted to MAL in order to assess any effect on Supplier status. Appendix I contains the Concession/Production Permit Application form to be submitted in order to start this process.

## 4. QUALITY SYSTEM

- 4.1 (i) The Supplier will provide and maintain an effective Quality Management / Inspection organisation that is compliant with this document.
- (ii) It is the **supplier responsibility** to inform Muirhead Aerospace of any change to third party accreditation including lapse or withdrawal and to **flow down these requirements to lower tier suppliers including sub-contractors**.
- 4.2 Muirhead Aerospace Ltd accepts national and international standards for Quality Management Organisation and System Requirements as meeting requirements for Approved Supplier Status.
- 4.3 The additional requirements identified in this document are essential except where waived for Preferred Supplier Status.
- 4.4 The Supplier Quality Representative should be directly responsible to a senior executive of the company who is independent of production.
- 4.5 The Supplier shall carry out inspection of all products and services before submitting them to Muirhead Aerospace Ltd and will certify that all such products and services conform to the full requirements of the purchase order.
- 4.6 The supplier shall determine the necessary competence for personnel performing work, inspection and test effecting product quality and also maintain appropriate training and qualification processes in accordance with their Quality Management System.
- 4.7 Where contractually agreed, Process Control must be established for features on the specifications where Key Characteristics are identified. The relevant data must be made available on each delivery.
- 4.8 Documentation and records necessary to demonstrate compliance with the requirements of the purchase order will be maintained and made available for auditing by Muirhead Aerospace Ltd representatives upon request at all reasonable times.
- 4.9 Stockist Distributors shall include the following records as part of their Quality Management System where applicable:-
- (i) Manufacturer, distributor, repair station, test and inspection reports
- (ii) Original certificates of Conformity (manufacturer, sub-tier distributor), copies of airworthiness certificates.
- (iii) Non-Conformance, concession and corrective action records
- (iv) Lot traceability records
- (v) Environmental or shelf life condition records.
- 4.10 All documentation must remain legible and readily identifiable; the use of correction fluid on all forms of documents/records must be avoided.
- 4.11 The Supplier Quality Representative must have access to all purchase order requirements, drawings, specifications and other related documentation necessary to fulfil their duties.
- 4.12 The Supplier shall ensure that the working conditions and environment are controlled as appropriate in respect to cleanliness, temperature, humidity, ventilation, lighting, space, noise, air pollution and protection from Electrostatic Discharge.

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## 5 EVALUATION

- 5.1 Muirhead Aerospace Ltd approved suppliers will be continuously monitored to assess their ongoing suitability by measurement of quality, cost and delivery performance and surveillance audits.
- 5.2 Should a Suppliers performance fall below an acceptable standard, the Supplier will be notified and the following steps will be undertaken by Muirhead Aerospace Ltd:
1. The supplier will be removed from Potential Supplier List for New Projects
  2. Approval may be suspended or withdrawn if performance is not improved within an agreed time-scale.
- 5.3 Notwithstanding the above, the Supplier is responsible for ensuring the conditions of approval granted by Muirhead Aerospace Ltd continue to be satisfied and **to inform Muirhead Aerospace Ltd Quality team of any change.**

## 6 DELEGATED RESPONSIBILITIES

- 6.1 Through the process of approving a Supplier, Muirhead Aerospace Ltd may delegate specific responsibilities to defined personnel at the Suppliers.
- 6.2 These delegations are personal and may not be transferred to any other persons without the prior approval of Muirhead Aerospace Ltd Quality Assurance.
- 6.3 Requests for additional delegations may be submitted to Muirhead Aerospace Ltd Quality Assurance.
- 6.4 Muirhead Aerospace Ltd may also **wish to verify at source**, but this does not negate the responsibility of the supplier.
- 6.5 Muirhead Aerospace Ltd. receives build to print contracts from our customers and may delegate specific customer flow downs to the supplier. These requirements will be held within the product specific agreement and it is the supplier's responsibility to adhere to these additional terms and conditions.

## 7 ACCESS

- 7.1 The Supplier will permit reasonable access to his company premises for Muirhead Aerospace Ltd, Quality, Purchasing and Customers if necessary to :
- (i) discuss the terms and conditions of the Purchase Order with the Quality representative,
  - (ii) conduct periodic audits and assessments of Products, the approved quality system and supporting facilities,
  - (iii) source inspections and delegated responsibility assessments,
  - (iv) agree corrective action plans following a reported non conformance,

The Supplier will also allow full and free access to Regulatory Organisations to perform investigations on Products and Parts.

Records, Specifications and other related documents must be made available to support these activities.

- 7.2 The performance of these duties does not relieve the Supplier of his contractual quality obligations and responsibilities.

## 8 SUB CONTRACTING / SUPPLIER CONTROL

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- 8.1 The Supplier will not change in part, or as a whole, any product, process or service without the written approval of Muirhead Aerospace Ltd. (See section 17.1).
- 8.2 Muirhead Aerospace Ltd reserve the right to evaluate and audit any 2<sup>nd</sup> line sub contractor / supplier. Any such action will not relieve the Supplier of his responsibility to ensure the quality of any product / service obtained.
- 8.3 All relevant Muirhead Aerospace Ltd quality requirements specified in this document must be flowed down to lower tier suppliers.
- 8.4 The Supplier will maintain methods of qualifying and approving suppliers and measuring supplier performance.
- 8.5 The Supplier **shall use NADCAP approved subcontractors** to perform **Special Processes** unless otherwise directed or Approved by Muirhead Aerospace.

Special processes include:-

- Chemical Processing (based on AS7108, AS7108/1 and AS71058/2)
- Coatings (based on AS7109)
- Composites (based on AS7118)
- Elastomer Seals (based AS7115)
- Heat Treating (based on AS7102)
- Materials Testing laboratories (based on AS7101, AC7101/1-9, AC7101/11 and AC7006)
- Non Destructive Testing (based on AS7114)
- Nonconventional machining & Surface Enhancement (based on AS7116 and AS7117)
- Sealants (based on AS7200/1 and AS7202)
- Welding (based on AS7110)

- 8.6 The Supplier will maintain records of all "on receipt" inspections and Approval Certificates covering materials and supplies.
- 8.7 Stockist distributors will be responsible for the quality of all products purchased from manufacturers, and must define the necessary actions to take when dealing with manufacturers that do not meet the requirements. The stockist Distributor shall also prevent the purchase of counterfeit/suspect unapproved product.

## 9 RAW MATERIAL SEGREGATION & PRESERVATION OF PRODUCT

- 9.1 The Supplier will provide secure facilities, preferably a bonded area, to ensure that material is not used until inspected or otherwise verified as conforming to specification. A clear distinction is required between material in quarantine and material accepted for use and waiting issue.
- 9.2 Materials will be controlled in such a manner to prevent loss of batch traceability and incorrect issue throughout the supply chain.
- 9.3 Where material is procured or made specifically for Muirhead Aerospace Ltd orders, positive steps shall be taken to ensure that the designated material and only that material is used on the order.
- 9.4 Materials will be stored and protected in such a manner to prevent damage and deterioration or loss of identification and traceability at all times.
- 9.5 The Supplier shall preserve the conformity of product during internal processing and delivery to the intended destination. Preservation shall include, where applicable:-
  - (i) cleaning,
  - (ii) prevention , detection and removal of foreign objects,
  - (iii) Special handling for sensitive products,
  - (iv) marking/labelling including safety warnings,
  - (v) shelf life control and stock rotation,
  - (vi) Special handling for hazardous materials

## 10 TRACEABILITY

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- 10.1 All **raw material** obtained by the Supplier to meet an order, and all parts incorporated into assemblies which are subsequently supplied to Muirhead Aerospace Ltd **must be traceable to the manufacturing source** and identifiable to the manufactured item.
- 10.2 Traceability must be maintained through all stages of the Suppliers manufacturing process, including the maintenance of inspection and test records.
- 10.3 The Supplier shall maintain the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.
- 10.4 For any given Muirhead Aerospace product, the supplier must maintain the ability to retrieve a sequential record of its production, including manufacture, assembly, inspection and test.
- 10.5 In the event of certain processes being further **sub-contracted**, traceability to the 2<sup>nd</sup> stage control, inspection and / or test records must be maintained and retrievable
- 10.6 The Stockist distributors processes shall include methods for maintaining the manufacturer's identification and batch/lot traceability and the ability to identify and trace products manufactured from the same batch of raw material or from the same manufacturing batch as well as the ability to trace the product to the ultimate destination (delivery, scrap)

## 11 TOOLING, GAUGING & MEASURING EQUIPMENT CONTROL

- 11.1 All Muirhead Aerospace Ltd supplied tooling becomes the responsibility of the supplier whilst in their possession.
- 11.2 The equipment must be maintained in a reasonable condition and subjected to an appropriate calibration process where applicable.
- 11.3 All Muirhead Aerospace Ltd supplied tooling must be returned when requested by Muirhead Aerospace Ltd.
- 11.4 All gauging and measuring equipment shall be identified by a unique code number and a record maintained of the initial and subsequent dimensional and operational inspection examination of such equipment.
- 11.5 All equipment shall be subject to an initial calibration check against a National Standard and subsequent checks will be carried out on each item of equipment, the frequency of which shall be based on objective evidence of stability and continuing accuracy.
- 11.6 Records will be compiled for each item, stating the date and result of each check.
- 11.7 The Supplier shall arrange for measuring equipment which is the personal property of his employees and used on products supplied to Muirhead Aerospace Ltd to be identified and controlled in accordance with these requirements.
- 11.8 Where the calibration status of equipment is not clear, it shall not be used until the calibration has been verified.
- 11.9 The Supplier must ensure that environmental conditions are suitable for all calibrations, inspections, measurements and tests being carried out.
- 11.10 The supplier must ensure that personnel performing inspection activities whether in-line or at final inspection stage have successfully passed a yearly eye examination.

## 12 DESIGN

- 12.1 Design activities shall be in accordance with procedures developed to ensure control and verification of the design and product meets the requirements of the specification and / or Purchase Order.
- 12.2 This requirement applies to all design tasks and products including hardware and software.
- 12.3 Design changes to Muirhead Aerospace products/products are not allowed unless assessment and approval by Muirhead Aerospace Ltd has been completed.

## 13 NON-CONFORMING PRODUCT

- 13.1 The Supplier / Stockist Distributor shall have a system for the control of non-conforming items which must include provision for :
  - (i) Identification of non-conforming material or parts,

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- (ii) Segregation of such material or parts from acceptable items,
- (iii) Documentation defining the nature of the defect and what remedial / corrective action has been authorised and undertaken. The document must clearly state the defective parts by number and serial / batch number,
- (iv) Periodic review of product non-conformity,
- (v) Evidence to demonstrate that appropriate action has been taken to prevent recurrence,
- (vi) Timely reporting (within 24 hours of findings) of delivered non-conforming product that may affect reliability or safety.
- (vii) A recall process that is documented and linked with the control of non-conforming items to ensure the findings are actioned within 24 hours and communicated up and down stream within their supply chain.

13.2 The stockist Distributor shall ensure with the manufacturer where necessary that similar supplies are not similarly affected by a non-conformance and shall inform Muirhead Aerospace Ltd of any non-conformities effecting product already delivered within 24 hours of findings.

13.3 The Stockist will also be responsible for the withdrawal of products from stock that are **suspected** as non-compliant.

## 14 PRODUCTION PERMIT AND CONCESSION APPLICATION

14.1 Muirhead Aerospace Ltd policy is to restrict non-conforming parts and hence discourage the submission of Production Permits and Concession Applications for non-conforming materials.

14.2 Such submissions may be rejected and any accepted will have an adverse effect on Vendor Rating.

14.3 Where necessary, requests for permission to deviate from the purchase order, drawing or specification requirements in advance of manufacture (Production Permit) and requests to use or release items which do not conform to order, drawing or specification (Concession) are to be made in writing, and authority given by Muirhead Aerospace Ltd Quality Team or Purchasing representative prior to manufacture or delivery. The Concession/Production Permit application Form (Appendix I) is to be used.

14.4 The Concession Number must be quoted on the release documentation, and where identified, the part marked after the method has been agreed with Muirhead Aerospace Ltd. Failure to observe these requirements will result in rejection.

## 15 REJECTION AND RESUBMISSION

15.1 Products that do not conform to the requirements of Muirhead Aerospace Ltd purchase order, or of this document, are liable for rejection by Muirhead Aerospace Ltd. The Supplier will be notified by the means of a formal Reject Note and Supplier Corrective Action Report (SCAR).

15.2 The Supplier will investigate the cause of non-conformance and **instigate corrective action to prevent a recurrence.**

15.3 Non conforming products will be reworked or replaced at Suppliers liability (unless otherwise agreed), re-certified and resubmitted.

15.4 When returning materials previously rejected by Muirhead Aerospace Ltd, the Supplier will:

- (i). **Quote the relevant Muirhead Aerospace Ltd Reject Note / SCAR number on the release documentation**
- (ii) Complete and return a copy of the SCAR indicating the cause of non conformance and the corrective action that has been taken.

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- 15.5 The Supplier corrective Action Report (SCAR) must be **completed within 21 days** of receipt. Failure to do so may result in the Supplier being removed from the Muirhead Aerospace Approved Suppliers List.
- 15.6 Non conforming products retained by Muirhead Aerospace Ltd because of manufacturing constraints will be notified to the Supplier via the SCAR system.
- 15.7 Any defects found to have originated within Muirhead Aerospace Ltd should be recorded on the SCAR.
- 15.8 Any repair or salvage action proposed, not covered by the manufacturing drawing proposed, must be approved by Muirhead Aerospace Ltd prior to resubmission.
- 15.9 The Stockist distributor has no authority to repair or rework a product. Corrective Action requirements **must be flowed down to the manufacturer** when it is determined that the manufacturer is responsible for the root cause.

## 16 QUALITY PLANS

- 16.1 Where Muirhead Aerospace Ltd is contractually required to prepare and issue a Quality Plan for the product, the Supplier shall supply such information on the quality systems and procedures operating throughout his company, as requested. Confidentiality of commercial processes is however recognised by Muirhead Aerospace Ltd.
- 16.2 Where a Quality Plan document is required from the Supplier, this will be requested in writing and the document must be submitted for approval by Muirhead Aerospace Ltd Quality Assurance within the time period agreed and prior to any commencement of work.

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## 17 CHANGE MANAGEMENT & FIRST ARTICLE INSPECTION

- 17.1 The supplier shall notify Muirhead Aerospace Ltd for **approval of all changes to manufacturing processes and changes of raw material source**. Requests can be submitted on the Concession/production Permit Application form – Appendix I.
- 17.2 The stockist Distributor shall ensure with the manufacturer that any changes to supplies including design changes for catalogue / standard parts are notified to Muirhead Aerospace Ltd.
- 17.3 Suppliers are required to carry out **First Article Inspections**, and supply the data in the following circumstances:
- (i) Initial First Article Submission (including drawing issue changes),
  - (ii) Change in manufacturing source, which includes change in suppliers and suppliers moving product between sites within their organisation,
  - (iii) Change in manufacturing method, including changes to manufacturing processes, production equipment, tools and programmes,
  - (iv) Changes to the material specified on the engineering drawing, including alternative and replacement materials,
  - (v) Change to the design of proprietary equipment,
  - (vi) Corrective action for a part which has been rejected more than one time,
  - (vii) A lapse in production for 2 years,

Forms for completing First Article Inspection are available via the Muirhead Aerospace website <http://www.muirheadaerospace.com/our-company/supplier-management.html>

## 18 CERTIFICATION & RELEASE

- 18.1 All supplies and services must be released to BMS420100 and either ISO9001 or ISO9100 whichever the highest.
- 18.2 All supplies and services will be accompanied by a Release Note / Certificate of Conformity, duly signed by an authorised signatory.

The Release Note / Certificate of Conformity must carry the following information:

- (i) Unique Document Identity (through which traceability to original materials, manufacturing sources and records can be achieved)
- (ii) Document Issue date,
- (iii) Muirhead Aerospace Ltd Order and Line Item Numbers,
- (iv) Description of Product / Service supplied,
- (v) Part No. and / or Drawing No., and Issue,
- (vi) Quantity Supplied,
- (vii) Batch / Serial No.
- (viii) Material Specification (if applicable, see note 20.3) and Batch Identity,
- (ix) Inspection Report,
- (x) Concession / Permit Number (if applicable),
- (xi) Reject Note number (for replacements if applicable)
- (xii) Shelf life (if applicable, see note 19.1)
- (xiii) Signed certified statement of conformance,
- (xiv) Any applicable supporting documents,
- (xv) Quality Management System applied e.g. ISO9100, ISO 9001, Part 21 etc.

## 19 SHELF LIFE

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- 19.1 The supplier / Stockist will ensure that if a supply has a limited shelf life it would have at least 75% remaining of the manufacturer recommendation. The delivery note and release note must include expiry date and storage condition.

## 20 DELIVERY

- 20.1 The Supplier will ensure that **all parts are delivered correctly identified**, as required by the drawing and the Purchase Order.
- 20.2 Deliveries shall be **correctly packaged** to prevent damage, deterioration, corrosion and other risks during transportation.
- 20.3 All part numbers which are not classified as "catalogue parts" and thus not identified with our 8 digits code must include a raw material (MIL) certificate including sub-tier vendors
- 20.4 Certification and documentation requirements must accompany each delivery as appropriate.
- 20.5 Failure to meet these requirements will result in a Reject Note and a SCAR raised to prevent a recurrence. Reject Notes will adversely affect the Vendor Performance Rating.

## 21 RECORD RETENTION

- 21.1 The Supplier will retain all **manufacturing, purchasing and quality records** associated with Muirhead Aerospace Ltd orders for a **minimum of 40 years** after completion of the order (or at such time that the company ceases to trade).
- 21.2 **No records will be disposed of** without written authority from Muirhead Aerospace Ltd Quality Assurance.
- 21.3 Instructions for disposal may provide for all records to be returned to Muirhead Aerospace Ltd for archiving with written agreement, in which case the records are to be collated together and fully identifiable to the appropriate Muirhead Aerospace Ltd Purchase Order.

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## APPENDIX I

### CONCESSION/PRODUCTION PERMIT APPLICATION

<b>SUPPLIER NAME:</b>			
Part No:	Issue:	Description:	
Muirhead P/O No:	QTY	Supplier Job No.	Muirhead Contact:
Details/Comments:			
Corrective action (if applicable):			

#### Submitted by

Name:	Title:	Signature:	Date:
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### MUIRHEAD AEROSPACE

#### Application Accepted

<b>Concession/Permit No:</b>	Please record this number on all relevant documentation, e.g. Certificates of Conformity, First Article Inspection reports.		
Name:	Title:	Signature:	Date:

#### Application Rejected

Reason for rejection:			
Name:	Title:	Signature:	Date: