PARKER MEGGITT FAREHAM PROCEDURE

Supplier Quality Requirements Document

Company Confidential

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REVISION RECORD SHEET

Revision	Date	Description	Updated by
01	29/11/2023	Initial issue	I Sawyer
02	10/01/2025	ECR3613. Update section 7.2.1 eye examination fro 2years to 1 year and update section 7.5.3.2 rention of some documentation from 2 to 10 years.	I Sawyer

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1 PURPOSE

The purpose of this procedure is to establish and document the

P-M (Parker Meggitt) supplier quality and delivery performance is fundamental to ensuring that P-M continues to meet and exceed the increasing demands of the highly competitive Aviation, Space and Defence (ASD) global marketplace. In support of this, P-M expects its suppliers to maintain an effective Aerospace Quality Management System (AQMS), considered as the cornerstone for delivering the highest levels of customer service in the supply of articles, services and processes.

P-M is committed to working with its suppliers to drive continuous improvement on quality, delivery and cost performance through improved processing and organisational efficiency.

P-M support the certification of suppliers to the highest levels and consider certifications as a key asset during any supplier selection process. A lack of such certifications will invoke a raised level of surveillance of the supplier based on a higher level of perceived risk. The list below indicates the primary criteria which P-M use to ascertain a suppliers risk profile.

- The certification held by suppliers
- Acceptance of P-M Terms and conditions (inc. this document)
- Quality and delivery performance

The requirements defined by this document are an integral part of the binding contract between suppliers and P-M and will be referenced in all P-M contracts and purchase orders.

P-M is one of the world's leading Aviation, Space & Defence (ASD) manufacturers, which:

- Design, manufacture and support Aircraft and associated articles for various Civil and Military customers.
- Is legally bound to demonstrate to Regulatory Authorities that they have the capability to design, manufacture and support articles to the maximum safety level (Airworthiness) and maintain the effective Airworthiness of the articles.

1.1 Scope

Requirements specified in this document are complementary (not alternative) to the current AS/EN/JISQ9100:2016 series of standards for Aviation, Space and Defence suppliers (for non-aviation, space and defence suppliers ISO9001:2015 shall apply) and contractual/applicable law and regulatory requirements.

This document also contains:

- Supplier requirements for P-M recognition of certification, as issued by an accredited Certification Body (CB), in accordance with International Aerospace Quality Group (IAQG) requirements.
- P-M expectations for all of its Suppliers today and in the future.

Allowance to deviate from the P-M requirements within this document is at the sole discretion of P-M and will have to be agreed with the relevant P-M Supplier Quality Assurance point of contact.

Deviation requests by the supplier shall be completed using CAS 303. The supplier shall use this document to identify all deviations and mitigation activity which has been/will be implemented.

P-M also requires, where applicable, Suppliers to conform to P-M “key customers of interest” requirements as requested via contract or Purchase Order flow down.

1.2 Applicability

This P-M Supplier Quality Requirements Document (SQRD) is applicable to all suppliers who furnish product, material, processes or services that contribute to product quality for P-M Fareham.

The quality system requirements specified herein are intended to form part of P-M contract requirements, and are in addition to all (contractual or other) requirements which may need to be complied with by the supplier, including any legal, regulatory or administrative requirements. For the purposes of this document, a contract exists when the supplier accepts an obligation to supply products or services to P-M Fareham, whether under a purchase order, long term agreement or otherwise.

The acceptance by the supplier of a contract stipulating application of this document (total or partial) indicates acceptance of the content of this document. It is a requirement for the supplier to communicate and flow down these requirements to its sub tier sources. The supplier shall be able to provide the relevant evidence of such communication upon request by P-M.

It is the suppliers’ responsibility to ensure it implements any revisions of this document and its content within its own organisation. The latest version of this document is available via https://www.meggitt.com/commercial.

1.3 Document Format

To facilitate its use, this document is structured according to the chapters of ISO9001:2015 Quality Management Standard and the AS/EN/JISQ9100:2016 Aerospace Quality Management Standard (chapters 4-10). Additional P-M requirements are highlighted in bold italic text throughout sections 5-10.

P-M requires compliance for all sections and sub-sections within this document, including the corresponding section or sub-section of the relevant AS/EN/JISQ91XX standard (the minimum requirement for non-Aviation, Space and Defence suppliers is compliance with ISO9001:2015).

Where the supplier organisation is a combination of ASD Manufacturer, Maintenance and/or Distributor the relevant clauses of each AS/EN/JISQ91XX documents apply

The statement which identifies this as a requirement is as follows:

"The requirements of AS/EN/JISQ91XX identified in clause 3.1 "Table 1" apply for ASD products, for other industries ISO9001:2015 is applicable"

1.4 Access

P-M shall have the right of access to any supplier involved with P-M product. This shall include access to any applicable documentation. The supplier shall provide P-M customers (or the customers' authorised representatives) and/or Regulatory Authorities rights of access to premises where P-M work is being performed. Such access shall be used to verify that the quality activities being undertaken meet the requirements of the P-M contract.

Where a supplier is approved to the AS/EN/JISQ91XX series of standards, then the suppliers Online Aerospace Supplier Information System (OASIS) database administrator shall grant P-M access rights to certification and assessment results

1.5 Supplier Policy Compliance Requirements

In order to supply P-M with products or services all suppliers shall be able to demonstrate compliance to industry-wide acknowledged policies. A list of common industry-wide policies is demonstrated below; this is not a limited list:

- Anti-Bribery Act / Code of Ethics
- Anti-Fraud
- Conflict Minerals
- Counterfeit Avoidance
- Cyber Security
- Modern Slavery
- Substance Abuse
- Whistle-blower Policy

1.6 Trade Compliance

The supplier shall not release any materials, equipment, hardware/technical data or drawings supplied by P-M to any other party (national or international, including sister companies or associated businesses) without the prior written approval of from the applicable P-M site(s).

The supplier shall not purchase materials, components, parts or processes from countries/regions prohibited under applicable National/International export control regulations for use in P-M product.

The supplier shall provide "Origin of Goods" statements during the RFP/RFQ processes to the procurement lead at the applicable P-M site(s).

The supplier shall not, without prior written approval from P-M, change the source for a controlled product or service (national or international, including sister companies or associated businesses).

All technical documents provided to P-M shall have the relevant export control classification information and destination control statements added to them before they are released from the supplier.

Materials supplied from anywhere in the world may be subject to USA, UK or other local, regional and international trade regulations. All P-M sites are subject to these regulations. When required, appropriate licenses, permits and permissions shall be obtained for the export from, and import to, any P-M facility. The supplier is responsible for obtaining required authorisations for the export from, and import to, the supplier's facilities; and shall liaise with the applicable P-M Site(s) to ensure all required authorisations are obtained. The Supplier shall provide any information required to obtain these authorisations upon request.

The following classification information is required to assist in technology controls, license determinations and the import / export of products and technology. Each party will provide the following information for their products and technology as well as any tooling / test equipment, firmware and software that will transfer as a result of a P-M purchase order and/or contract:

- Tariff/Commodity Code
- Export Control Number
- Country of Origin

For International shipments a copy of the commercial invoice in accordance with the requirements of 8.6 shall be submitted to the importing P-M facility before delivery occurs.

On an annual basis or when requested by the P-M site Buyer, the supplier is required to provide re-certification to products supplied to P-M, by completing MFT-120 Supplier Trade Compliance Classification Request and returning to your P-M Buyer.

Where new products are sourced throughout the year, the supplier is required to complete MFT-122 Supplier Trade Compliance Classification Questionnaire prior to shipment of goods to P-M.

Where required by P-M the supplier shall ensure that:

- Hold a Current P-M Annual Certificate of compliance
- Submit Confirmation of DDTC registration to applicable P-M Site(s)(applicable to U.S suppliers manufacturing ITAR materials)

1.7 Health, Safety and the Environment

The supplier shall be committed to providing a safe and healthy work environment to minimise accidents and injuries.

The supplier should respect the environment and work to minimise waste, prevent pollution and conserve energy. The supplier is required to comply with all applicable permits and authorisations, including material and waste handling. The supplier is required to meet the requirements of international, national and regional

legislation that are applicable to the Health and Safety of the product, processing and waste from such activities. This legislation includes, but is not limited to, RoHS, REACH and WEEE compliance where applicable. Registration to ISO14001, and OHSAS18001 or ISO45001 is strongly encouraged.

REACH Candidate Lists and Substances Subject to Authorisation

- Suppliers must provide Candidate List substance declarations to P-M upon first supply of articles (product) containing REACH substances >0.1% w/w.
- Suppliers must provide relevant supply continuity information concerning REACH Annex XIV Substances Subject to Authorisation & those listed on any Recommendation for Annex XIV upon request. For further information please contact your P-M site.

1.8 Terms & Definitions

Suppliers of products/services used by P-M in Non-Aviation, Space & Defence applications are referred as “Industrial” suppliers later in this document, these suppliers are required to meet the terms defined in the ISO9001:2015 standard as a minimum.

ASD Supplier

- Supplier/subcontractor of components/assemblies or services for use within an Aviation, Space & Defence application.

Industrial Supplier

- Supplier/subcontractor of components/assemblies or services for use within a Non-Aviation, Space & Defence application.

1.9 Forms and Form Templates

Forms and form templates referenced in t/his document are available from https://www.meggitt-avionics.co.uk/about-us/quality-approvals/

1.10 Reference Documents

It is the responsibility of the supplier to ensure that they are working to the latest version of specified standards referenced within this document as well as contract requirements.

It is the responsibility of the supplier to obtain copies of non P-M documents i.e. Industry standards referred to in section 11.1 below.

Requests for P-M or P-M customer specific specifications that are needed shall be requested from the applicable P-M procurement department.

P-M suppliers shall review and comply with this document AND any additional part specific or customer requirements as indicated on the Purchase Order and/or relevant Drawing/Specification/Quality Plan.

A list of referenced P-M Key Customer Requirement Documents can be found in Section 11.2 below.

2 SUPPLIER APPROVAL

Dependent upon the supplier's business sector and classification, the supplier shall comply with the requirements of the standard(s) listed in the table in section 3. Additional requirements may apply, and exceptions may be considered at the discretion of P-M and agreed on completion of MFT-31.

Approved suppliers and sub-tier suppliers shall establish, document and maintain a Quality Management System (QMS) that is independently assessed and certified. P-M shall only accept Certification Bodies which conform to ISO/IEC 17021 and/or are approved by IAF MLA signatory accreditation organizations such as ANAB, UKAS etc.

Note: Although recommended, certification to AS/EN/JISQ9100, AS/EN/JISQ9110, AS/EN/JISQ9115 or AS/EN/JISQ9120 is not mandated. Where no such approvals exist, the supplier will be required to demonstrate compliance with the relevant requirements outlined within this document.

2.1 Supplier Surveillance

P-M shall maintain a supplier scorecard for all key suppliers. Dependant on supplier performance and risk to P-M, suppliers may be subject to continual surveillance.

P-M surveillance of suppliers shall include as appropriate, onsite audits, assessments or inspections as deemed necessary.

P-M may revoke the approval granted to a supplier (thus removing them from any Approved Supplier List) or place conditions on a supplier's approval(s) if the supplier violates the requirements of this document or fails to provide acceptable quality/delivery performance to any P-M Fareham.

Where required the supplier shall implement an improvement plan approved by P-M, and submit a follow up status report as defined and agreed by P-M.

2.2 Changes to the Suppliers Organisation

Suppliers shall notify P-M within two (2) working days of any changes in its organisation affecting key management personnel and approvals.

Suppliers shall notify P-M of any changes, prior to implementation, in its organisation affecting manufacturing site location, manufacturing processes, approved sub-tier sources, or other such changes that affect the production materials or supply of services to any P-M facility.

The list of required information and timelines are defined in section 8.1.6 (Control of Work Transfer).

2.3 Supplier Classification

P-M suppliers are classified as per below:

2.3.1 Proprietary (Code A)

A supplier, who designs, fabricates, assembles or tests products using its own engineering specifications and drawings. This classification also includes those suppliers who supply airborne software and avionics.

Also called ‘OEM’, ‘Make to Spec’, ‘Build to Spec’ or ‘Design Supplier’.

2.3.2 Subcontractor (Code B)

A supplier who fabricates, processes or tests products using P-M or P-M’s customer engineering specifications and/or drawings.

Also called ‘Make to Print’, ‘Build to Print’ or ‘Producer’.

2.3.3 Manufacturer (Code C)

A supplier who produces catalogue items, raw materials, hardware, process materials (chemicals and/or consumables) which meet P-M, P-M customer or industry standards and specifications including castings and/or forgings.

2.3.4 Mainentance and Repair (Code D)

A supplier, who repairs, overhauls and/or maintains products in accordance with Original Equipment Manufacturer (OEM), P-M, customer or military documents, and under specific approval granted by the applicable Regulatory Agencies and the OEM.

Also called a ‘Service Provider’.

2.3.5 Distributor (Code E)

A supplier of part or material that conforms to a published specification by an established industry or national authority, and whose characteristics are defined by a text, national/military standard drawing, or catalogue item (This shall also include suppliers who provide but do not manufacture or modify P-M designed parts).

Unless otherwise requested “Commercial off the Shelf” (COTS) parts or materials shall not require a First Article Inspection (FAI) report.

Also called a ‘Stockist’ or ‘Dealer’.

2.3.6 Direct Production Services (Code F)

A supplier of a service or a product which is not part of the end manufactured product and which does not contribute directly to its key characteristics, including but not limited to consumables, tooling and ground equipment.

3 AS/EN/JISQ9100:2016 AND ISO9001:205 CERTIFICATION

As a member of the International Aerospace Quality Group (IAQG) and complying with IAQG recommendation, P-M recommends every supplier of products for Aviation, Space & Defence applications to be registered to the AS/EN/JISQ 9100 series by an accredited Certification Body which is approved by IAQG. The scope of the certification shall include the product and/or service provided to P-M. As a minimum, all suppliers are required to comply with ISO9001:2015; the registration shall be conducted by an accredited Certification Body approved by the national governing body for Quality Registrations.

The table below identifies the classifications for P-M suppliers, along with the recommended minimum QMS requirements for the respective business sector:

Supplier Type Code	Supplier Class Description	Aviation, Space & Defence (ASD) Supplier	Industrial Supplier (Inc. Energy/Oil, Medical and Gas/Automotive)
A	Proprietary (Engineering Design)	AS/EN/JISQ9100:2016 with "Design and	ISO9001:2015 or industry equivalent
B	Subcontractor	AS/EN/JISQ9100:2016	ISO9001:2015 or industry
C	Manufacturer	AS/EN/JISQ9100:2016	ISO9001:2015 or industry
D	Maintenance	AS/EN/JISQ9110:2016	ISO9001:2015 or industry
E	Distributor	AS/EN/JISQ9120:2016	ISO9001:2015 or industry
F	Direct Production Services	ISO9001:2015	ISO9001:2015 or industry equivalent

Table 3-1 Supplier Classifications

NOTE: In addition, regulatory authority approvals may be required in the applicable sector such as EASA (European Aviation Safety Agency) and FAA (Federal Aviation Administration).

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 supplier to P-M

3.1 Special Processes

Suppliers and sub-tiers shall ensure that the following special processes are carried out internally or externally under the scope of NADCAP accreditation and are carried out by NADCAP accredited processors unless otherwise agreed by P-M.

- Brazing
- Cable and Harness
- Chemical processing (Inc. anodising, plating, painting, passivation etc.)
- Coating
- Composite Build
- Heat treating
- Material testing laboratory
- Nonconventional Machining
- Non-destructive testing
- Printed circuit assemblies
- Printed circuit boards
- Elastomeric Seal Manufacture
- Shot peening
- Welding

4 QUALITY MANAGEMENT SYSTEMS (QMS)

4.1 Understanding the Organization and its Context

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

4.2 Understanding the Needs and Expectations of Interested Parties

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

4.3 Determining the Scope of the Quality Management System

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

4.4 Quality Management System and its Processes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

5 LEADERSHIP

5.1 Leadership and Commitment

5.1.1 General

The requirements of AS/EN/JISQ91XX identified Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Match quality policy, quality objectives, quality planning and quality management reviews to the potential effects of the supplier's product on the P-M product into which they are incorporated.

5.1.2 Customer focus

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Ensure that product conformity and on-time delivery to P-M is measured and appropriate action is taken when the supplier's management become aware that planned results (e.g. quality and delivery) are not being, or shall not be, achieved. A designated person shall notify P-M in any instance where planned results are not, or may not be, met.

5.2 Policy

5.2.1 Establishing the Quality Policy

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

5.2.2 Communicating the Quality Policy

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

5.3 Organizational Roles, Responsibilities, and Authorities

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable

The supplier shall:

Define the personnel responsible for product quality (across all production shifts) and ensure that they have the following:

- Authority to stop production to correct quality problems

- Organisational freedom and unrestricted access to top management to resolve quality issues

Establish a procedure for task and shift handovers that ensures that that all necessary information is communicated (verbally and in written form) between the out-going and in-coming personnel.

Has confidentiality and ethical responsibility to ensure that information received from P-M remains confidential and is never disclosed to any third party without the prior written agreement of P-M. 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 P-M customers in relation to agreed business dealings.

6 PLANNING

6.1 Actions to Addres Risks and Opportunities

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

6.2 Quality Objectives and Planning to Achieve Them

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

6.3 Planning of Changes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7 SUPPORT

7.1 Resources

7.1.1 General

The requirements of AS/EN/JISQ91XX identified in clause Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Notify P-M of changes in any resources that may affect the products or services provided to P-M within 14 days of a notification of change to those resources.

Establish business continuity plans that identify, analyse, evaluate and / or mitigate risks related to business continuity that includes (but is not limited to) the following:

- Product, facility or individual skill uniqueness
- Access to alternative production facilities
- Single points of failure (including sub-tier suppliers) or key processes
- Remote backup of computer data
- Access to alternative information technology systems
- Action plans and timescales for business recovery
- Contacts, process owners and procedures to follow in the event of an emergency
- A strategy to control, review periodically and communicate plans to all relevant personnel

Perform a business risk assessment, the output of which will be used as part of the business continuity plan, that includes (but is not limited to) the following:

- Risk identification - identify sources of risk, their cause and effects and their potential business impact
- Risk analysis - consider the likelihood and level of impact of the identified risks
- Risk evaluation - compare the level of risk found during the analysis process and prioritise risks treatment
- Risk treatment - prepare contingency and / or mitigation plans to reduce risk levels
- Monitor and review the risk management activities to ensure controls are effective

Inform their Meggitt purchasing contact within 14 days regarding the following:

- Changes to third party or other party certification including lapse / withdrawal / major audit findings
- Change of the nominated quality representative
- Significant change to the quality management system
- Change in ownership or discontinuation of business activities
- Risks that could impact upon the continuity of the supplier's business / operations

- Risks with the supply of substances used in the production or physical make-up of products, due to laws and regulations concerning the control or use of such substances that may be published from time-to-time

Ensure that chemical substances constituting or contained in products supplied to P-M are not restricted under Annex XVII of REACH (Registration, Evaluation and Authorisation of Chemicals

Ensure that data related to the use of substances and mixtures that has been provided to the supplier by P-M is passed onto sub-tier / subcontract suppliers (when applicable)

Submit risk register and contingency plans to P-M on request

Maintain records of risk management (see section 7.5).

Organisational Structure: The supplier shall make available to P-M a complete and up to date description of the organisational structure, job roles and skill requirements for personnel contributing to product/services supplied to P-M (see section 5.3).

7.1.2 People

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.1.3 Infrastructure

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.1.4 Environment for the Operation of Processes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall maintain its workplace in a state of order, cleanliness and repair consistent with the product and production process needs.

NOTE: P-M recommend the implementation of improvement tools such as 6S (Six-S) and visual management (for workplace design/organisational improvement) as an approved means of compliance.

7.1.5 Monitoring and Measuring Resources

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Calibration systems shall meet the applicable requirements of ISO 10012, ISO 17025 or ANSI/NCSL Z540.

NOTE: The supplier should ensure that all measurement systems applicable to Meggitt supplied materials have been tested for Repeatability and Reproducibility (R and R) in line with Industry Standards, such as AS13003.

7.1.6 Organisational Knowledge

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.2 Competence

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Establish a documented procedure for identifying training needs, achievement and review of competence of all personnel performing work directly or indirectly affecting conformity to product or production process requirements

Create role profiles / accountabilities and provide on-the-job training for personnel performing work directly or indirectly affecting conformity to product or production process requirements, including any new or modified job and contract or agency personnel

Establish a business skills matrix to identify training requirements as well as identifying areas for succession planning and risk management / treatment to maintain continuity of supply

Maintain records of training and competence for the period that the relevant employee remains within the supplier's organisation and for three (3) years after leaving the organisation.

7.2.1 Vision Standards

Applicable to personnel conducting product verification/inspection activities

- Perform a vision assessment (eye examination) on commencement of employment and at one (1) yearly intervals for personnel engaged in product verification / inspection activities to ensure visual acuity
- Ensure that the vision assessment (optometric examination) is performed by a trained / qualified person
- Ensure that optical aids used during the vision assessment to ensure visual acuity are also used during product verification / inspection activities
- Perform a (one time only) colour perception test to ensure that personnel are capable of distinguishing and differentiating colours where colour perception is required for product verification / inspection activities
- Maintain records of vision standards for the period that the relevant employee remains within the supplier's organisation, plus three (3) years.

7.3 Awareness

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.4 Communication

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.5 Documented Information

7.5.1 General

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.5.2 Creating and Updating

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.5.3 Control of Documented Information

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

7.5.3.1 Control of Documents

Where P-M modifies a document referenced within the contract, the supplier shall take the appropriate actions to ensure that the modification is applied in accordance with the contractual provisions and inform P-M of its application.

Corrections to documents shall be recorded, dated and traceable to the originator (e.g. by using the signature or stamp) – see section 8.5.6.1/8.5.6.2 for requirements of operator certification and for stamp control. All amendments shall be made by a single line through the original text using black permanent ink, in such a way as to leave the original text legible. A stamp, signature (or electronic equivalent) and date shall be placed adjacent to that amendment.

7.5.3.2 Control of Records

The supplier shall maintain, and have available on a timely basis, all records traceable to the conformance of Product/Parts/Services delivered to P-M, including delivery/post-delivery documentation, shall be kept for a minimum of 11 years from the date on which that document was published.

The records shall be suitable in format, accuracy, and completeness to permit analysis. Where numerical results are required, the actual values obtained shall be recorded. Where tape, film or other media are required, they shall be identified

with the characteristics measured. Where defective or non-conforming material is involved, the records shall include any analysis completed and corrective action taken.

P-M reserve the right to require documentation for some products to be retained for the “life of the aircraft” plus 10 years.

Supplier records shall be made available to Regulatory Authorities and P-M Authorised Representatives, and their customers, within one (1) business day of request.

Supplier shall notify P-M of records to be disposed of prior to disposal. Such notification shall occur at a minimum of 90 days prior to the proposed disposal. P-M reserve the right to request delivery of such records, in the event P-M chooses to exercise this right the supplier shall deliver such records to P-M at no additional cost on media agreed by both sides.

Records shall be stored in secure areas to negate the effects of damage and deterioration from, for example, fire and floods and ensure ease of retrieval. Backup copies shall be stored in a separate facility.

All data that is stored by electronic means shall be secure, regularly backed up, supported by a disaster recovery procedure that is defined, documented, implemented and regularly audited for compliance.

In the event of supplier closure, insolvency or similar event, termination / expiry of the contract, all pertinent records shall be supplied to P-M.

NOTE: It is recommended that the suppliers apply the principles and practices of records management, as detailed in BS ISO 15489-1:2016.

8 OPERATION

8.1 Operational Planning and Control

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Implement a process to control the whole product lifecycle. Consideration should be given, as a minimum, to the following:

- Sales, Inventory and Operations Planning (SIOP)
- Master Production Schedule (MPS)
- Material Requirements Planning (MRP)

A process to plan and manage production capacity shall be maintained and take into account availability of personnel, equipment and all customer's demand.

The supplier shall, when requested, submit a product quality plan which shall be approved by P-M prior to delivery of any product.

8.1.1 Operational Risk Management

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall demonstrate how pro-active obsolescence management is implemented, controlled and monitored. This should be an integral part of the design, development, manufacturing and product support processes, and shall be detailed when requested in an agreed obsolescence management plan.

NOTE: When conducting its periodic risk review the supplier should consider employing a structured assessment methodology, e.g. ISO31000 and apply it internally, as well as to sub-contractors.

8.1.2 Configuration Management

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall establish a configuration management system to ensure:

Technical and administrative functions identify, document, control, report and validate the physical and functional characteristics of a product.

Engineering definition of products and their change history are known at any point in time and can be provided to P-M upon request.

Verification that all aspects of a change have been assessed for completeness.

Suppliers shall establish procedures to identify, document, review, approve and control all changes and modifications.

8.1.3 Product Safety

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.1.4 Prevention of Counterfeit Parts

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

For electronic component suppliers, the requirements of AS6081 and AS5553 shall apply.

8.1.4.1 Prevention of Suspect Unapproved Parts

The requirements of AS/EN/JISQ9110 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.1.5 Installation of Approved Parts

The requirements of AS/EN/JISQ9110 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.1.6 Control of Work Transfer

The supplier shall plan and manage work transfers in a controlled manner so that the product conforms to requirements during and after the temporary or permanent transfer of the following types:

- From the suppliers facility to another facility/location.
- From the suppliers facility to a subcontractor/sub-tier supplier.
- From a subcontractor/sub-tier supplier to the suppliers facility.
- From one subcontractor/sub-tier supplier to another subcontractor/sub-tier supplier.
- Any transfer of work within the supplier's facility that could have an effect upon the continuity of supply or quality of the product (dependant on risk).

The supplier shall also consider the intent of this clause for significant changes to their ERP/MRP system that would affect or disrupt continuity of supply to P-M.

The supplier shall manage the risk of work transfer, notify and seek approval for any changes a minimum six (6) months in advance to P-M procurement for approval. A timing plan for the proposed change, supported by mitigation plans that shall eliminate any quality, delivery or cost implications shall be provided to P-M.

The supplier shall as a minimum, make available the following before and after the transfer;

- Description of the new location, with general layout and pictures or floor plan.
- A list of parts involved in the transfer.
- Timeline and plan for each step of the transfer.

- Last article inspection plan from the current location.
- A full first article inspection report plan prior to first production in the new location.

This activity shall be at the suppliers cost, and an agreed minimum safety stock shall be guaranteed to cover the transition period.

The supplier may only proceed with the work transfer (source change) when a response has been received from their P-M purchasing contact, the supplier shall comply with requirements specified in the response.

A single point of contact shall be identified by the supplier and shall regularly inform P-M of progress, key risks and associated mitigation plans.

The supplier shall ensure delivery performance is protected during and after any work transfer.

8.2 Requirements for Products and Services

8.2.1 Customer Communication

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

- The supplier shall identify a management representative who will be the principal link between the supplier and P-M quality. This representative shall be the authorised contact on all matters affecting the quality and delivery of product shipped to P-M.
- Changes that may affect either quality or delivery shall be documented and communicated to the applicable P-M quality and/or procurement representative prior to the change being made.
- All communications between the supplier and P-M shall be written in the English language, unless legal requirements preclude this.

8.2.2 Determining the Requirements for Products and Services

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

Note: The review shall ensure that special requirements of the products and services provided are determined and that operational risks (e.g. ability and capacity to deliver on time) have been identified.

8.2.3 Review of Requirements Related to the Product

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

- Verbal agreements or instructions shall under no circumstances be construed as approval or authorisation to proceed with any activity relating to product or service to be delivered to P-M.
- Where the supplier determines that some P-M, or controlling specification, requirements cannot be fully met the supplier shall notify P-M for approval prior to manufacture/delivery. This shall include disposition of out-of-scope defects discovered during maintenance actives (where applicable)

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 P-M 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 P-M 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/

8.2.4 Changes to Requirements for Products and Services

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.3 Design and Development of Products and Services

8.3.1 General

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.3.2 Design and Development Planning

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

- The supplier shall maintain mechanisms, establish structured project teams, and/or demonstrate practices that consider the cross-functional nature of the product design throughout the product lifecycle.
- The supplier shall maintain a current and approved design and development plan and "design to delivery" process flow diagram where required by P-M. This shall include a software quality plan when the product contains software (QMS Requirements can be found using AS/EN/JISQ9115).

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 P-M Quality Assurance on such requirements.

8.3.3 Design and Development Inputs

The requirements of AS/EN/JISQ91XX identified Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall review all design specifications, requirements, drawings, statutory requirements, and quality requirements for completeness and confirm that there are no omissions. Any omissions identified shall be advised to P-M in writing. It is the supplier's responsibility to mitigate any product (design specific) requirements omissions.

8.3.4 Design and Development Controls

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall prepare and submit to P-M the following:

- Qualification Programme Plan (QPP) - a plan for the qualification of each individual part number.
- Qualification Test Procedure (QTP) - document that describes all tests/verification to be performed in order to demonstrate the compliance of the part number to its design requirements.
- Qualification Test Report (QTR) - report of the result(s) of each QTP.
- Declaration of Design and Performance (DDP) - preliminary or final document to summarise the test, verification and results which declare the status of a part number with any applicable limitations.
- Acceptance Test Procedure (ATP) – detail of the testing methods employed during series manufacture to verify product compliance and based on those utilised during validation of the product.

8.3.4.1 Tests necessary for Verification and Validation

When tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed, and documented to ensure and prove the following:

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall perform technical reviews of all product and outputs from their design and development process.

Design reviews are only considered to be closed when all actions are completed and documents have been approved.

Examples of reviews to be conducted include, but are not limited to:

- Preliminary Design Review (PDR)
- Critical Design Review (CDR)
- Test Readiness Review (TRR)
- Production Readiness Review (PRR)
- Qualification Review (QR)

Records of all reviews shall be made available to P-M.

P-M may request attendance at any of the above reviews.

8.3.5 Design and Development Outputs

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Where the supplier is involved in the product design the design and development outputs shall include the Design Failure Mode Effect Analysis (DFMEA) for the product produced by an appropriate cross functional team.

The DFMEA shall be used to identify any critical risk items, including identification of key characteristics, overall product performance, and product weight (mass) and determine and record specific actions to be taken for these items.

The design and development output shall consist of the necessary configuration and the design features of the product. This will include the manufacturing and assembly data necessary to enable the supplier's cross functional team to prepare the initial Process Failure Mode Effect Analysis (PFMEA), which will confirm manufacturability of the design. The PFMEA shall identify all process and product key characteristics required for manufacture.

Sole source and proprietary products/processes used or bought by P-M suppliers shall be communicated to and approved by a P-M procurement representative.

8.3.6 Design and Development Changes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable

The supplier shall:

Design and development changes including software shall be identified and records shall be maintained.

Following the agreement of a production baseline, defined at the CDR, all changes are to be identified and classified as follows:

- Class 1 (major) - change/modification, which affects the operational performance, interchange ability, fit, form or function.
- All class 1 (major) change/modification requests shall be submitted to and approved by P-M prior to incorporation.
- Class 1 changes shall result in a change of supplier part number. This includes software.
- Class 2 (minor) - all changes that cannot be defined as major.
- For class 2 (minor), a supplier can use their own change request form. The form shall contain sufficient information to define the proposed change.
- P-M shall be forwarded all class 2 changes for review prior to implementation.
- For all changes and prior to any change, the risk shall be assessed by the cross functional team by updating the D/PFMEA.

The organization shall retain documented information relating to the following:

- Design and development changes.
- The results of reviews.
- The authorization of the changes.
- The actions taken to prevent adverse impacts.

8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.4.1.1 Purchasing Process

When specified on the drawing or contract, suppliers shall use only sources approved by P-M or a P-M customer to perform special processes or procure raw material.

The supplier shall be responsible for the quality of all products purchased from sub-tier suppliers, including P-M or P-M customer sources.

The supplier shall monitor subcontractor/sub-tier Supplier performance through, at a minimum, the following indicators:

- Delivered product quality
- Customer returns
- Delivery schedule performance

This shall include taking appropriate corrective action with poorly performing subcontractor/sub-tier suppliers.

The supplier shall demonstrate risk management in the selection and monitoring of subcontractors and sub-tiers.

The supplier shall implement appropriate controls for counterfeit parts prevention to assure product origin and conformance to P-M requirements and related engineering drawings.

Additional purchasing requirements for distributors:

- Products shall only be purchased from approved distributors, when full traceability can be demonstrated back to the original manufacturer.
- Original manufacturer's Airworthiness Release certificate or equivalent shall be made available'.

Suppliers shall where ever possible purchase items in support of P-M 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 P-M. 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 P-M drawing, P-M are to be informed and the change must be risk assessed and managed to ensure continuity of quality and delivery. The supplier will advise P-M purchasing department of the proposed change and give P-M 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 P-M to have procured product verified, it shall be held prior to commencement of manufacture until the appropriate verification activity has been completed by P-M 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.

8.4.2 Type and Extent of Control

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.4.2.1 Verification of Purchased Product

Inspection – General

When sample inspection is undertaken as a means of component verification/inspection, this may only be undertaken when the requirements of section 8.5.1 (Control of Production and Service Provision) have been met and the sample plan has been authorised by the relevant P-M site.

Inspection – Material/Special Process

Suppliers shall provide raw materials test reports/certification results/laboratory analysis requirements (e.g., tensile strength, stress rupture, hardness, chemical composition, etc.), as defined by the product definition and/or the purchase order.

Where the supplier utilises test reports to verify purchased product, the data in those reports shall be acceptable per applicable recognised specifications.

The supplier shall periodically validate test reports for raw material. This shall be conducted by a source independent to that of the source testing of the material to assure the material is in conformance.

Personnel responsible for the review of material and special process test reports shall be trained to interpret and evaluate test results for the purpose of ensuring that all drawing and/or specification requirements of the product are met.

Source Inspection

P-M retains the right to perform source inspection at the supplier's facility or at its sub-tier supplier's facility. P-M may assign its quality representative to be located at the suppliers and sub-tier supplier's facility at any time during the life of the contract.

P-M source inspection does not supplement or replace the suppliers own inspection system.

The supplier shall give P-M a minimum of seven (7) days' notice of the date of inspection where source Inspection is a requirement of the contract.

When source inspection is required, the supplier and sub-tier supplier shall make available to the P-M quality representative such area, facilities, equipment, inspection records, or other assistance requested in the course of verifying product conformance to requirements.

In the event source inspection is invoked as a result of an identified supplier product issue or nonconformity, then the inspection and associated actions shall be at the suppliers cost.

8.4.3 Information of External Providers

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.4.3.1 Purchasing Information

The supplier shall ensure that the purchasing information/documentation communicates (flows down) P-M's requirements to all subcontractors/sub-tier suppliers.

Where P-M owns the design of a product being purchased from a supplier who further subcontracts all or portions of that work, the suppliers purchase order shall

state that the products are for P-M “end use” and shall be controlled as per the applicable purchase order requirements, including any trade control requirements.

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Ensure P-M approval is obtained for all proposed amendments to Critical Part instructions.

Amendments to work instructions are to be completed by authorised personnel only. The following shall be required:

- An amendment shall be made by a single line through the original text using permanent ink.
- A stamp, signature (or electronic equivalent) and date shall be placed adjacent to an amendment.
- Correction fluid shall not be used.

8.5.1.1 Inspection

The Supplier shall:

Measure 100% of all product characteristics related to all product to verify that requirements have been met. This shall be carried out at appropriate stages of the production process such as receipt inspection, in-process inspection, final inspection etc., in accordance with the planned arrangements

- Inspection plans shall be utilised as requested by P-M.
- Inspection plans shall be in a format that is approved and agreed by P-M.

Ensure that personnel performing product verification / inspection activities are appropriately trained and competent) to discriminate between an acceptable and unacceptable product.

- Personnel involved in final inspection shall be independent of the manufacturing process.

Ensure Product verification activities that require visual verification shall be conducted in lighting conditions that provide an ambient white light intensity of not less than 1100 LUX (UK) with a light intensity of not less than 500 LUX measured at the surface of the component being inspected.

Ensure that monitoring / measuring equipment and the inspection standard to be achieved are subject to the same units of measurement (as stated on the product definition) and avoid the application of conversion calculations

Ensure that monitoring / measuring equipment used for the final verification / inspection of product is independent to those used for product measurement

during production activities or will be re-calibrated / verified prior to use where independence cannot be achieved

Record the actual measurement results / values for the following:

- Features on product classified as “Critical” on the product definition
- Features where a Coordinate Measuring Machine (CMM) is the method of inspection

Reduced and sampling inspection can only be introduced if the requirements of the sub sections below (“Reduced Inspection” or “Sample Inspection”) are met, and approval is given by P-M.

Maintain records of product verification

Personnel involved in final inspection shall be independent of the manufacturing process.

8.5.1.2 Reduced Inspection

The Reduced Inspection process is NOT applicable to purchased standard catalogue hardware.

The supplier shall:

Only apply reduced inspection of variables as a means of product acceptance when:

- Process stability and capability can be demonstrated during product verification activities
- Process capability data has met the requirements specified by the P-M technical authority
- The proposed sample size and verification method of the product characteristic taken from every product within the batch has been documented in a control plan
- The control plan has been submitted to, and authorised by the P-M technical authority

Only apply reduced inspection of formed characteristics[1] as a means of product acceptance when:

- Appropriate control methods such as control of process settings, tooling, standard processes and / or error proofing have been introduced
- Measurable evidence demonstrates that the control methods are effective and continually produce a product that conforms to requirements
- The method by which the formed characteristic is produced plus the verification method and the verification intervals are documented in a control plan
- The control plan and measurable evidence of product conformance have been submitted to, and authorised by the P-M technical authority (on request)

Ensure that reduced inspection activities related to fixed process controlled are appropriately controlled and authorised by their P-M technical authority, prior to being introduced

Ensure that reduced inspection is NOT applied to the following:

- Product used for First Article Inspection
- Non-destructive testing inspection operations (unless specified in a controlling specification)
- Functional testing
- Maintain records of reduced inspection as specified for product verification

NOTE 1: Reduced inspection of formed characteristics may apply to a group or family of products that are produced by the same process at the same source. Sample Inspection

8.5.1.3 Sample Inspection

The Reduced Inspection process is NOT applicable to purchased standard catalogue hardware.

The supplier shall:

Only introduce sample inspection as a means of product acceptance when:

- Process stability and capability can be demonstrated using variation management (see 8.5.1.4)
- The sample size and the verification method for each product characteristic under consideration has been documented in a control plan
- The control plan and statistical data have been submitted to, and authorised by the P-M technical authority

Ensure that sample inspection activities related to fixed process controlled product are appropriately controlled and authorised by their P-M technical authority, prior to being introduced

Ensure that sample inspection is NOT applied to the following:

- Product used for First Article Inspection
- Non-destructive testing inspection operations (unless specified in a controlling specification)
- Functional testing
- Product classified as critical

Maintain records of sample inspection as specified for product verification.

8.5.1.4 Variation Management

The requirements of AS/EN/JISQ9103 apply.

Variation management is NOT applicable to:

- Development products
- Purchased standard catalogue hardware or deliverable software
- Product provided by P-M (unless otherwise specified).

The supplier shall:

The supplier shall have a process to determine product and process Key Characteristics (KCs) as an output of the control plan

- Identify Key Characteristics (KCs) that have been designated by P-M

Perform statistical process control (SPC) studies on KCs to demonstrate they are in a state of statistical control and that capability has been established as follows:

- Apply statistical control of process that allows timely reaction to out of control conditions, ensuring appropriate containment, corrective action and escalation occurs to bring the process back to a state of statistical control
- Calculate the process capability (Cp, Cpk) index only when the process is shown to be stable and in statistical control, using industry standard statistical control charts
- Establish process capability using representative data gathered in time sequence from three or more concurrent batches / lots containing a combined total of at least twenty-five (25) products
- Ensure that a process using variable data can demonstrate process capability of Cpk ≥ 1.33 or as specified by P-M
- Monitor to ensure continued performance and apply continual improvement techniques to eliminate problems and improve stability / capability
- Establish records of the results of SPC studies (control chart and capability analysis) conducted on current production processes

Ensure that processes that cease to be in control and / or capable resume normal product verification / inspection until the cause has been identified, corrected and process capability and control are re-established[1]

Record the results of KC monitoring in accordance with the requirements of AS/EN/SJAC 9103

Submit supporting evidence of KC variation management (control chart and capability analysis) at the earliest possible time after the initial FAIR to the P-M technical authority. KCs which do not demonstrate capability shall have a documented improvement plan and evidence submitted when capability is achieved.

Perform MSA studies prior to performing SPC and process capability studies

Records of measurements shall be retained and provided to P-M as requested.

NOTE 1: 100% inspection to be implemented for all KCs where capability cannot be proven.

8.5.1.5 Control of Equipment, Tools, and Software Programs

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall have a system for the management of pre-production and production tooling, jigs and fixtures including identification, protection, storage, tool life and modification.

The supplier shall identify key process equipment and provide resources for machine/equipment maintenance to develop an effective planned total preventative maintenance system. This shall, at a minimum:

- Utilise predictive maintenance methods to continually improve the effectiveness and efficiency of production equipment.

- Have a measurement system in place for downtime, planned versus unplanned, etc.
- Ensure that preventive maintenance schedules are current, and reflect all machines/equipment.

8.5.1.6 Validation and Control of Special Processes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Supplier shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement and, as a consequence, deficiencies become apparent only after the product is in use or the service has been delivered.

NOTE: These processes are often referred to as special processes.

NOTE: Special process audits shall be scheduled through the suppliers audit plan.

8.5.1.7 Production Process Verification (First Article and PPAP Requirements)

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

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 P-M website. This checklist shall accompany all FAIs submitted to P-M, 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.

First/Last Article Inspection (FAIR/LAIR) and PPAP (Production Part Approval Process) applies to:

- Products designed and / or produced by a supplier for a P-M application
- All Assemblies and Sub-Assemblies
- Castings and forgings
- Machined parts
- Moulded Parts and Assemblies
- Repair instructions / schemes

First/Last Article Inspection (FAIR/LAIR) and PPAP Requirements do NOT apply to:

- Purchased standard catalogue hardware or deliverable software
- Raw materials
- Elements of the process related to material or product provided by P-M

The supplier shall:

Implement the requirements of AS/EN/SJAC 9102 and, where specified by P-M, AS/EN/JISQ9145 [1]

Perform and submit a FAI/PPAP on the first production product[2] to be delivered

Perform a delta FAI following a process, source and/or drawing change[2]

Perform FAI / LAI dimensional inspection at the end of the production process using:

- Implement the requirements of AS/EN/SJAC 9102 and, where specified by P-M, AS/EN/JISQ9145 [1]
- Perform and submit a FAI/PPAP on the first production product[2] to be delivered
- Perform a delta FAI following a process, source and/or drawing change[2]
- Perform FAI / LAI dimensional inspection at the end of the production process using:

Ensure that Coordinate Measuring Machines (CMM) inspection programmes and programmers used for the FAI are independent[3] to those used for product measurement during the production process

Ensure features that will become inaccessible[4] during subsequent production process operations are independently inspected prior to becoming inaccessible

Perform a LAIR on a product that represents the production method at the end of production, when the source of complete production is planned to change or at the request of P-M

Record all measurement equipment in the FAI / LAI inspection plan, including programme version number where applicable

The supplier shall prepare a manufacturing process flow diagram for the product[5]. The complete flow diagram shall include steps from material receipt to preparation of dispatch documentation. (A separate process flow diagram is required for each out-located process). The manufacturing process flow diagram shall show:

- Inspection points
- Process machinery, tooling, assembly stations, test benches, stores for sub-assemblies, rework area(s). Plant numbers or machine ID shall be included for all prime equipment
- First pass yield data collection points
- Identification of potential bottlenecks
- Identification of operator skills sets
- Capacity plans for any equipment(s) not dedicated to the production of P-M product
- Include a cascade diagram with the FAIR to identify the bill of materials for the product

Complete and submit a FAIR / LAIR to P-M purchasing site

Only release product into P-M against an approved FAIR

Maintain records of FAIR / LAIR.

NOTE 1: Or any other applicable standard according to sector or industry as specified by P-M PO requirements.

NOTE 2: Only when it is not physically possible to perform the FAI on a single product, data from multiple products can be used, providing all parts have been manufactured using the same engineering definition, bill of material, supply chain and method of manufacture (including measurement method). The FAI report shall be annotated to signify the use of multiple product and provide traceability of the products used to obtain the inspection results.

NOTE 3: Coordinate Measuring Machines used for FAI / LAI do NOT have to be independent to those used for product measurement during production activities.

NOTE 4: Where inaccessible features may be affected by subsequent production operations, the method of verification shall be agreed with the design engineering authority and recorded in the report.

NOTE 5: The process flow steps shall be designated in such a way that they can be cross referenced to the PFMEA.

8.5.1.8 Process Failure Mode Effect Analysis (PFMEA)

The supplier shall

Use a cross-function team to establish a PFMEA that includes (but is not limited to) the following:

- Process identification
- Process work elements
- Potential process failure mode
- Severity (S) – The seriousness of a failure mode
- Occurrence (O) – The likelihood that a given failure mode will happen
- Detection / Prevention (D) – The likelihood that the failure mode will be prevented / detected
- Risk Priority Number (RPN) – Severity (S) x Occurrence (O) x Detection (D) = Risk priority.
- Standard scoring criteria

Develop a PFMEA for the production processes identified in the process flow diagram in advance of producing the product

Evaluate and document the potential failure of a product / process and the effects of that failure

Determine the risk priority related to the impact on the product, process and customer

Take appropriate corrective action for high RPN"s to reduce or eliminate the chance of the potential failure occurring

Review / update and recalculate RPN"s for the PFMEA when changes are made to product definition, process operating conditions or when non-conformance has been identified

Provide feedback to the customer along the purchase order cascade when appropriate risk mitigation cannot be provided

Maintain records of PFMEA commencing from the date that the final product was delivered to P-M.

NOTE 1: A single PFMEA may apply to a group or family of products that are produced by the same process at the same source.

8.5.1.9 Control Plan

The supplier shall:

Use a cross-function team to develop control plans for the production processes for each product, which defines the controls to be used in advance of producing the product b) Ensure that the control plan takes into account (but is not limited to) the following elements:

- PFMEA outputs
- Authorised reduced inspection
- Authorised sample inspection
- Variation management

Ensure that the control plan contents includes (but is not limited to):

- Part / process number
- Process name / operation description
- Product / process characteristics
- Control method
- Reaction plan

Review and update control plans when any change occurs affecting product, production process, measurement, logistics, supply sources or PFMEA

Maintain a process to review the effectiveness of these controls

Maintain records of control plans from the date that the final product was delivered to P-M.

NOTE 1: A single control plan may apply to a group or family of products that are produced by the same process at the same source.

8.5.1.10 Work Instructions

The Supplier shall:

- Prepare documented work instructions[1] for personnel having the responsibility for the operation of processes that impact product quality
- Ensure work instructions are accessible for use at the work station
- Ensure work instructions are derived and cross referenced to sources such as the drawing and / or the control plan

NOTE 1: Work instructions can include process flow diagrams, production documents such as production plans, travellers, routers, work orders, process cards) and inspection documents.

8.5.1.11 Measurement System Analysis (MSA)

The supplier Shall:

- Define the metrological requirements and the metrological function in accordance with ISO10012
- Ensure that the personnel nominated to perform product verification activities are trained and competent in the use of the monitoring / measuring equipment
- Ensure that the monitoring / measuring equipment used to perform product activities is calibrated and traceable to international or national measurement standards
- Have personnel available who are trained and competent in measurement systems analysis techniques[1]
- Validate the measurement system by performing statistical studies[1] related to a representative range of tolerances and features (including tightest tolerance measured) to analyse the variation present in the results of each type of monitoring / measuring and test equipment system. The participants in the study shall be representative of those using the measurement systems on a day-to-day basis.
- Perform product feature specific statistical studies[1] to validate the measurement system where Key Characteristics (KCs) have been identified to the supplier by P-M
- Monitor[2] and maintain the capability of measurement equipment over time to ensure it performs as initially validated
- Perform a review of measurement capability when tolerances, personnel or environmental conditions have changed
- Record the results of statistical studies in a study report to identify how the study was undertaken and the conclusions
- Maintain records of MSA

NOTE 1: Measurement system analysis techniques and statistical studies refer to Gauge Repeatability & Reproducibility and / or Attribute Agreement Analysis.

NOTE 2: In addition to calibration, the monitoring / measuring equipment shall be checked regularly against a calibrated reference of known size and form.

8.5.2 Identification and Traceability

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

- All products are to be identified and traceable in accordance per drawing/design documentation or as agreed with P-M.
- The traceability system employed shall reduce the probability of the need to conduct a full product recall in the event of product noncompliance.
- Traceability shall be maintained for all product throughout production (including product quantities, split orders, nonconforming product etc.) from raw material to finished product.
- The supplier shall manage and record the serial numbers or batch numbers of the products, if numbers are provided by P-M or a P-M customer the supplier shall use these instead of their own serial or batch numbers.

- The supplier shall ensure that it implements a methodology for preventing the generation of duplicate numbers.
- Traceable items that, for reason of size and/or application do not allow the part number and serial number identification, shall be individually packaged and identified by an appropriate label.

NOTE: The supplier shall implement a process, or policy, for the control of “Split Batches”.

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

8.5.2.1 Tooling Control

The Supplier shall:

Establish a system for the management of pre-production and production tooling, jigs and fixtures that includes (but is not limited to) the following:

- Unique tool identification
- Validation of tool prior to release for production
- Protection from damage and deterioration during storage
- Maintained as fit for purpose
- Storage and recovery
- Tool set-up
- Tool life control / tool-change programmes
- Tool design modification documentation, including engineering change level
- Tool modification and revision

Ensure that tooling, jigs and fixtures owned by P-M and / or P-M customers (including shared ownership) are controlled as shown above, plus the following:

- Identified as P-M owned
- Tooling register established
- Used only for P-M applications
- Audited annually (stock take) and periodic preservation / condition checks for tooling held in storage
- Modifications only after written authorisation by P-M
- Disposal only after written authorisation by P-M
- Provision of tool information (including photographic information) to P-M on request

Maintain tooling control records (P-M owned tooling).

8.5.3 Property Belonging to Customers or External Providers

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall ensure that P-M owned/issued tooling, jigs and fixtures are adequately registered and maintained with the period status given on request.

The jigs and fixtures shall be identified and controlled at all times.

The supplier shall return all documents, records, gauging, stamps, tooling or any other P-M supplied equipment (such as materials or product) upon written notification from P-M or when business with P-M has ceased.

8.5.4 Preservation

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall establish a process to detect and prevent Foreign Object Debris Damage (FOD) or any type of contamination, for ASD materials this shall be in accordance with AS/EN/JISQ 9146.

The process shall contain the following elements as a minimum:

- Production FOD process review
- Training of applicable personnel in FOD prevention
- 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

Exposed pipe ends, electrical connectors, coaxial cable and exposed openings are to be sealed externally, where possible, to prevent contamination.

Products that are (or contain) Electrostatic Sensitive Devices (ESD) shall be clearly marked accordingly and packaged in accordance with national and international specifications.

- ESD products shall only be removed from protective packaging in an ESD protected area. This includes goods receiving and final inspection.

Limited life materials are to be identified and controlled so that ‘out-of-life’ materials are not used.

Material with a limited life shall be delivered to P-M with a minimum of 75% of its life remaining, or as formally instructed by P-M or controlling specification/drawing.

The supplier shall document details of the packing procedures, illustrations of internal packaging/product support and specify the materials to be used. The preparation of these procedures shall ensure appropriate packaging for sensitive product and no inclusion of prohibited packing materials.

8.5.5 Post-Delivery Activities

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.5.6 Control of Changes

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

8.5.6.1 Operator Certification

Where the supplier has an operator certification program, this shall be documented, and where requested this shall be made available to P-M for approval.

8.5.6.2 Stamp Control

The supplier shall maintain a procedure for effective control and administration of inspection stamps. Inspection stamps are all stamps which have been authorised within the Supplier quality system, including electronic acceptance media.

The procedure shall provide that stamps lost or withdrawn from use shall be quarantined for a defined period of time of not less than six (6) months.

If signatures are used instead of stamps, a record of the authorised signatures with the person's position shall be part of the documented procedure.

Where applicable, this procedure shall also provide for security controls for electronic signatures (i.e. passwords, etc.).

8.5.6.3 Document Change Requirements

An amendment shall be made by a single line through the original text using permanent ink.

A stamp, signature (or electronic equivalent) and date shall be placed adjacent to an amendment.

Correction fluid shall not be used.

8.6 Release of Products and Services

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

Each shipment shall be accompanied by, at a minimum, a Certificate of Conformity and a Commercial Invoice/Packing List. Where deemed appropriate by the supplier these documents may be combined into one however the following shall apply in all cases.

The supplier shall provide a legible and reproducible certificate of conformance (C of C) with each shipment that states all items contained within the shipment are in compliance with all applicable requirements of the identified purchase order and were produced with materials that the seller confirm conformance to applicable specifications and provide objective evidence thereof. The certificate of

conformance must be dated and contain the signature of an authorized representative of the seller.

- Each shipment shall be accompanied by two (2) copies of release documentation. One (1) inside and one (1) outside the packaging.

8.6.1 Release Documentation

The C of C shall contain the following information as a minimum:

- Unique traceable document reference number.
- Supplier name,
- P-M purchase order number (including purchase order item number).
- Description of the product (per purchase order number).
- Part number (including drawing revision status (per purchase order number) as applicable.
- Traceable reference (e.g. serial, batch, lot, heat, cast numbers).
- Quantity.
- Conformance/compliance.

Note: The following form of words is provide as an example:

'THESE PRODUCTS HAVE BEEN MANUFACTURED, INSPECTED, TESTED AND UNLESS OTHERWISE STATED ABOVE CONFORM IN ALL RESPECTS WITH THE PURCHASE ORDER REQUIREMENTS.'

Signature of person authorised to release the product to the customer (an Electronic signature shall be accepted).

Additional information, as applicable, shall include:

- FAI or equivalent Report reference.
- Traceable reference (serial, batch, lot, heat, cast numbers - as applicable).
- Raw material certificate reference.
- Relevant Shelf life information.
- P-M PO specific requirements as appropriate:
- ATP reference.
- Concession/Production permit reference

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.

8.6.2 Commercial Invoice/Packing List Information

General Information

- Date of despatch/shipping date.
- Supplier address and telephone number.
- Delivery address.
- Part Number
- Price
- Currency
- Quantity
- Unit of Measure

- Country of origin for the parts being supplied.

International Shipments to the USA

- US 10 digit HTS classification
- Articles & Containers to be marked with Country of Origin

8.6.2.1 P-M Furnished Material

Each shipment must be accompanied by a signed, legible and reproducible copy of a conformance certification stating that the items were produced from materials furnished by relevant P-M facility.

8.6.2.2 Distributor

The seller shall include documentation with each shipment that certifies items delivered under this contract conform to the requirements set forth in the procurement specification and any applicable detail specifications. The seller shall deliver a certificate of conformance from the OEM and/or OEM Authorized Distributor that identifies the locations of manufacture and procurement, applicable traceability information (i.e., date code, lot number, batch number, etc.), and part number.

8.7 Control of Nonconforming Outputs

8.7.1 The organization shall ensure that outputs that do not conform to their requirements are identified and controlled to prevent their unintended use or delivery.

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall establish a method of detecting product and process non-conformance, at a minimum, this shall include:

Containing nonconformities by segregating the product or process to prevent its unintended use or delivery.

Taking necessary actions to contain the effect of the nonconformity on other processes or products at supplier or sub-tiers.

Nonconforming parts, with their associated documentation and identification (e.g. Red label or tag), are to be segregated until an approved. Written disposition is to be given by the relevant engineering authority.

If a decision is made to scrap parts, prior to final disposal, proprietary parts shall be defaced in such a way that it precludes any possibility of reuse or rework. Any special considerations on nonconforming product imposed by P-M or by their customer shall be adhered to.

The supplier shall notify P-M immediately (within 24 hours or the next business day), in writing, when a nonconformity is discovered in the suppliers manufacturing processes or components/assemblies for a product already delivered. This notification shall include as a minimum:

- A clear description of the nonconformity
- Affected part number, serial number, batch number, heat lot, manufacturing date etc.
- Delivered quantity
- Purchase order
- Containment plan including corrective action(s)
- Deviations (concession/production permit)
- If information is not yet determined, notify immediately with detail to follow

The supplier shall have a process for the control of concessions and production permits (deviations). This shall include training of personnel in the role and responsibility they play in the process of control of concessions and permits.

- Concession - is a temporary/conditional permission granted to use or release a limited quantity of material, detail parts or assemblies already manufactured which do not strictly comply with the approved drawings and/or specifications.
- Production permit - is a temporary/conditional permission granted, in advance of manufacture, to use materials or to make detail parts or assemblies which differ from the approved drawings and/or specifications.

Only when a supplier is responsible for the design, and the non-conformance is classed as minor, can the supplier disposition products using their own non-conformance system. Requirements shall include:

- Major concessions (affecting form, fit, function, airworthiness, safety, strength, life, interchangeability, maintenance, reliability and/or appearance that may cause the user concern over its serviceability). When a major concession has been raised and submitted to P-M, using a P-M format (unless otherwise agreed), then corrective action must be implemented and the nonconformity closed prior to delivery of any parts.
- Minor concessions are not required to be submitted to P-M but shall be retained and made available to P-M. Nonconformities must be closed prior to delivery of any parts.

Unless otherwise formally agreed, no nonconforming product, under cover of concession, shall be delivered until the concession has been formally accepted by P-M.

P-M Proprietary Parts – Deviation Applications (Concessions & RFC Production Permits)

Non-conforming parts shall be submitted on a P-M Deviation Application form (CAS 303), obtainable from https://www.meggitt-avionics.co.uk/about-us/quality-approvals/ or P-M 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 P-M.

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.

8.7.2 P-M Rejected and/or Returned Product

The supplier shall have a process for the control of customer (P-M) returned product identified as nonconforming product.

Suppliers shall be notified of identified product nonconformity by a Supplier Corrective Action Report (SCAR) or equivalent and/or their Scorecard.

- If the supplier cannot identify the cause of the failure from the report, or does not accept liability, the supplier shall inform P-M within two (2) working days after receiving the notification and ensure the part is returned for evaluation. Otherwise, the supplier is deemed to have accepted the responsibility for the nonconformity report.

<u>Salvage</u>

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 P-M 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 P-M 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, P-M 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 P-M as required. Timescales for the completion of the 8D at interim stage should be managed by the supplier and progress regularly fed back to P-M until completion.

The supplier shall respond to the nonconformity.

This process shall include returned items dispositioned as Fault Not Found (FNF); in particular those which have been returned on more than one occasion.

NOTE: P-M shall not accept redelivery of any product which fails at a P-M facility and has been returned to the Supplier on more than one occasion for the same nonconformity.

8.7.3 The organization shall retain documented information that:

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

9 PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall:

The supplier shall implement standard quality management methods for product and process improvements such as 5 Why, Ishikawa (Fishbone diagram), 8D (or equivalent), 6S, and PFMEA, and ensure personnel are suitably trained in their use.

9.1.2 Customer Satisfaction

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

Unless specifically agreed with P-M the supplier shall at a minimum:

Monitor quality and delivery performance using:

- Delivery (OTIF)
- Quality Escape (to P-M and from the Suppliers Sub-tiers)
- PPM

Take appropriate corrective actions in the vent that non-conforming product has been delivered to P-M and/or when “On-Time In-Full” delivery performance is not being achieved.

Immediately notify their P-M purchasing contact when delivery schedules are not being achieved and submit a recovery plan.

Prepare for and participate in performance reviews conducted periodically by P-M.

Review the P-M Supplier Scorecard and implement improvement actions.

9.1.3 Analysis and Evaluation

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

9.2 Internal Audit

In addition to the requirements identified in AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products.

The Supplier Shall:

The supplier shall establish a system to appropriately manage an internal audit programme that includes product and process audits, to verify compliance on products and processes related to P-M delivered products.

The audit programme shall be prioritised based on product and process risk.

The programme shall ensure all P-M products are audited at identified intervals and at appropriate stages of production using a sample product that has been selected at random from the current production process.

Auditors shall be independent of the function being audited, and shall be suitably trained and experienced.

For other industries ISO9001:2015 is applicable.

9.3 Management Review

The requirements of AS/EN/JISQ91XX identified in Table apply for ASD products. For other industries ISO9001:2015 is applicable.

The Supplier Shall:

When required by P-M, the supplier shall provide the appropriate quality data (charts, indicators, acceptance rate, shop findings, etc.) that demonstrates the suppliers internal quality performance and the corrective actions taken in order to prevent impacts at P-M.

10 IMPROVEMENT

10.1 General

The requirements of AS/EN/JISQ91XX identified in Table 3-1 apply for ASD products. For other industries ISO9001:2015 is applicable.

10.2 Nonconformity and Corrective Action

10.2.1 When nonconformity occurs, including any arising from complaints, the organization shall:

The requirements of AS/EN/JISQ9100:2016 in Table 3-1 shall apply for aerospace products and for other industries ISO9001:2015 shall apply.

The supplier shall:

The supplier shall use error proofing methods in their corrective action process where appropriate.

The supplier shall establish a customer protection plan to ensure continuity of supply while non-conformances are being investigated.

Personnel involved in the identification, review and closure process shall be suitably trained in the applicable quality methods.

The supplier shall review/update and be able to demonstrate the Process Failure Mode Effects and Analysis (PFMEA) and the control plan when corrective action has been identified.

Nonconformities identified by P-M may include product, process and audit nonconformity.

The supplier shall ensure that P-M requested corrective actions are responded to in the required time frame. Unless agreed by the P-M Quality department, or P-M auditor, the following timescales shall apply in all cases.

Nonconformity Type	Immediate Containment Plan	Root Cause / Corrective Action Plan submission	Nonconformity Closure
Product Related Failure	≤ 2 calendar days (48 hours)*	≤ 30 calendar days*	≤ 45 calendar days* (or as agreed by P-M)
Audit Finding	n/a		

* Where number of days is counted from the issuance of a Nonconformity Report (NCR)

Unless requested by P-M, the supplier shall document all actions to rectify the nonconformity including utilising 8D methodology and format as identified within AS13000: Problem Solving Requirements for Suppliers.

Where a supplier quality performance is not meeting required targets, P-M shall initiate interaction with the Supplier to identify required corrective actions and improvements. This may include request for a formal action plan and/or an onsite assessment.

10.2.2 The organization shall retain documented information as evidence of:

The requirements of AS/EN/JISQ91XX identified in Table 3-1apply for ASD products. For other industries ISO9001:2015 is applicable.

10.3 Continual Improvement

10.3.1 General

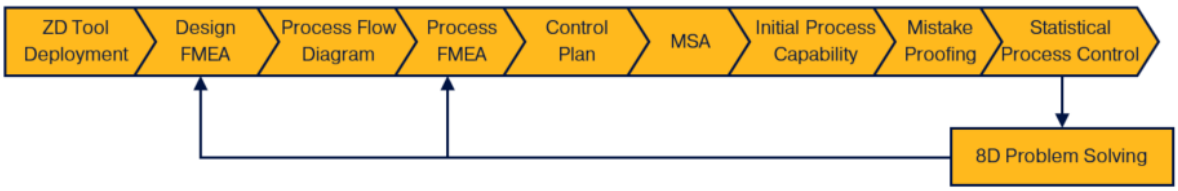
The requirements of AS13000, AS13003, 4 & 6 apply for ASD products. For other industries ISO9001:2015 is applicable.

The supplier shall implement a programme of continuous improvement in order to reduce variation and the delivery of defective materials/products/services to P-M.

In order to achieve this the supplier should establish a Zero Defects programme for products in serial production.

The supplier ZD programme should include the following elements:

- 3 year Data review of Customer, Internal and supplier escapes
- Manufacturing Process Review (MPR) for all Meggitt products and processes
- Process Flow diagram (PFD) for all Meggitt products.
- Process Failure Modes Effects Analysis (PFMEA) for all products
- Control Plans for all products
- Conduct Measurement System Analysis (MSA) for all inspection equipment used to measure and verify Meggitt product
- Initial and on-going Statistical Process Control (SPC)
- ‘Mistake proofing’ to prevent defects from occurring
- Robust problem solving techniques (8D)



A full suite of ZD tools, processes, reporting templates and training is available through your P-M supplier contact.

10.3.2 Supplier Development

Where supplier performance has fallen below P-M requirements the supplier shall, as directed by P-M, participate in the P-M Supplier Development programme.

This consists of:

- Direct involvement with a Supplier Development Engineer at the suppliers facilities and/or by WebEx in order to facilitate process improvements
- Completion and regular reporting of Zero defect implementation activities using P-M form MFT-206 Supplier Development Zero Defect Plan

This document shall be submitted to the requesting facility as directed by P-M but at a minimum of monthly intervals until directed otherwise.

10.3.3 Lessons Learned

To assist in the continual improvement process and the drive to Zero Defects the supplier should maintain an active lessons learned improvement process and utilise a database of products, known capabilities, identified nonconformity and lessons learned for the purpose of continuous improvement.

11 REFERENCE DOCUMENTS

11.1 Industry Standards

These documents include, but may not be limited to, the following:

Document Number	Document Title
ISO 9000	Quality management systems -- Fundamentals and vocabulary
ISO 9001	Quality Management Systems Requirements
ISO 10012	Requirements for Measurement Processes and Measuring Equipment
ISO 13485	Medical devices -- Quality management system requirements
ISO 15489	Information and documentation. Records management
ISO17025	Requirements for the Competence of Testing & Calibration Laboratories
ISO 31000	Risk management -- Principles and guidelines
ISO 45001	Occupational Health and Safety Management
AS 5553	Counterfeit Electronic Parts; Avoidance, Detection, Mitigation
AS 6081	Counterfeit Electronic Parts; Avoidance Protocol, Distributors
AS9145	APQP & PPAP
AS/EN/JISQ 9100	Requirements for Aviation, Space and Defence Organizations
AS/EN/JISQ 9102	Aerospace First Article Inspection Requirement
AS/EN/JISQ 9103	Variation Management of Key Characteristics
AS/EN/JISQ 9110	Requirements for Aviation Maintenance Organisations
AS/EN/JISQ 9115	Requirements for Aviation, Space and Defence Organizations-Software
AS/EN/JISQ 9120	Requirements for Aviation, Space and Defence Distributors
AS/EN/JISQ 9131	Non-conformance Data Definition and Documentation
AS/EN/JISQ 9145	Requirements for Advanced Product Quality Planning and Production Part Approval Process
AS/EN/JISQ 9146	Foreign Object Damage (FOD) Prevention Program
AS 13000	Problem Solving Requirements for Suppliers
AS13003	Measurement System Analysis (MSA)
AS13004	MEA & Control Plan
AS13006	Process Control methods

ASME VIII	Requirements for Pressure vessels
ASME II A/B/C	Material specification
ASME IX	Requirements for Qualification Welding/Brazing
ASME V	Requirements for Non Destructive Testing
PED 97/23/EC	Requirements for Pressure Equipment Directive
IATF 16949	Transition Strategy ISO/TS 16949 › IATF 16949

Table 11-1 Industry Standards

11.2 Parker Meggitt Key Customer Requirements Documents

These documents include, but may not be limited to, the following:

Customer	Documents
GE Aviation	S-1000 S-1001 S-1002
Airbus	AP1013 AP2190 GRAMS GRESS
BAE	BAE/AG/QC/SC1 Parts 1 to 7 QAP-J-0-E-1001
Boeing	D6-82479
Bombardier	QAD 4.6-1 QAD 4.6-40
Dassault	DGQT 0.70.0019A
Embraer	EQRS
Gulfstream	GAC-SQAR-0001

	GAC-SQAR-0002
Honeywell	SPOC
Leonardo	QRS 01
Lockheed Martin	QM003
Raytheon Technologies (RTX)	COL-ASQR-PRO-0003
Rolls Royce	SABRe
Textron - Beechcraft	QC00
Textron – Cessna	CQRS
Woodward	WPQR-9100

Table 11-2 Parker Meggitt Key Customer Requirements Documents

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 P-M when requested, with the completed parts.

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

Test Pieces

The applicable P-M 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 P-M QA for investigation. Confirmation of test piece results together with the test certificate number shall be recorded on the manufacturing documentation.

APPENDIX B PROCUREMENT OF STANDARD AND PROPRIETARY PARTS

Procurement

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

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

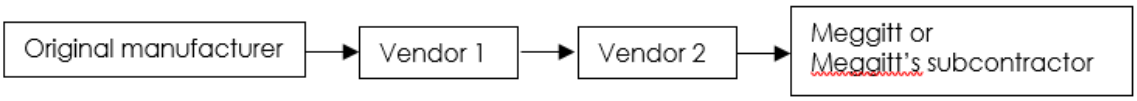
P-M designs require genuine parts to deliver equipment performance, reliability and safety. A counterfeit parts quality control instruction (MQA-11 obtainable from the P-M website) is in place to outline what processes P-M and a supplier to P-M must be compliant with in order to mitigate risk and detail disposition and reporting of counterfeit parts. P-M 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) P-M 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.