

# SUPPLIER QUALITY ASSURANCE REQUIREMENTS APP05 Issue 13

(Supplementary to MPRC-10 Meggitt Group Supplier Quality Requirements)



Civil aircraft



Helicopters



Military aircraft



UAS

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## SUPPLIER QUALITY ASSURANCE REQUIREMENTS

ISSUE	DATE	ORIGINATOR	REASON FOR CHANGE
1	Jan 95	I. Scott	Initial Issue
2	June 97	N. Hatch	Rewritten completely to include ISO requirements
3	Mar 99	J. Nash	Rewritten completely to address CAA and customer requirements
4	Mar 00	R.Wallace	Revised and rewritten
5	July 02	N.Pelletier	Revised and rewritten
6	Feb 05	P Higham	Revised and rewritten to cover the changes required for ISO 9001:2000, AS9100, EASA and FAA regulations.
7	Aug 05	P Higham	Addition of Supplier source change
8	April 06	N. Pelletier	Shelf life para 9.9.1.4  Annex A Procurement of raw materials  Annex C deviation application form update.
9	Feb 09	N. Pelletier	Update to section 9.7.7 FAI.  Update to section 12 Non-conforming product. and Annex D, E, F, G.  Update to section 14.2 Control of quality records.  Update to Procurement of raw material, Annex A.  Update to Procurement of standard and proprietary parts, Annex B.  Update to section 11. Design  Update to section 10.2.3 Mandatory Occurrence Reporting  Update to section 8.1 Management Responsibility  Update to section 9.1 Review and Planning
10	Aug 11	N. Pelletier	Addition of 9.1.3.1 approved alternative list  Update to 9.11.2 release documentation  Update to 12.1.2 deviation applications email address  Annex C update to reflect the latest version of deviation form CAS 303  Annex G update to reflect the latest version of RFC form CAS 108

11	Oct 12	N Pelletier & J Taylor - Trade Compliance Requirements	<p>Inclusion of Trade Compliance requirements, throughout document.</p> <p>Adjustment to all paragraph numbering</p> <p>Removal of CAS forms from annexes (all available from website)</p> <p>Para 6.2 Reference to CAS 1619 Supplier Classification Request</p> <p>Para 9.2 Confidentiality and ethical responsibility</p> <p>10.4.1 Para 10.7.4 CAS 1756 Supplier FAI completeness checklist. AS9102 Form 1 CAS 1620, Form 2 CAS 1621 and Form 3 CAS 1622. (all updated)</p> <p>Para 10.8.3 traceability and counterfeit reporting.</p> <p>Para 13.1.6 reworded and 13.1.7 underlined, details regarding deviations and changes.</p> <p>14.1 Corrective actions, new 4 part rejection notice including containment CAS 1841</p> <p>14.6 8D corrective action report CAS 1743</p> <p>Annex A, Reference to MAV drawing/specification for identification of test pieces, and removal of periodic validation of raw material</p> <p>Annex B, Removal of MAV drawing reference for standard and proprietary parts. Addition of Procurement of Rohs compliant components and tin whisker mitigation PS0758. Counterfeit controls with reference to QCI 220</p>
12	Nov 17	N Pelletier	<p>Document revised to remove content already covered in MPRC10, only Meggitt Avionics site specific requirements are detailed to supplement MPRC10, numbering in line with AS9100 rev D.</p>
13	Oct 20	N Pelletier	<p>Updated to align to revised MPRC-10 numbering, removal of QCI 220 MAV counterfeit instruction and addition of MQA 11, group counterfeit controls.</p>

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## 1. PURPOSE

This document is supplementary to the Meggitt Group Supplier Quality Requirements Document MPRC-10, it identifies the additional specific quality assurance and trade compliance requirements for suppliers of goods and services to Meggitt UK (MAv), Fareham, Hampshire. The primary objective of this document is to ensure that specified product and service requirements are met which support customer expectations and maintain customer satisfaction at the highest levels possible.

### 1.1 Scope

As per MPRC-10 plus:

For Meggitt Avionics, suppliers shall submit Deviation Application (CAS 303) Document rather than MFT-31, refer to APP05 section 8.7.1

### 1.2 Applicability

As per MPRC-10 plus:

The latest version of this document is available at. <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/>

### 1.3 Document format

As per MPRC-10

### 1.4 Access

As per MPRC-10

### 1.5 Supplier Policy Compliance Requirements

As per MPRC-10

### 1.6 Trade compliance

As per MPRC-10 plus:

All suppliers are required to provide MAv with current export classification information (using form CAS1619) and any updates to the export control classification of the product being supplied.

Organisations supplying ITAR controlled components are responsible for providing MAv with copies of the appropriate licences and the flow down any provisos identified on the licences.

Appropriate access controls (such as restrictions to work areas or data) shall be put in place by the supplier to ensure compliance with any ITAR requirements identified where applicable.

### 1.7 Health, safety and environmental

As per MPRC-10

## 1.8 Terms and Definitions

As per MPRC-10

## 1.9 Forms and form templates

As per MPRC-10 plus:

Forms and form templates referenced in this document are available from the Meggitt Avionics website. <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/>

## 1.10 Reference Documents

As per MPRC-10 plus

EASA-21	Certification Procedures for Aircraft and Related Products and Parts.
EASA-145	Approved Maintenance Organisations
FAR- 145	Approved Maintenance Organisations
RTCA/DO-178B/C	Airborne Systems Software Certification
RTCA/DO-254	Airborne Systems Hardware Certification
BS ISO 2230:2002	Rubber Products, Guidelines for Storage
BS EN 100015	Protection of Electrostatic Sensitive Devices
BS 6001	Sampling Procedure for Inspection
AQAP 2110	NATO Quality Assurance Requirements for Design, Development and Production.
IPC/JEDEC	J-STD-033 Handling Packaging Shipping and use of Moisture/Reflow Sensitive Surface Mount Devices
SAE AS5553	Counterfeit Electronic Parts; Avoidance, Detection, Mitigation and Disposition
SAE AS6174	Counterfeit Materiel; Assuring Acquisition of Authentic and Conforming Materiel
PS0758	Lead Free Control and Tin Whisker Mitigation Plan
MPRC 10	Meggitt Group Supplier Quality Requirements
MQA 11	Prevention of Counterfeit Parts and Suspect Unapproved Parts

## 2. SUPPLIER APPROVAL

As per MPRC-10 plus:

The requirements specified in this document apply to all 'controlled suppliers' listed on the MAV Controlled Suppliers List. This list is maintained by MAV QA, a 'controlled supplier' will have, 'Release in accordance with APP05 and MPRC10 (at the current revision level)' stated on the quality assurance conditions section of purchase orders placed by MAV.

The requirements are applicable to all suppliers where a MAV Purchase Order has been placed to the extent stated on the Purchase Order. In the event of any conflict between the requirements of the Purchase Order and this document, the Purchase Order has precedence.

Organisations holding ISO 9001 (AS EN 9100) series and Aviation Authority approvals must be able to demonstrate quality management systems that are compliant with the relevant approval requirements. Where no such approvals exist, the supplier will be required to demonstrate compliance with the relevant requirements outlined within this document.

MAv will only enter into a contract for supply of products and services with those suppliers which demonstrate a capability to produce or supply products and services to MAv at the quality, cost, and delivery required.

MAv are committed to continuous improvement of business processes and performance and require that its suppliers demonstrate a continuous improvement process and adequate control over the key processes used in the supply of goods or services to MAv.

## 2.1 **Supplier Surveillance**

As per MPRC10

## 2.2 **Changes to the Suppliers Organisation**

As per MPRC10

## 2.3 **Supplier Classification**

As per MPRC10

## 3. **AS/EN/JISQ9100:2016 AND ISO9001:2015 CERTIFICATION**

As per MPRC10 Plus

Suppliers that have not been certified to ISO 9001:2015 are expected to have a quality management system that meets the requirements of this standard where it relates to the product being supplied to MAv.

## 4. **QUALITY MANAGEMENT SYSTEM (QMS)**

As per MPRC10

## 5. **LEADERSHIP**

As per MPRC10 Plus

Has confidentiality and ethical responsibility to ensure that information received from MAv remains confidential and is never disclosed to any third party without the prior written agreement of MAv. Proprietary information can include, but is not restricted to all versions of electronic data, drawings and documentation, tooling and materials. Under no circumstance is the supplier to make a direct approach to MAvs customers in relation to agreed business dealings.



## 6. PLANNING

As per MPRC10

## 7. SUPPORT

As per MPRC10 plus

### (7.5.3) Control of Records

Records shall be retained for a minimum of 11 years, although records associated with product design and certification must be held for the flying life of the aircraft plus 2 years. No Records pertaining to MAV proprietary products shall be destroyed without permission from MAV Quality Department.

## 8. OPERATION

As per MPRC10 plus

### (8.2.3) Review of Requirements Related to the Product

If at any stage in the contract review or fulfilment of the contract there is ambiguity in the instructions, data, drawings or terms and conditions provided by MAV the supplier will raise these in writing with MAV purchasing department for resolution. **Verbal instructions from MAV must not under any circumstances be accepted by the supplier or its subcontractors, particularly, where such instructions affect any aspect of the purchase order or drawing requirements.**

When product requirements are changed by MAV, the supplier must ensure the change is formally reviewed and that relevant documents are amended and that relevant personnel are made aware of the change in requirements.

Many MAV drawings refer to specifications, standards and processes, these are regularly updated and may be superseded or become redundant / obsolete. The task of identifying these changes and amending the drawings to reflect the updates are time consuming and for many Legacy products not cost effective. In order to expedite these changes MAV has issued a document, Data Sheet 124 "Approved Alternatives List" that identifies redundant / superseded specifications, standards, processes and details the equivalent / replacement that may be used to meet production requirements. The document is available from <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/>

### (8.3.2) Design and Development Planning

Where product contains user loadable or embedded software / firmware including software embedded within electronic hardware devices, i.e. ASICs, the BMS shall include procedures and instructions which satisfy the agreed airworthiness requirements i.e. RTCA/DO-178B/C, for software design, development, delivery and support.

Advice and assistance can be obtained from MAV Quality Assurance on such requirements.

## (8.4) Control of Externally Provided Processes, Products, and Services

Suppliers shall where ever possible purchase items in support of MAV orders from a source certified by a recognised certification body (e.g. UKAS accredited) to an appropriate ISO standard. The supplier is responsible for all sub-tier procurement unless otherwise advised by MAV. An approved certificate of conformity or equivalent Aviation Authority certificate, providing traceability to the sub-tier supplier's batch, material etc. shall be obtained.

When changing a supplier of parts manufactured to a MAV drawing, MAV are to be informed and the change must be risk assessed and managed to ensure continuity of quality and delivery. The supplier will advise MAV purchasing department of the proposed change and give MAV the opportunity to review the proposal before implementation.

Specific purchasing conditions are shown at 'Annex A' for manufacturing sub-contractors who purchase raw material, and for stockists, distributors and proprietary part manufacturers at 'Annex B'.

Where specific requirements are in place with MAV to have procured product verified, it shall be held prior to commencement of manufacture until the appropriate verification activity has been completed by MAV or their designated agents.

If the supplier wishes to proceed with production of procured items which do not have the required accompanying certification or verification results, build is at the supplier risk and a robust containment control process must be in place so that release of the completed product/assembly cannot occur without the receipt of outstanding certification / verification results from the sub tier source.

### (8.5.1.7) Production Process Verification

An FAI Report shall provide evidence that the component complies 100% with the requirements of the drawing or test/process schedule, or other requirements as specified by the purchase order. A FAI Report should be compiled ensuring completion of all elements detailed on the Supplier FAI Completeness Checklist, CAS 1756 from the MAV website. This checklist shall accompany all FAIs submitted to MAV, AS9102 forms are also available from <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/>, First Article Form 1 CAS 1620, Form 2 CAS 1621 and Form 3 CAS 1622.

### (8.5.2) Identification and Traceability

If there is a break in traceability or if any counterfeit materiel is identified/suspected, this should immediately be reported to MAV.

## (8.6) Release of Products and Services

Release documentation must state any export control destination control statements and export licence numbers and should be accompanied by a copy of the export licence where applicable.

### (8.7.1) Control of Nonconforming Outputs

MAv Proprietary Parts – Deviation Applications (Concessions & RFC Production Permits)

Non-conforming parts shall be submitted on a MAv Deviation Application form (CAS303), obtainable from <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/> or MAv Purchasing Contact. Deviation Applications shall be emailed to MAV-DeviationApplications@meggitt.com

Only one part number can be submitted on each Deviation Application.

Classification of Deviation Applications:

- Deviation Application (CAS 303) – Permit (prior to the event), Concession (after the event)

A document detailing deviation from drawing requirements which is isolated to a specified quantity or time period and would not lead to a permanent drawing change.

- RFC Production Permit (CAS 108)

A document detailing deviation from drawing requirements which may occur until a permanent drawing change is implemented.

Approval / Rejection of Deviation Applications:

Formal notification of approval or rejection of deviation applications shall be emailed to the supplier via Purchasing. If the deviation is classified by MAv as a "concession or permit", CAS 303 shall be serialised and returned to the supplier confirming approval or rejection. If the deviation application is classified as a "RFC Production Permit" (permanent change), a CAS 108 Request For Change document shall be returned to the supplier which will be identified with a unique RFC number.

**If the deviation is approved, the associated parts shall be clearly identified with the deviation number by recording this on release documentation (C of C) delivered to MAv.**

**PCB assemblies shall be clearly labelled with the applicable deviation number / RFC permit number(s) applied as close to the part number label as possible.**

#### Salvage

Parts shall not be salvaged or re-claimed by plating, welding, plugging, electronic components etc. unless authorised by an appropriate repair scheme, approved by MAv Production Engineering.

#### Supplier Proprietary Parts - Deviation Applications (Concessions & RFC Production Permits)

Unless contractually specified only major deviations which affect Form, Fit or Function shall be submitted to MAv for acceptance.

## Meggitt Returned Product

**The Fault Report/Rejection Notice (CAS 1841) shall be completed by the supplier and returned with the repaired item** copied to MAV Quality Assurance department within thirty (30) days, or an agreed mutually acceptable date before the expiry of the thirty days.

If repeat rejections for the same failure type occur, MAV QA may request that the supplier complete an 8D corrective action report. The 8D report (CAS 1743 obtainable from <https://www.meggitt-avionics.co.uk/about-us/quality-approvals/>) has accompanying guidance instructions although problem solving training can be provided by MAV as required. Timescales for the completion of the 8D at interim stage should be managed by the supplier and progress regularly fed back to MAV until completion.

## 9. **PERFORMANCE EVALUATION**

As per MPRC10

## 10. **IMPROVEMENT**

As per MPRC10

## 11. **REFERENCE DOCUMENTS**

As per MPRC10

## ANNEX A

**PROCUREMENT OF RAW MATERIAL**Purchase Orders for Raw Material

Bar, sheet and tube must be ordered with the required metallurgical (including heat-treated state) condition of the material clearly stated. Orders for forgings and castings must state the requirements of the drawing and related specifications where applicable.

Where material for parts requiring "in stage" heat treatment is ordered, provision for heat treatment test pieces must be allowed for in accordance with the relevant heat treatment specification or drawing.

Sources of Supply

Raw materials may only be purchased from recognised sources of supply for aerospace applications holding approval to ISO 9001.

Sources of supply shall provide a copy of the Mill mechanical test and chemical analysis report.

Material Reports

Copies of mechanical test and chemical analysis reports relating to the melt reference allocated by the Mill shall be obtained and the constituent elements and mechanical performance checked for compliance against the material specification.

**Note: Where the sub-contractor processes raw materials, copies of the material's mechanical/chemical test and analysis reports and the supplier's release certificate shall be retained and forwarded to MAV when requested, with the completed parts.**

Suppliers shall not place purchase orders for forgings and castings on any source unless advised by MAV that all sample proof inspections have been completed and are satisfactory.

## Test Pieces

The applicable MAV drawing/specification shall identify the requirement for test pieces and the required mechanical and chemical tests. In addition the supplier may highlight the need for tests which shall be in accordance with the following criteria.

Test pieces must be identified with the following:

- Unique Material Batch number
- Material Specification and condition
- Test piece number
- Heat / melt number

Test piece records must be held which include the following information:

- Test Piece number
- Component Part number and description
- Incoming Release note number
- Goods received number
- Material Specification size and condition
- Batch quantity
- Routing / shop traveller serial number
- Grain flow or principle axis orientation

Test pieces and component parts will be processed by sub-contractors with a UKAS accredited quality certification. After processing, test pieces shall be examined and tested by a UKAS approved test house.

A record of the results will be retained by both the sub-contractor and his sub-tier process sub-contractor.

All test piece failures are to be referred to MAV QA for investigation. Confirmation of test piece results together with the test certificate number shall be recorded on the manufacturing documentation.

ANNEX B

PROCUREMENT OF STANDARD AND PROPRIETARY PARTS

Procurement

All standard and proprietary parts shall be supplied in accordance with the requirements of the MAV purchase order and shall comply with published specifications.

If RoHS compliant variants of electronic components are the only sources currently available, MAV will assess their suitability via a formal deviation application (para 8.7.1). Acceptance of RoHS compliant components shall be considered if the terminations are re-finished in accordance with MAV document PS0758 tin whisker mitigation, which will be provided as required.

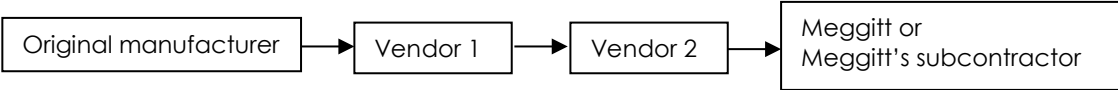
MAV designs require genuine parts to deliver equipment performance, reliability and safety. A counterfeit parts quality control instruction (MQA-11 obtainable from the MAV website) is in place to outline what processes MAV and a supplier to MAV must be compliant with in order to mitigate risk and detail disposition and reporting of counterfeit parts. MAV will contact all suppliers who need to formally acknowledge and demonstrate compliance with this requirement.

Traceability

Vendors are responsible for ensuring that standard parts are demonstrably traceable to the original source of manufacture.

Parts supplied direct from the original manufacturer shall be accompanied by the manufacturer's certificate of conformity.

Parts may be procured from a source which has no more than one other vendor between themselves and the original manufacturer with the vendor's certificate of conformity making direct reference to the original manufacturer's batch number. For example:



In exceptional circumstances (such as obsolescence) MAV will consider acceptance of components which can be sourced without a trail of traceability providing that the original manufacturer has verified that the parts are genuine and fully meet the applicable specification.

Components can be sourced with a broken trail of traceability providing that they are verified by an independent UKAS accredited test house as meeting the applicable specification. Deviation approval is required for untraceable items which have been counterfeit tested in accordance with para 8.7.1.

Life and storage of:

**PCB bare boards** shall be vacuum packed with desiccant and indicator and shall be no older than 2 years unless otherwise agreed.

**Electronic components** shall be stored in accordance with J-STD-033 (current issue) and shall have a clearly visible date code. Solderability can degrade on components that are 2 or more years old, therefore a suitable level of in-process verification or refinishing (as necessary for obsolete parts) should be considered to minimise risk of a poor solder joint.