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Para 12.1.8 Para 7 Para 3.2	8 6 4	Notice of Escape, Reword Counterfeit Clause, Reword FAIR Clause	TH	2	1/12/2016	3161
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QUALITY REQUIREMENTS FOR ORGANISATIONS / SUPPLIERS

1.0 INTRODUCTION

Amphenol Ltd success is based upon the quality, performance, and economics of our products. The quality of our products depends on Zero Defect product purchased from our suppliers. To assure the highest product quality possible, Amphenol Ltd considers its suppliers as valuable team members in achieving this aim.

Quality System Requirements

The quality system requirements for Organizations to supply to Amphenol Limited:

- Minimum – Conformance & registration to **ISO 9001** latest revision, by an accredited third-party certification body, unless otherwise specified by the customer.
- Preferred - Conformance & registration to **BSEN9100 (AS9100)** latest revision, unless otherwise specified by the customer. This is mandated for non-catalogue RR Supply Chains.
- For suppliers feeding into RR supply chains SABRe 4 requirements and RRCS Supplement will be flowed down and met in addition to this document where required.

Copies of ISO9001 and BSEN9100 (AS9100) certificates shall be submitted to Amphenol. Acceptance of accreditation(s) shall be communicated to the organization. Should the status of any accepted accreditation change, (i.e. new certification, de-certification, reassessments, etc.) the organization shall notify Amphenol Limited

Where certification has not been achieved to the above requirements, a Manufacturing Capability Assessment (MCA) must be carried out before a supplier can be accepted onto the approved supplier list, or an order placed.

Re-evaluation of suppliers on Amphenol's Approved Supplier List shall take place as identified by the expiry of the suppliers' 3rd party certification or as identified by Amphenol Ltd Quality Department.

2.0 CUSTOMER REQUIREMENTS FLOWDOWN

2.1 GENERAL

- Delivery of non-compliant product to Amphenol Ltd put Amphenol and our customers' projects at risk, in terms of quality and On Time Delivery. Therefore, continual non-compliance will attract Supplier Development in terms of controlled shipping of product.
- Acceptance of an Amphenol Limited Purchase Orders implies acceptance of this document, Amphenol Limited T&Cs of Purchase/Service and any other customer requirement flow down documents provided at the time of Amphenol placing an order.

2.2 PROCUREMENT PROVIDED BY THE SUPPLIER

- To respect the environmental European legislation (non restrictive REACH, RoHS)
- To respect the regulation of his country relative to export controls and those relative to exportation of technical data and/or products of source to United States of America (ITAR & EAR)
- The supplier must require a declaration of Conformity and Test reports from its own suppliers or sub-contractors.
- The supplier has full responsibility for its own supply chain and subcontracting actions. However, bespoke purchase orders must not subcontracted without prior approval.

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2.3 COUNTERFEIT PRODUCTS

- The supplier must commit to deliver products in compliance with the order. He must not deliver products that he cannot guarantee their origin. Active components must only be procured from the OCM or **their** authorised distribution. Brokers represent a significant source of counterfeit product and must be avoided. A Certified CofC linking their origin through batch numbers will always be required.
- Ensure that the customer, via the Customer Service Representative, is always informed if a broker is used for the supply of electronic parts, even if the BOM is sealed.
- Contractors, suppliers and 3rd Party Organisations are to be aware that there is a risk of criminal penalties associated with failure due to falsification, concealment, fraud or misrepresentation in connection with the work performed, where product substitutions are made without the legal right or authority or supplied under Order in the UK and other jurisdictions.

2.4 CONFLICT MATERIALS

- If the Goods supplied against this Order contain the minerals Tin, Tantalum, Tungsten or Gold, then the Supplier shall warrant that any items or materials forming part of the Goods have been sourced from legitimate and responsible sources which comply with United Nations resolutions and which are not in any way involved in funding conflict. If requested by the Company, the Supplier shall provide all relevant information and documentation showing the source of such items and materials. The Supplier undertakes to flow down this requirement to its suppliers.

2.5 ETHICS

- The Supplier shall ensure its suppliers, employees and their supply chain operate to a high standard of quality and integrity in their relationship with their employees, suppliers and customers and shall not contribute through its activities to infringe human rights.
- The Supplier shall demonstrate compliance with the minimum standard of business behaviours, health safety and environmental practices, applicable laws and regulations and act in a way that is ethical and corporate responsibility.
- The Supplier undertakes that it will ensure that applicable anti-bribery and corruption laws are not breached.

2.6 PRODUCT CONFORMITY/SAFETY

- The supplier shall ensure that persons are aware of their contribution to product conformity and product safety. Where appropriate, operational controls shall be implemented to assure product safety throughout the whole lifecycle of the product. Amphenol products are not in themselves deemed critical, however customer application may deem them critical, this must be flowed down to vendors to make appropriate controls to manage associated risks.

2.7 Anti-Human Trafficking & Slavery

- Amphenol Limited complies with the California Transparency in Supply Chains Act of 2010 ("CTSCA") and the United Kingdom Modern Slavery Act of 2015 ("UKMSA") which require businesses to provide disclosures concerning their efforts to address the issues of slavery and human trafficking in their supply chains. In addition, the U.S. Federal Acquisition Regulations (FAR) require certain government contractors to have an anti-slavery program in place in compliance with FAR 52.222-50. In response to the CTSCA, the FAR and the UKMSA, businesses in Amphenol's supply chain are to ensure that slavery and human trafficking are not taking place in our supply chain or in any part of our business.

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3.0 DOCUMENTATION

3.1 GENERAL

The organization shall maintain and conform to the latest revision level of the required or referenced Purchase Order documentation.

3.2 AMPHENOL SPECIFIC DOCUMENTATION

Amphenol specific documentation related to Product conformance may include, but is not limited to the following:

- Parts list, Product structure (bill of materials)
- Drawing
- Specification
- Other supporting specifications/documentation (i.e. DINs, OEM customer requirements, etc.)

3.3 ORIGINAL EQUIPMENT MANUFACTURER (OEM) CUSTOMER REQUIREMENTS

The organization shall adhere to referenced OEM Customer requirements as communicated per Amphenol documentation.

4.0 AMPHENOL ORGANISATION INTERFACE

4.1 GENERAL

The organization shall communicate through the Amphenol Purchasing and Quality department unless otherwise specified. The official business language for all documents referenced in this quality standard shall be English.
Other languages may be used with prior Amphenol approval.

Note: The organization shall communicate any management or ownership changes to the Amphenol Purchasing and Supply Quality department immediately.

4.2 PRODUCT VERIFICATION

Amphenol and its customers shall be afforded the right to verify the organizations' products, processes and systems at Amphenol or suppliers' locations.

5.0 Manufacturing Capability Assessment (MCA)

The Manufacturing Capability Assessment (MCA) is a review of the organization's manufacturing process at a demonstrated line production rate. Its purpose is to verify the organization production process readiness and assure complete understanding of program requirements. Dependant on the supplied part, this could be waived where the supplier has obtained ISO9001 and/or AS9100 certification.

6.0 FIRST ARTICLE INSPECTION

6.1 A First Article Inspection (FAI) Report shall be submitted by the Supplier prior to the first shipment of Supplies provided against the Purchaser's drawing on this Order. A FAI is not required if:

- Commercial Off the Shelf (COTS) parts (COTS excluded from this requirement).
- Previous FAI has been supplied and part manufactured in the last 2 years.
- Parts in continuous supply and has remained unchanged.

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6.2 A repeat FAI shall be performed if any of the following applies:

- One or more significant changes have been made to the Supplies;
- Where there is any effect on the form, fit or function of the Supplies, thus causing a part number, or part number/issue increment. A change of material would be classed as a 'form' change;
- Change to the Supplier's manufacturing process; (key manufacturing equipment and/or personnel, or process stages which could affect final product quality)
- There has been a change of manufacturing location;
- There has been a change of a sub-tier supplier of a critical sub-part or outsourced process:
- There has been a break in the manufacture of the ordered Supplies of greater than twenty-four (24) calendar months (e.g. non-continuous follow-on orders).

6.3 Repeat FAIs may be full or partial, the scope being determined by the Purchaser on notification by the Supplier of the nature of the change.

6.4 The FAI is to be performed by the Supplier in accordance with AS 9102 at latest revision, including, but not limited to, the recording of actual dimensions/ test data results / process control/ build traceability.

6.5 Last Off Article Inspection Reports (LAIRS) will be required for non-catalogue parts where relocation, including relocation of just the machine, or process change is carried out which may affect fit, form or function.

7.0 PROCESS AUDITS

7.1 GENERAL

The Amphenol Supplier Quality Assurance (SQA) representative shall perform audits of the organization's manufacturing process as deemed necessary.

7.2 AUDIT CONDITIONS

Conditions which warrant audits may include the following:

- Quality issues
- Engineering changes
- Process changes
- Plant location changes (e.g. Tool transfer) which also requires First article submission

7.3 AUDIT CRITERIA

Criteria for these audits focus on MCA items; however, other criteria may be utilized. The Amphenol Supplier Quality Representative shall determine the appropriate criteria and communicate this information to the supplier.

8.0 ASSESSMENT OF QUALITY SYSTEMS

8.1 ISO9001:2015 and/or EN9100:2018 (AS9100D) COMPLIANCE

Suppliers to Amphenol Limited need to refer to the latest edition of **EN9100:2018** with the goal of supplier conformity with this technical specification.

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8.2 QUALITY SYSTEM ASSESSMENT

An assessment of the organization's quality system shall be performed utilizing the MCR audit form IAW with Amphenol's procedure. Assessments will be conducted on site or via a self-assessment. Eligibility for self-assessment shall be determined by the Amphenol SQA. Results of the Checklist shall be documented and communicated to the organization by SQA.

8.3 QUALITY SYSTEM RE-ASSESSMENTS

A re-assessment of the organization's quality system shall be conducted by the SQA if deemed necessary (i.e. Quality issues, engineering changes, certification, etc.).

9.0 SPECIFICATION / REQUIREMENT CHANGE / CONCESSION REQUESTS

9.1 GENERAL

Requests for changes or concessions (temporary or permanent) to specifications or requirements shall be documented. Approval shall be made through ALtd's SQA and Buyer. In today's conformance driven market and end users drive towards Zero Defects, concessions should be considered as a last resort. End customers are finding that progression of a concession through safety boards and their customer unwillingness to approve non-conformities to specification are increasing costs and inducing delays to the delivery of the final product.

9.2 CONCESSIONS

Concessions are Batch, Quantity or Time limited deviations from specifications. These concessions shall be temporary and are not considered permanent. The supplier must seek approval prior to shipment via the purchasing department from the responsible Supply Quality Engineer (i.e. SQA). In many cases concessions will not be accepted due to the disproportionate approval cost. If approved the Concession Number must be prominently displayed on the CofC.

9.3 REQUEST FOR ENGINEERING APPROVAL OR PRODUCT CHANGE NOTIFICATION

Supplier initiated change requests shall be formally submitted using Source Change Document to the Purchasing Department and SQA. The organisation shall make no changes until Amphenol approval has been granted. Where the change affects the Suppliers Catalogue part, and therefore external approval not required, a Product change notification is to be issued to ALtd Purchasing Department and SQA to enable customers to be notified of the change with ample notice, AS9100 8.3.6 refers.

10.0 NONCONFORMANCE, CORRECTIVE AND PREVENTIVE ACTIONS

When Amphenol has notified the vendor of a 'Non-conformance' with supplied material, the vendor is responsible for:

10.1 Initial Containment

- Shall be implemented within 24 hours (1 calendar day) of notification by Amphenol. (All verbal notifications by Amphenol shall be followed up with written CAR).
- Containment actions shall include all affected material in the organization's control, transit and in possession of Amphenol, or finished product shipped to Amphenol's customers.
- The organization shall notify the Purchasing Department of material availability.
- The organization shall notify the Supplier Quality Representative of their containment actions and to discuss coordination of containment of material at Amphenol and Amphenol's customers.

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10.1.1 Initial Report

A written initial report shall be submitted to the Amphenol Supplier Quality Department within 1 week (or otherwise specified time frame) of formal notification of the concern. This initial response shall, at minimum, contain:

- Amphenol Concern Number and Date of Non-conformance
- Problem Description
- Containment action description
- Containment action verification (Quantitative results)
- Certified material shipment dates and identification
- Root Cause analysis status

Note: It is understood that investigations sometimes require the return of the product, therefore timings may vary, but every opportunity for open communication of the issue should be taken.

10.1.2 Formal Corrective Action Report

A Formal Corrective Action Report shall be submitted to the Amphenol Supplier Quality Department within 1 month (may vary as discussed above). If corrective actions are not validated within 90 days and closed within 120 days, escalation action will be taken.

10.1.3 Organization Containment Level Procedures

If the vendors containment actions are not effective, progressive Amphenol initiated procedures shall be implemented for the organization. Exit criteria will be defined by the Amphenol SQA Representative. Any reoccurrence will result in the 30-day inspection period to restart the process. The inspection period begins once root cause has been identified and corrective actions are in place.

- **Controlled shipping level 1 (CS1)** - The organization shall implement 100% inspection for a period not less than 30 days with no re-occurrence of the issue.
- **Controlled shipping level 2 (CS2)** - A containment process under customer control. Containment conducted at customer site, organization, or third-party location at the organization's expense. This process may be used if Level 1 containment is ineffective at containing a non conformance. The organization shall implement 200% inspection for a period not less those 30 days with no re-occurrence of the issue.

10.2 Product Alert/Recall

The supplier is to maintain a process of alerting Amphenol Limited of potential defective product already despatched and any potential quarantine required of suspected supplied stock.

Additionally, product Recall Procedure is to be maintained to inform Amphenol Limited, or its customers, following a design change or quality issues that can be categorised as a critical defect; e.g. product affecting safety.

Notice of Escape - Amphenol Limited must be informed immediately (not to exceed 24 Hours or next business day) of suspect non-conforming product shipped regardless of destination.

10.3 Foreign Object Damage (FOD)

Vendors SHALL comply with AS9146 FOD Prevention Program requirements. Generally for all supplied sub-components and its packaging, this means all Foreign Object that do not form part of the end product. The vendor is to ensure product and it's packaging is delivered clean (no visible dust or dirt), free from, Burrs, Product Process/manufacturing Debris, plastic media, mag deburr media, glue, solder balls etc or any other item that could cause damage to in transit or in use.

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10.4 CORRECTIVE ACTION REPORT (C.A.R.) 8D Report

A written corrective action/8D report with implementation/effective dates and assigned responsibilities shall contain, at a minimum, the items listed below:

- Description of the concern and Amphenol Concern Number
- Containment action
- Root Cause of the concern with verification
- Corrective action
- Verification of containment and corrective action.
- Preventive measures for 'Lessons Learned' and applicable to similar products and processes.
- Verify Process Flow Diagrams, PFMEAs and Process Control Plans have been updated
- Note: Changes to the product and/or the product documentation (i.e. drawings, specifications, Control Plans, PFMEAs, Flow charts, Bill of Material's, etc) due to corrective action implementation shall be documented through revision levels/dates.

11.0 ORGANISATION QUALITY PERFORMANCE

The organization shall be assessed, by the Amphenol Sourcing Team, regarding their ongoing quality performance. Performance assessments will be carried out by the Purchasing department and communicated to the Vendor. Criteria Used:

- PPM
- OTD
- NUMBER of CONCERNS RAISED
- CAR Response Time

12.0 PREVENTIVE / PREDICTIVE MAINTENANCE

Often poor delivery is due to machinery breakdown or downtime. Vendor's shall implement a preventive / predictive maintenance program for process Machine/equipment to limit the impact of these events. The organization shall document and maintain this program and it shall be available upon request by the SQA.

13.0 CUSTOMER FURNISHED EQUIPMENT

All Amphenol Limited property shall be identified, verified and stored in such a manner so as not to cause any deterioration or compromise its intended use. This also includes test devices and any setting jigs, fixtures or tooling. Where required this may require a maintenance programme or calibration of equipment. Customer property is also the provision of intellectual property including but not limited to, Drawings, Specifications and Electronic data

All Documents, Records, gauging, stamps or other customer supplied products are to be returned on notification from the customer or when business with the customer has ceased.

14.0 CONTINUAL IMPROVEMENT PROCESS (CIP)

The organisation shall implement continual improvement efforts throughout their entire organization as stated in the AS9100 standard. Results of the Continual Improvement Process shall be documented and retained at the organization's location. This information shall be made available upon request by the Amphenol Sourcing Team.

In the first instance Vendors should consider the adoption of Zero Defects methodology. Many of Amphenol Limited's aviation customers are using Zero Defect to improve process. As such many will not accept concessions as the cost of submission through the various customer safety boards is getting prohibitive. As a minimum, vendors are to address the two main issues for non-conformity which are Handling Issues (damage or mislabelling) and Dimensional. If consideration is given to immediate actions to stop the flow and long-term actions to remove the problems this will alleviate most quality issues and significantly reduce your costs.

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