



RC-9000

SUPPLIER QUALITY MANAGEMENT SYSTEM REQUIREMENTS

CORPORATE OVERVIEW

Collins Aerospace is a pioneer in the design, production, and support of innovative solutions for our customers in aerospace and defense. Working together, our global team shares a vision to create the most trusted source of aviation and high-integrity solutions, applying insight and foresight to help our customers succeed.

INTRODUCTION

Collins Aerospace values the strategic relationship we have with our suppliers. We recognize our suppliers have a key role in maximizing our customer's satisfaction. We are committed along with you to bring significant value to our customers, and we welcome your input in making the materials and services you provide even better.

PURPOSE

Collins Aerospace understands that Quality Management System types can vary among suppliers. The purpose of this document is to provide clear expectations to our suppliers that are in addition to what is normally required in an industry standard Quality Management System and to state additional business requirements.

1 GENERAL REQUIREMENTS

1.1 PURPOSE

These requirements are intended to be supplementary to the requirements in COL-ASQR-PRO-0003 *Aerospace Supplier Quality Requirements*, or to provide separate Strategic Business Unit (SBU)/Site specific requirements which may be different or otherwise modified. Suppliers are required to be compliant with both documents.

COL-ASQR-PRO-0003 can be found at the following locations:

- <https://suppliers.utc.com/SPPortal/Pages/Forms>
- <https://portal.rockwellcollins.com/web/suppliers>

1.2 SCOPE AND APPLICABILITY

The contents of this document are broken down into site-specific sections. Please refer to the requirements for the site or site(s) you supply to in accordance with *Table 1*.

TABLE 1: APPLICABILITY MATRIX

Applies To			Requirements Link
Strategic Business Unit (SBU)	Heritage Business Unit (HBU)	Ship To Site Location (Plant Number)	
All	All	All	COL-ASQR-PRO-0003¹
Additional Site Requirements Below			
AVI & MIS ²	RC & UTAS ³	All Identified Below	RC-9000, Section 1
AVI & MIS	RC	<ul style="list-style-type: none"> • Cedar Rapids/ Coralville/Decorah, Bellevue/Manchester, IA (1002) • Wilsonville, OR (1022) • Heidelberg, Germany (9201) • Melbourne, FL (1001) • Mexicali, Mexico (1006, 1500) • Blagnac, France (9101) • Carlsbad, CA (1035) • Richardson, TX (1007) • Ottawa, Canada (2101) • Winnersh/Burgess Hill, UK (9001) • Colorado Springs, CO (1043) • Fairfield, CA (1042) 	RC-9000, Section 2
AVI	"Rosemount Aerospace" (UTAS)	<ul style="list-style-type: none"> • Burnsville, MN (2465, 2467) 	RC-9000, Section 3
AVI	"Hoist & Winch" (UTAS)	<ul style="list-style-type: none"> • Anaheim, CA (2575) 	
AVI	"L'Hotellier" (UTAS)	<ul style="list-style-type: none"> • Antony, France (N/A) 	RC-9000, Section 4
AVI	"Kilde" (UTAS)	<ul style="list-style-type: none"> • Wilson, NC (2790, 2794, 2792) 	COL-ASQR-PRO-0003¹

¹COL-ASQR-PRO-0003 is the Collins Aerospace Supplier Quality Management Systems flow down requirements, applicable to all Strategic Business Units within Collins Aerospace.

²AVI = Avionics, MIS = Mission Systems

³RC = Rockwell Collins, UTAS = United Technologies (Corporation) Aerospace Systems

For suppliers exclusively supplying Ground-Based Products to Mission Systems locations in Salt Lake City, UT (1026) and Sterling, VA (1027), the requirements of this document are not applicable. Please refer to [Ground Based RC-9000](#).

The HBU-specific *Maintenance, Repair and Overhaul (MRO)* requirements within are applicable to MRO suppliers, as flowed down on purchase order or contract. These sites/plant numbers may not be listed in *Table 1: Applicability Matrix*.

For a complete list of Acronyms, Terms and Definitions refer to [Appendix A](#). For a complete list of References, refer to [Appendix B](#).

Unless otherwise specified, “customer” or “Collins Aerospace customer” refers to Collins Aerospace’s customer. Unless otherwise specified, “Buyer” or “Collins Aerospace Buyer” refers to Collins Aerospace.

1.3 ORDER OF PRECEDENCE

In the event there is a requirement that appears to conflict with another requirement, the following order of precedence applies:

- 1) Contract
- 2) Purchase Order (PO)
- 3) Drawings/Specifications referenced on PO/Contract
 - 3.1. Collins Aerospace Specifications Referenced on Drawing
 - 3.2. Industry Specifications Referenced on Drawing
- 4) RC-9000 – Site-Specific Requirements (Sections 2-4)
- 5) RC-9000 – General Requirements (Section 1)
- 6) COL-ASQR-PRO-0003 – Aerospace Supplier Quality Requirements

If further clarification is needed, please use the appropriate Supplier Request for Information (SRI) form per [Table 3](#).

1.4 COMPLIANCE

The supplier shall establish compliance to this document within 60 days of the document effective date, unless contractually obligated otherwise, or unless otherwise specified in the Buyer publication notification.

Requests for waivers, exclusions, or alternative methods to comply with these requirements shall be submitted to Collins Aerospace for approval (Refer to [1.9 Supplier Communications](#)). In addition, the supplier shall maintain a copy of any approved exceptions and make available for review by Collins Aerospace Quality Assurance or other personnel upon request.

1.5 REQUIREMENTS FLOW DOWN

Suppliers shall flow down all applicable design documentation requirements (e.g., drawings, specifications, models, acceptance documents, test plans, descriptions, etc.), and all applicable requirements within this document to their suppliers. The supplier is responsible for ensuring compliance to all applicable requirements throughout their supply chain.

For items where Collins Aerospace is the design authority, the supplier shall indicate that Collins Aerospace is the Customer and has design authority within the text of the purchase order to, or contract with, their suppliers.

1.6 QUALITY MANAGEMENT SYSTEM (QMS) CERTIFICATION REQUIREMENTS

The Supplier receiving a purchase order from Collins Aerospace shall have their QMS certified in accordance with *Table 2*. Refer to [Appendix A](#) for definitions of supplier types.

TABLE 2: QMS CERTIFICATION REQUIREMENTS BY SUPPLIER TYPE

Supplier Type	QMS Certification Required
Build-to-Print (BTP)	AS/EN/JISQ9100
Build-to-Spec	AS/EN/JISQ9100
Distributor	AS/EN/JISQ9120, AS/EN/JISQ9100, ISO 9001, or IATF 16949
Special Process Suppliers	AS/EN/JISQ9100, or Nadcap AC7004
Calibration or Laboratory Service Provider	ISO/IEC 17025, ISO 10012, or Nadcap AC7006
Industry Standard Part or Industry Standard Raw Material Manufacturer	AS/EN/JISQ9100, ISO 9001 or IATF 16949

For suppliers of products which are exclusively used in non-military, non-aerospace applications (i.e., materials, parts and assemblies which are not part of a defense contract and are not intended for, nor will be used in the air space), QMS certification to ISO 9001 is sufficient for Supplier Type certifications that otherwise require AS/EN/JISQ9100 in accordance with the table above.

All Distributors in the supply chain shall be certified by an industry accredited body to AS/EN/JISQ9100, AS/EN/JISQ9120, ISO 9001, or IATF16949.

Materials Testing Laboratories shall be accredited by either Nadcap or by signatories to the ILAC.

A supplier providing deliverable software shall conform to AS9115, and the process shall include:

- Risk Management Program
- Software Bill of Materials (SBOM) in an Industry Standard Format

1.7 NON-DELIVERABLE PARTS, SOFTWARE, AND SERVICES

A supplier providing a part, item, software, or service that is not intended to be delivered to a customer or used by Collins Aerospace in the manufacture, assembly, inspection, or test of customer product (i.e., internal Collins Aerospace use only) is excluded from the requirement to have a documented QMS (non-Deliverable supplier).

1.8 NOTIFICATION OF QMS STATUS CHANGES

If the supplier's QMS is not compliant to the applicable requirements, or if its QMS certification is revoked, suspended, changed, or will expire during the performance of the order, the supplier shall notify Collins Aerospace in writing within (2) business days. All affected part numbers shall be listed in the notification.

For renewals, the supplier shall provide a copy of their QMS certification to Collins Aerospace in one of the following ways:

- Upload a copy of their certification in the supplier record in Ariba Self Service, if the Collins purchasing site uses the Collins Aerospace supplier portal (<https://portal.rockwellcollins.com/web/suppliers>) (Sites identified in RC-9000, Section 2 of [Table 1](#))
- Submit COL-ASQR-FRM-0002 per *Table 3: Supplier Communications*, and include a copy of their QMS Certification
- Ensure OASIS database is updated with current copy of certification within (30) days of receipt

1.9 SUPPLIER COMMUNICATIONS

Suppliers shall communicate with Collins Aerospace using the Forms and Submission Methods in *Table 3* in one of the following ways:

- to CollinsChanges@Collins.com if the Collins purchasing site uses the Collins Aerospace supplier portal (<https://portal.rockwellcollins.com/web/suppliers>) (Sites identified in RC-9000,

Section 2 of [Table 1](#)). **Do not send Technical Data to this email address. Foreign Nationals may be monitoring this inbox.**

- To burnsville-avionics_scqa@collins.com for suppliers to Burnsville, MN (2465, 2467)
- to Collins Aerospace Procurement

Supplier Forms can be found in the following locations:

- <https://portal.rockwellcollins.com/web/suppliers/utc-supplier-docs> (All Forms)
- <https://suppliers.utc.com/SPPortal/Pages/Forms> (COL Forms)
- <https://www.rtx.com/suppliers/United-Technologies-Suppliers/United-Technologies-ASQRD> (ASQR-01 Forms)

TABLE 3: SUPPLIER COMMUNICATIONS

Form	Title	Used For	Submission Method
COL-FRM-0045	<i>QMS Supplier Audit Checklist</i>	<ul style="list-style-type: none"> • Self-assessing compliance/gaps to COL-ASQR-PRO-0003 	N/A
COL-ASQR-FRM-0002	<i>Process Change Notification</i>	<ul style="list-style-type: none"> • Notification of and request for approval of changes that may affect product quality and/or product fit, form, or function • Notification of QMS Certification status changes • Notification of any potential, known, or planned obsolescence • Notification of work transfers which do not require approval 	CollinsChanges@Collins.com OR burnsville-avionics_scqa@collins.com OR Collins Aerospace Procurement (Buyer)
Supplier Request for Information (Rockwell Collins Sites)	<i>Supplier Request for Information (SRI)</i>	<ul style="list-style-type: none"> • Documenting an inconsistency in a drawing and/or specification that could result in a nonconformity. • Requesting an engineering change, material change, deviation, alternate method, alternate material, or alternate component. • Gaining clarity or definition of a drawing or specification. • Requesting authorization for waiver, exclusion, or alternative method to comply with this document • Requesting approval before altering/repairing customer property • THIS FORM IS NOT USED FOR DISPOSITION OF NONCONFORMING PRODUCT 	Collins Aerospace Procurement (Buyer)
COL-ASQR-FRM-0003 (All Other Sites)	<i>Supplier Request for Information (SRI)</i>	<ul style="list-style-type: none"> • Requesting clarification, interpretation, or communication of identified errors for drawings, specifications, requirements, • Requesting authorization for waiver, exclusion, or alternative method to comply with this document • Requesting approval before altering/repairing customer property • Requesting approval to use material/hardware with broken traceability or from an unauthorized source • Requesting approval to use an alternate inspection plan • THIS FORM IS NOT USED FOR DISPOSITION OF NONCONFORMING PRODUCT 	
ASQR-01 Form 4	<i>Work Transitions</i>	<ul style="list-style-type: none"> • Requesting approval of planned work transfers (e.g., make to make, make to buy, buy to buy, and buy to make) 	CollinsChanges@Collins.com OR Collins Aerospace Procurement (Buyer)

Form	Title	Used For	Submission Method
COL-ASQR-FRM-0005	<i>Compliance Gap Analysis</i>	<ul style="list-style-type: none"> Self-assessing compliance/gaps to COL-ASQR-PRO-0003 	N/A
COL-ASQR-FRM-0006	<i>Notice of Potential Quality Escape (NOPQE)</i>	<ul style="list-style-type: none"> Communicating discovery of suspect and validated nonconforming product having been shipped regardless of destination and time frame (including product impacted by GIDEP alerts, and out of calibration tolerance measuring equipment) 	CollinsChanges@Collins.com OR burnsville-avionics_scqa@collins.com AND Collins Aerospace Procurement (Buyer)
ASQR-01 Form 7	<i>Delegated Quality Representative (DQR) Candidate Application Form</i>	<ul style="list-style-type: none"> Requesting approval for DQR candidates 	burnsville-avionics_scqa@collins.com OR Collins Aerospace Procurement (Buyer)
ASQR-01 Form 8	<i>Letter of Agreement DQR Program</i>	<ul style="list-style-type: none"> Documenting acceptance in DQR program (approval granted once every three years) 	burnsville-avionics_scqa@collins.com OR Collins Aerospace Procurement (Buyer)

1.10 EMPLOYEE AWARENESS

The supplier shall ensure that all personnel working for, or on behalf of the supplier, in activities relevant to the realization of product or services provided to, or for Collins Aerospace, are aware of:

- their contribution to product or service conformity
- their contribution to product safety
- the importance of ethical behavior

1.11 OBSOLESCENCE MANAGEMENT

When product is at risk of obsolescence, Collins Aerospace shall be notified with sufficient lead time so as not to disrupt production and delivery schedules. The supplier shall include the following information in the notification, if known:

- Part number(s) of the products becoming obsolete
- Forecasted manufacturing end date, and/or serial number cut in
- Deadline for placing orders
- Minimum order quantities or last buy opportunities related to obsolete product
- Cause of the obsolescence
- Name of suggested replacement product
- Storage recommendations
- Time period for the availability of records for the obsolete product (e.g., conformance data, technical data, etc.)

1.12 SHELF-LIFE AND ENVIRONMENTAL STORAGE CONDITIONS

For environment-sensitive or age-sensitive material, the supplier shall provide information regarding shelf-life start date (e.g., manufacturing or cure date), shelf-life expiration date or time period, pot life requirements and recommended storage conditions (e.g., temperature and humidity), as applicable. This information shall be affixed on the material container and included on the supplier's Certificate of Conformance/Compliance (CofC) and/or Test Report. At a minimum this information shall include the following:

- shelf-life start date in MM/DD/YY format
- shelf-life expiration date in MM/DD/YY format, or expiration time period (e.g., 1-year)
- any required storage conditions such as temperature and humidity

For environment-sensitive material, the supplier shall package material in a suitable manner and provide for controlled conditions (e.g., temperature and humidity monitoring), to maintain environmental storage requirements throughout shipment and delivery to Collins Aerospace.

This requirement also applies to battery-powered products.

Note: Material covered under vendor-managed inventory may be excluded from this requirement.

2 ROCKWELL COLLINS REQUIREMENTS

2.1 PURPOSE

This section defines the additional or modified Quality Management System (QMS) requirements for suppliers to the **Rockwell Collins sites** identified in [Table 1](#).

The requirements in this section supersede the following requirements:

- RC-9000, Revision Date: 29 JUL 2022

2.2 RECORD RETENTION

The supplier shall retain all purchasing, production control, quality, manufacturing and manufacturing methods, test, and other related documents associated with the item purchased, for a minimum of 10 years after order completion. The documented information shall provide evidence of conformity to requirements and to the effective operation of the supplier's QMS.

First Article Inspection Reports (FAIR) and related documentation shall be retained by the supplier while the product is being produced, and for 10 years + the current year, after production has ended. FAIRs and related documentation shall be retained in their original format. All requested information shall be provided in the language required by the contract.

U.S. suppliers, including all their sub-tier suppliers, performing maintenance or preventive maintenance of products for applicable Federal Aviation Administration (FAA)-regulated customers shall retain all records necessary to demonstrate compliance with the Department of Transportation (DOT) FAA drug and alcohol testing regulatory requirements for a minimum of 2 years after conducting a required drug or alcohol test.

2.3 SUPPLIER-INITIATED CHANGES

The supplier shall notify Collins Aerospace in writing prior to shipping material or products with changes in product, processes, components, sub-suppliers / sub-contractors, manufacturing facility locations, packaging, shipping method, or outside processors. Refer to [Section 1.9 Supplier Communications](#).

For items where Collins Aerospace has design authority (e.g., Build-to-Print (BTP) items), suppliers are required to obtain written approval from the Buyer prior to any change(s) that could affect product quality and/or product fit, form, or function (process improvements, changes to special processing mentioned in COL-FRM-0087, changes to measurement methodology, changes to resources/equipment, etc.). Suppliers are required to maintain a record of all such approvals and have them available upon request.

2.4 REQUESTS FOR PRODUCT PRE-DELIVERY VARIANCE

For nonconforming product, that the supplier is requesting authorization to ship, the supplier shall submit a [PDV Request Form](#) to the Collins Aerospace buyer for review and disposition (approval). The supplier shall not submit requests for variance to the Collins Aerospace customer.

2.5 MATERIAL SUBSTITUTIONS

Unless otherwise directed on the drawing, approved substitutions (e.g., material composition, material temper, inspection test coupon design patterns, panelization requirements, etc.) are permitted as defined within the Collins Aerospace Specifications (e.g., 580-0798, 580-5800, 580-1497, etc.) referenced on the drawing.

2.6 CANCELLED SPECIFICATION

Industry/Military/Federal Specification Cancellation Notice Interpretation:

For items where Collins Aerospace has design authority (e.g., BTP items) and calls out a cancelled industry, military or federal specification, the cancellation notice shall be reviewed. Any requirement or guidance in the cancellation notice to utilize other standards or specifications shall be interpreted as follows:

Notices with "may" or "should" are not superseded by the alternate standard/specification. The last active version of the cancelled standard/specification shall be used. If certification cannot be obtained to the last active version, please contact the Buyer for any assistance.

If the Collins purchasing site uses the Collins Aerospace supplier portal (<https://portal.rockwellcollins.com/web/suppliers>), refer to 580-0778-010 to find an acceptable alternate specification. **For Colorado Springs, CO (1043) and Fairfield, CA (1042):** This requirement does not apply, the supplier is to submit a Supplier Request for Information (SRI) to request approval to use an alternate specification, reference [Section 1.9 Supplier Communications](#).

Notices with "shall" or "superseded" provide a firm requirement to use the alternate standard/specification in place of the cancelled standard/specification.

Exceptions to this interpretation are drawings or Purchase Orders that require a specific revision of the cancelled standard/specification (example: "Finish in accordance with MIL-G-45204C" or "Finish in accordance with ASTM B488-95"). The revision indicated is required to meet the requirements of the drawing regardless of inactive or cancelled status.

Please contact the Buyer for any assistance when interpreting cancellation notices, this requirement or if the specification is cancelled without replacement and non-procurable and there is no documented path to get to an available specification.

2.7 WORKMANSHIP

Suppliers shall document workmanship plans and acceptance standards in accordance with the performance and reliability requirements of the Collins Aerospace specifications. For electrical parts, the plans and acceptance standards shall comply with J-STD-001 plus appendix A, Requirements for Soldered Electrical and Electronic Assemblies, ANSI/IPC-A-610, Acceptability of Electronic Assemblies, and IPC/WHMA-A-620 Requirements and Acceptance for Cable and Wire Harness Assemblies. Other part types shall have workmanship standards in accordance with the relevant drawings, specifications, and the supplier's QMS. Workmanship requirements specified on the component specification/drawing or elsewhere on the contract or purchase order shall take precedence over this section.

2.8 COUNTERFEIT PARTS PREVENTION

Suppliers shall purchase material directly from Original Equipment Manufacturers (OEM), Original Component Manufacturers (OCM), or their authorized distributors, when the parts are still being manufactured or available in stock directly from such sources. Purchases from independent distributors (i.e., brokers) are not allowed without prior documented approval from Collins Aerospace. Independent distributors of Electrical, Electronic and Electromechanical (EEE) parts shall be certified to AS6081. Suppliers are required to maintain a file of all Collins Aerospace approvals.

2.9 SUPPLIER SELECTION AND MANAGEMENT

The supplier shall perform evaluation and selection of their suppliers based on their ability to supply product or service which is compliant to the Buyer's requirements. Minimum criteria for this evaluation and selection shall be established, including periodic review, to demonstrate the supplier's ability to provide conforming material or service and mitigate risk to the customer. Records of this evaluation and review shall be maintained in accordance with the document retention requirements defined in [Section 2.2](#).

2.10 APPROVED MANUFACTURER LIST (AML)

Note: The requirements in this section mark a significant departure from the requirements in COL-ASQR-PRO-0003 for a Qualified Distributor List (QDL). The requirements for use of suppliers on the AML, as outlined below, take precedence, to the exclusion of, similar requirements in COL-ASQR-PRO-0003.

The AML is a database that supplements Collins Aerospace engineering requirements. The AML is located on the Collins Aerospace supplier portal and is only applicable if the Collins purchasing site uses that portal (<https://portal.rockwellcollins.com/web/suppliers>). When furnishing assemblies or subassemblies that have a parts list detailed or specified on the Buyer's drawing, or when directly furnishing an item listed on the AML, the Seller shall obtain the approved supplier part from the approved supplier, as identified in the AML. The AML is controlled by the Collins Aerospace ERP system (SAP). The AML can be viewed in three places on the supplier portal:

- **Part Changes:** Includes the bill of materials and approved sources, where applicable, for active parts (on agreement, open purchase order, or valid quote in the SAP system) that the Seller directly supplies to Collins Aerospace.

- **Quotes:** Shows the approved supplier and supplier part number with Quality Approval Level (QAL) status when the Seller is quoting an item on the AML to be supplied directly to Collins Aerospace.
- **Purchase Orders, Part Number Cross Reference:** Shows the approved supplier and supplier part number for purchase orders with the Seller for items on the AML to be supplied directly to Collins Aerospace.

Seller shall only deliver items, and assemblies containing items from manufacturers for which the QAL status (aka part status) is one of the following:

- **APVD (Approved):** Item has been approved by Collins Aerospace and only the listed supplier and supplier part number are allowable for use.
- **NSR (No Status Required):** Any manufacturer's parts may be furnished that are compliant to the item specification.
- **COMP (First Article Inspection Complete):** Only the listed supplier and supplier part number are allowable for use and a First Article has been approved by Collins Aerospace and is on file.
- **REQD, REV, or LGCY (First Article Inspection Required):** First Article Inspection needs to be completed or obtained by seller before shipment.
- If the QAL status of an item is SSA (Subject to Sample Approval) or FAI (First Article Inspection), a sample of the item shall be sent to Collins if requested, and item shall be approved by Collins prior to use by the seller. If approved, Collins will change the QAL status to one of the above acceptable statuses (i.e., APVD or COMP).

Note: the AML requirement does not apply to items in a parts list that are mechanical BTP drawings, even if the BTP item is listed in the AML, unless the drawing/specification references Suggested Source(s) of Supply or Approved Source(s) of Supply. BTP assemblies may contain components subject to the AML, and those components are in scope to this requirement. Also, printed wiring boards (PWBs) are unique BTP parts, where suppliers are qualified by technology per 580-0798 and the AML applies.

Additional training and resources related to the AML can be found on the supplier portal (<https://portal.rockwellcollins.com/group/suppliers/index>).

Products on the Qualified Products List (QPL) shall be manufactured by a manufacturer on the Qualified Manufacturers List (QML), as defined by the US Defense Logistics Agency. QPL/QML information can be found at the following link: <https://qpldocs.dla.mil/default.aspx>

The use of an approved source of supply shall not be considered by the supplier as evidence of effective control of the sub-tier supplier.

2.11 SPECIAL PROCESSES

The supplier is required to validate and control all Special Processes and shall maintain evidence that supports the ability of the processes to achieve the specified results. Validation includes, but is not limited to, defined process criteria, approved and trained personnel, approved equipment, specific methods, or procedures specified by the design authority, retention of records, test reports, and re-validation plans. Collins Aerospace reserves the right to verify or validate by any means necessary the special processes that are used on Collins Aerospace parts or products.

Questions related to special process control should be addressed with the Collins Aerospace Buyer.

2.11.1 Special Process accreditation for BTP parts: The below special processes shall require Nadcap accreditation. This requirement may be flowed through the terms of the contract or using PO code RC-30. All suppliers of BTP parts performing these special processes (regardless of tier) shall be Nadcap accredited for each special process, unless granted a waiver or exemption by Collins:

- Chemical Processing
 - Plating/Electro-Deposition
 - Electroless Plating
 - Anodizing
 - Wet Paint Application
 - Passivation
 - Chemical Conversion Coatings
 - Dry Film Lubrication

- Coatings
 - Thermal or Plasma Spray
 - Vapor Deposition of metals
- Composites
 - Structural Carbon Fiber Layups and Moldings
- Electronics
 - Printed Board Fabrication
 - Printed Board Assembly
 - Cable and Wire Harness Assembly
- Heat Treating
 - Heat Treating
 - Annealing
 - Furnace, Vacuum, and Dip Brazing
 - Hot Isostatic Pressing (HIP)
- Materials Testing Laboratories (see [Section 1.6](#) for QMS Certification Requirements)
 - Material Testing
 - Chemical Testing
- Non-conventional Machining and Surface Enhancement when Special Process Provisions are indicated by Drawing or Specification
 - Electrical Discharge Machining (EDM)
 - Laser Beam Machining (LBM)
 - Shot Peening
- Non-Destructive Testing (NDT)
 - Radiographic Testing
 - Penetrant Inspection
 - Magnetic Particle Inspection
 - Ultrasonic testing
 - Eddy Current Testing
- Non-Metallic Material Manufacturing, in support of Composites
- Non-Metallic Material Testing, in support of Composites
- Welding
 - Fusion Welding
 - Torch and Induction Brazing
 - Effective Jan 1, 2025, for the following Welding processes:
 - Resistance Welding (e.g., Spot, Seam, Projection)
 - Laser Welding
 - Electron Beam Welding

Note: Special process categories are defined by Performance Review Institute (PRI). Nadcap or International Laboratory Accreditation Cooperation (ILAC). Special processes within the above categories (e.g., Chemical Processing) but not listed above are out of scope and Nadcap is not required.

2.11.2 Collins Aerospace recognizes the following as special processes, even though they are not associated with Nadcap. These processes shall meet the applicable requirements of AS/EN/JISQ9100D, section 8.5.1.2.

- Vapor Deposition on Glass
- Encapsulating and Potting
- Impregnation
- Leak Testing
- Vibration or Qualification Testing

2.11.3 Parts processed using custom Collins Aerospace finishes shall be processed through a supplier identified as approved for that process on the Approved Special Processors Listing posted on the Collins Aerospace Supplier Portal (<https://portal.rockwellcollins.com/group/suppliers/index>). The processes identified within this document include, but are not limited to, tin-bismuth plating (580-0225 and 580-0151), corrosion resistant electroless nickel (952-0766), bright alloy plating (580-0001), and chem-film on copper and copper alloys (580-0034).

2.11.4 Build-to-Spec Suppliers shall have a comprehensive special process management program in place for the special processes listed in section 2.11.1, to include the following requirements:

- The program shall include maintaining a list of qualified Special Process Suppliers along with their Nadcap approval status.
- If Special Process Suppliers do not hold Nadcap certification, the Build-to-Spec Supplier shall maintain appropriate oversight of internal and supplier processes including, but not limited to, onsite special process audits, periodic testing of product, and other means to validate product integrity.
- Build-to-Spec suppliers shall provide the objective evidence of their special process supplier oversight program satisfying the requirements of AS/EN/JISQ9100D 8.4.3 and 8.5.1 to Collins Aerospace upon request. An on-site review of the oversight program may be required.
- If a supplier uses any special process sources that are not accredited to Nadcap, the supplier shall have formal concurrence from Collins Aerospace that the supplier's special process oversight plan is acceptable to Collins Aerospace.
- Build-to-Spec suppliers shall notify Collins Aerospace of any changes to their special process supplier program that violate AS/EN/JISQ9100D requirements or may affect form, fit, or function.

2.12 CALIBRATION

All gauges, equipment and other test devices used for product acceptance or in-process control will be included in the supplier's calibration system and the calibration shall be traceable to a national standard.

Supplier management systems for the control of monitoring and measuring equipment shall meet either ISO 17025 or ISO 10012.

2.13 KEY CHARACTERISTICS (KC)

Products having one or more characteristics identified on the drawing as "Critical" or "Key" or by the symbol "KC" on the Collins Aerospace drawing, shall be inspected and/or tested in accordance with Collins Aerospace 839-8031-001, Inspection/Test of Key Characteristics of Components. The data shall be recorded on 074-8432-999, Supplier Advanced Quality System KC Summary Sheet and Detail Data Sheet, or approved equivalent. These documents are available on the Supplier Portal, and/or may be provided upon request.

Supplier shall perform a Measurement System Analysis (MSA) on all measurement systems used to measure "Critical" or "Key" characteristics. When performing an MSA, supplier shall comply with the requirements of AS9103. Appropriate action should be taken to improve the measurement process when the requirements of AS9103 have not been achieved.

Suppliers of Flight Safety Parts shall comply with the requirements of the contract.

Note: Some Buyer-specific designations for Flight Safety Parts (FSP) include Flight Critical Parts, UTAS Flight Safety Part, UTAS Safety Part, P&W Prime Reliable Part, P&WC Critical Part, P&WC Critical Rotating Part, P&WC Engine Structural Integrity Program (ENSIP) Critical Part.

2.14 INSPECTION SAMPLING AND STATISTICAL PROCESS CONTROL

The supplier should use AS9138 as a guideline for Statistical Process Control (SPC) and inspection sampling. For investment casting suppliers, to qualify to use a sampling plan, a minimum of 25 consecutive pieces are required to be inspected with no nonconformities detected.

Optional methods may include 100% inspection and/or test. The supplier may submit an alternate SPC plan to the Buyer for consideration and approval. Approval in writing of the alternate SPC plan shall be received from the Buyer prior to submission of items for product acceptance by Collins Aerospace.

2.15 FIRST ARTICLE INSPECTION (FAI)

A First Article Inspection Report (FAIR) is required to be submitted when specified by a Collins Aerospace order (e.g., quality code RC-28 or other item text on the purchase order) and/or when required by AS/EN9102. The supplier shall perform the FAIR, against the drawing for the top-level part number identified on the PO and record the results on Smart FAIR Form 074-8432-979 (preferred) or equivalent per AS/EN9102 and attach all necessary supporting documentation including the ballooned drawing. Attached documentation shall contain traceability to the original manufacturer. Attachments shall include Material CofC, General CofC, Special Process CofC, Test Report(s) as applicable per the drawing and scope of the FAIR. Prior to shipping parts, when RC-28 is present on the purchase order, the supplier shall complete and submit the FAI and subsequent report per HRC-QMS-I-308, Rockwell Collins – AS/EN9102 Electronic FAIR Submittal Instructions, as found on the Supplier Portal. (Note: A complete list of PO codes can be found on the Supplier Portal in the Quality Assurance Purchase Order Codes link, HRC-QMS-I-358.).

For assemblies and detail parts that require sub-level parts (such as machined castings), sub-level FAIRs shall be compliant with the requirements herein and shall be attached with the FAIR.

2.16 SOURCE INSPECTION

The Buyer's source inspections or process verifications shall not absolve the supplier of the responsibility to provide a conforming product, nor shall it preclude subsequent rejection.

2.17 PACKAGING

Devices identified as electrostatic discharge sensitive shall be handled, stored, packaged, and shipped in such a manner as to preclude damage from electrostatic discharge. Electrostatic protection processes shall be compliant to ANSI/ESD S20.20 Protection of Electrical and Electronic parts, Assemblies and Equipment, IEC 61340-5-1 Protection of Electronic Devices from Electrostatic Phenomena, or equivalent. Electrostatic protection requirements specified on the component specification, drawing, or elsewhere on the order take precedence over this section.

2.18 SHELF-LIFE ITEMS

The supplier shall provide material/items with $\geq 75\%$ shelf-life remaining, at time of receipt, unless otherwise authorized in design documentation or approved via a deviation/waiver from Collins Aerospace.

2.19 CERTIFICATE OF CONFORMANCE / COMPLIANCE (CofC)

2.19.1 GENERAL

The supplier shall provide a CofC with the shipment containing the required minimum information within COL-ASQR-PRO-0003 (reference *Table 7-1: Certificate of Conformance Minimum Information*).

BTP and Build-to-Spec suppliers shall provide raw material CofCs with FAIs, and as otherwise required by purchase order or contract.

2.19.2 CofCs FOR ITEMS REQUIRING APPROVED SOURCES OF SUPPLY

For items (e.g., materials, components, assemblies, etc.) requiring an approved source of supply, either on the Collins Aerospace Approved Manufacturer List (AML) or on the Qualified Products List (QPL), CofC requirements can be satisfied in one of the following ways:

- A CofC provided directly from the approved source, or a CofC from the approved source passed thru by the Distributor
- A CofC from a qualified distributor (i.e., a distributor who holds QMS certification in accordance with Section 1.6 *Quality Management System (QMS) Certification Requirements*, and/or one who is authorized or franchised with the OEM/OCM to supply their products in the market) which certifies that the items have been manufactured by an approved source.

CofCs from Distributors shall clearly and fully identify the approved source on the CofC, in a manner which provides adequate traceability to the approved source identified on the AML or Qualified Manufacturers List (QML) (e.g., full supplier name, location, cage code, etc.).

Distributors are expected to be able to provide a CofC from the manufacturer upon Collins Aerospace request.

For items on the AML, approved sources are those manufacturers with a QAL status of *APVD (Approved)*, *NSR (No Status Required)*, or *TA (Technically Approved)*. For items on the QPL, approved sources are those manufacturers identified on the QML as defined by the US Defense Logistics Agency.

Reference [Section 2.10 Approved Manufacturer List \(AML\)](#) for definitions of, and requirements pertaining to, approved sources of supply.

2.19.3 CERTIFICATE OF ANALYSIS (CofA)

When required, and when the applicable specification(s) establishes requirements for chemical, physical and/or mechanical properties, the seller shall obtain a Certificate of Analysis (CofA) (i.e., test report) which provides evidence that materials shipped possess the required properties per applicable specifications.

When the supplier utilizes CofAs (i.e., test reports) to accept raw material, the following requirements apply:

- Test reports shall provide, at a minimum, the material manufacturer's name, material manufacturer's material number, identification of applicable design part/specification number and revision, and the fabricator's order number to the material manufacturer.
- Test reports shall contain the applicable specification requirements for each property measured (e.g., Low/High, Min/Max) and corresponding Unit of Measure (UOM), with actual measured values demonstrating full compliance (not range data) (e.g., mill data)
- Test reports shall be validated 100% to ensure measured values for chemical, physical and/or mechanical properties are fully compliant to applicable specifications prior to shipment to Collins Aerospace.
- The supplier shall periodically validate the accuracy of test reports for raw material. The validation shall be accomplished by the supplier or other independent party through periodic, scheduled tests of raw material samples. Frequency of tests will be established by the supplier based on the operational risk of the raw material (e.g., critical item) and the historical performance of the raw material supplier. Raw material furnished by the Buyer, or its customer is not subject to the validation test requirement.
- The supplier shall implement written procedures in support of this clause

2.19.4 SPECIAL PROCESS CofC REQUIREMENTS

A BTP supplier performing any of the special processes found in [Sections 2.11.1, 2.11.2, or 2.11.3](#) shall provide copies of the processor's Certificate of Conformance/Compliance (CofC) and include it with each shipment of material. Special processes listed in 2.11.1 shall require a CofC even if RC-30 is not listed on the PO. At a minimum the processor's CofC shall include:

- the Collins Aerospace part number and revision
- quantity processed
- processor name and address
- the process name, specification number and revision that the parts were processed in accordance with, including (as applicable) class, type, and color per the drawing
- processing date
- signature of the quality representative from the processor
- conspicuous identification of the use of Nadcap accredited processes (e.g., Nadcap watermark, text identifying the job as Nadcap accredited, etc.), for the special processes found in section 2.11.1.

Build-to-Spec suppliers are only required to provide special process CofCs with FAIs, or as otherwise required by purchase order or contract.

2.20 DIRECT SHIPMENT / DROP SHIPMENT

When authorized by the PO, suppliers can ship directly to customers or other Divisions using the supplier shipping documentation. The supplier shall provide shipping documentation sent with product direct to Collins Aerospace or its representatives for Source Inspection and upon request. The Collins Aerospace PO number shall be referenced on the shipping documentation.

When defined by Collins Aerospace, SBU/Site serialized drop ship product shall have the serial numbers recorded on the shipping document (shipper) and CofC. Drop shipments are applicable to articles

manufactured for use in the production of new products (e.g., aircraft, engines, or propellers). Drop shipments are not authorized for shipping new spare parts or details to aftermarket customers.

For Direct Shipments, the following requirements apply:

- FAA and European Union Aviation Safety Agency (EASA) production approval holders or production organizations can authorize their suppliers to direct ship new spare articles to customers or other end users in accordance with 14 CFR Part 21, FAA Order 8120.23, and EASA Part 21.133.
- A direct shipment is defined as a new spare article shipped directly from a production approval holder's supplier to a customer or other end user.
- A direct shipment authorization does not allow a supplier to issue FAA 8130-3 forms or similar international regulatory documentation.
- A written letter is required for each direct shipment authorization. The authorization may include limitations such as specific part number(s), time periods, or user/ operators.
- Suppliers located in EASA regulated countries shall be an EASA recognized Production Organization.

2.21 CORRECTIVE ACTION

A Supplier Action Request (SAR) (i.e., Supplier Failure Analysis, Notice of Nonconformity (NoNC), or Supplier Corrective Action Request (SCAR)) may be issued if nonconforming material is received.

Per requirements of the SAR process, the supplier is required to provide the following for SCARs: a containment statement, a root cause and corrective action response, and be subject to escalation of notification to supplier's senior management for failure to respond. All supplier responses are rated for Measure of Effectiveness (MoE) or mistake proofing effectiveness. The MoE grading scale is available on the Supplier Portal, and/or may be provided upon request. Even though NoNCs do not require a formal response, suppliers are required to maintain evidence showing internal root cause and corrective action for audit purposes.

Regardless of the material or product's warranty status, when requested, the supplier is required to provide a root cause and corrective action for failures that occur immediately upon installation. These are sometimes referred to as out-of-box failures.

Failure to comply with the rules of this SAR process requirement may jeopardize Buyer's determination of supplier's compliance to the contract requirements. When corrective action progress is insufficient, Collins Aerospace may place a supplier on probation status. Suppliers on probation status will not be considered for new procurement activity.

Failure to provide acceptable and timely responses to SCARs may be the cause for revocation of business. The supplier may request an extension to the due date of a corrective action response or implementation action(s) if requested prior to the due date. The supplier shall provide justification for the request that clearly identifies the reason an additional extension is required.

2.22 MAINTENANCE, REPAIR, AND OVERHAUL (MRO) SUPPLIERS

2.22.1 MAINTENANCE SCOPE

Maintenance applies to products returned from service for repair, overhaul, modification, test, or inspection (commercial and non-government).

U.S. suppliers, including all their sub-tier suppliers, performing maintenance or preventative maintenance of products shall have an approved DOT Drug & Alcohol testing program that is compliant with 14 CFR Part 120 and 49 CFR Part 40 for all applicable FAA -regulated customers. Upon request, suppliers shall provide to Collins Aerospace evidence of compliance.

All non-U.S.-based suppliers that use US-based sub-tiers to perform maintenance of products shall inform Collins Aerospace of their US-based sub-tiers have an approved DOT Drug & Alcohol testing program compliant with 49 CFR Part 40 for all applicable FAA-regulated customers.

2.22.2 MAINTENANCE EXECUTION

All suppliers shall provide records of service work performed, including the following information as applicable:

- Preliminary Inspection – Determine state of preservation (functional test, if applicable) and record obvious nonconformities, damage, or contamination.
- Hidden Damage Inspection – Catastrophic damage, contamination, sub-par workmanship or questionable configuration discovered in preliminary inspection.
- Statement of Work Performed – Detailed description of work performed, including a description of parts replaced, adjustments performed, modifications installed and inspection and test results as applicable.
- A CofC for the service provided and/or an authorized release certificate (i.e., FAA 8130-3, EASA Form 1, etc.), as applicable.

Suppliers performing maintenance shall use the maintenance data and documents, approved by Collins Aerospace, or as applicable, Airline Maintenance Manuals. Maintenance is defined to include the terms defined below and in accordance with Statutory and Regulatory Requirements.

Repaired: Nonconforming product or component part restored to a serviceable condition in conformance with data acceptable to the FAA or other aviation regulatory agencies as applicable.

Overhauled: A product or component part is overhauled when using methods, techniques, and practices acceptable to the FAA (or other aviation regulatory agencies as applicable) and has been disassembled, cleaned, inspected, repaired as necessary and reassembled. In addition, it has been tested in accordance with approved standards and technical data acceptable to the FAA or other regulatory aviation agencies as applicable.

Modified: A product or component part altered in conformance with approved data acceptable to the FAA or other aviation regulatory agencies as applicable.

Inspected or Tested: A product or component part which has been examined by means of visual inspection and/or functional testing, utilizing approved data acceptable to the FAA or other aviation regulatory agencies as applicable.

Suppliers performing maintenance shall use approved parts as outlined in 14 CFR Part 21.9. Suppliers performing maintenance shall be monitored and maintained in accordance with the Collins site repair station manual, which is available to the supplier upon request. An initial on-site audit of new suppliers shall be performed by Collins Aerospace. Subsequent audits shall be performed at a frequency determined by Collins Aerospace and/or based on risk. Frequency and scope of audit may be adjusted by Collins based on the risk attributed to each supplier. If the supplier does not have FAA (or other aviation regulatory agencies as applicable) approval for production parts, contact the Collins Aerospace quality organization for the appropriate approval.

2.22.3 MAINTENANCE TRAINING

Suppliers performing aviation maintenance shall maintain a Training Program for all maintenance personnel completing Collins Aerospace repairs, including drug and alcohol training required by U.S. DOT and FAA regulations. Training shall be documented and include formal and on-the-job training activities. Personnel training shall be periodically reviewed and documented to identify that it is still adequate. Internal training instructor's qualifications and responsibilities shall be documented. Training records shall be maintained for two years after the person leaves the supplier's company. Training records shall show evidence that those personnel performing repairs are qualified to perform such repairs. The Training Program shall provide training on a recurring basis for all employees on Human Factors and Foreign Object Damage/Debris (FOD) Training, and for supervisors responsible for evaluating drug and alcohol use on the signs of drug or alcohol misuse and abuse.

2.22.4 MAINTENANCE REQUIREMENTS FLOW DOWN

Suppliers performing maintenance operations that subcontract any portion of the repair maintenance of the article to a sub-tier subcontractor shall have a documented procedure in place to detail how Collins

Aerospace requirements as outlined in any contract, RC-9000, individual repair order or other regulatory requirements are effectively flowed to the sub-tier subcontractor.

- Detail how the sub-tier subcontractor is qualified to meet the requirements outlined in any contract, RC-9000, individual repair order or other regulatory requirements
- Detail an audit program to periodically re-qualify these sub-tier subcontractors
- Maintain quality audit documents at least 3 years
- Detail how the sub-tier contractor meets the drug and alcohol testing and training requirements of 14 CFR Part 120 and 49 CFR Part 40

2.22.5 SAFETY MANAGEMENT SYSTEM (SMS)

Suppliers are required to report a safety/non-conformance issue, even if the supplier has not implemented a SMS program.

3 ROSEMOUNT AEROSPACE AND HOIST & WINCH REQUIREMENTS

3.1 PURPOSE

This section defines the additional or modified Quality Management System (QMS) requirements for suppliers to the **Rosemount Aerospace Inc. (Burnsville, MN)** and **Hoist & Winch (H&W) (Anaheim, CA)** sites.

The requirements in this section supersede the following requirements:

- RMT-ASQR-PRO-0003, rev. B
- DP MSD 601, rev. A

For H&W: The Purchase Order Quality Control Requirements (QCR) at the following location apply when called out on the Purchase Order or Contract:

- [H&W Purchase Order Quality Control Requirements](#)

All suppliers shall establish an account in the UTC Supplier Portal. It is the responsibility of the supplier to maintain their Vendor Master profile including contact information, to ensure that it is accurate at all times. This information will be used to enhance communication with the supply base including but not limited to notifying suppliers of suspect nonconformities.

3.2 REQUEST FOR RECORDS

All records shall be provided within 48 hours of request.

3.3 REQUESTS FOR PRODUCT PRE-DELIVERY VARIANCE

Suppliers shall take the following steps when nonconforming material is found and cannot be Reworked:

- 1) Identify the nonconforming material
- 2) Segregate and contain the material in a controlled area (e.g., bonded area, MRB crib, etc.)
- 3) Submit a **Rosemount Aerospace Deviation/Waiver Request Form RMT-FRM-68137**, or **H&W Vendor Variation Request (VVR)** detailing the discrepancy, quantity discrepant, the cause and corrective action to eliminate the discrepancy, and the effectivity point of the corrective action.

For Rosemount Aerospace: RMT-FRM-68137 Deviation/Waiver Request Form is available at: <https://suppliers.utc.com/SPPortal/Pages/Forms> in the Rosemount Aerospace (Burnsville, MN) – Avionics section, and shall be submitted to burnsville-avionics_scqa@collins.com for review and approval.

For H&W: VVR request forms are available upon request from a H&W Buyer

For H&W: VVRs are subject to both quality rating impact and potential chargeback for cost of processing, Corrective Action Review, and/or require on-site audit by H&W team or delegate.

A Deviation/Waiver request is not required for conforming Reworked material.

Nonconforming parts and material shall not be shipped without an approved Deviation or Waiver from Collins Aerospace. The approved Deviation/Waiver form shall be shipped with the parts. The Deviation/Waiver number should be referenced on the Certificate of Conformance/Compliance (CofC).

CAUTION: Email or verbal communication does not constitute authorization to deviate from design requirements.

3.4 SUPPLIER EVALUATION

For Rosemount Aerospace: All suppliers of direct material to Rosemount Aerospace shall complete a supplier self-assessment every two years using COL-FRM-0045 or COL-ASQR-FRM-0005. Supplier shall make this available to Rosemount Aerospace upon request. All suppliers with a High-risk rating as determined by Rosemount Aerospace shall be subject to an onsite audit.

For H&W: All suppliers of direct material to H&W will be evaluated in accordance with COL-ASQR-PRO-0003. Suppliers will be evaluated for risk rating. High risk suppliers will be notified of their status.

For H&W: Suppliers with low-risk rating may be considered for high-risk rating if significant performance concerns are discovered. Immediate countermeasures may also be put into place including issuing a

Supplier Corrective Action Request (SCAR) to the supplier or implementing additional inspection. Examples of significant concerns include:

- 1) The supplier receives multiple major findings during their audit.
- 2) The supplier is unable to provide adequate corrective action to findings.
- 3) The corrective action response is submitted after the due date.

3.5 SUPPLIER PERFORMANCE

To keep suppliers apprised of their level of performance in the delivery of goods and services, scorecard data will be compiled and used as a metric. There are metrics for both On Time Delivery (OTD) and quality. Supplier scorecard data is available on the supplier portal.

The delivery metric is the percentage of lots delivered on time. OTD is measured from the receipt to dock vs. the purchase order due date. A tolerance window of zero calendar days late to three calendar days early has been established. The goal is 100% OTD.

The standard quality metric for all suppliers is the quantity of parts nonconforming divided by the quantity of parts received. The goal is zero defects for all delivered products.

Suppliers shall maintain an acceptable performance rating. Failure to meet Collins Aerospace performance rating requirements (such as Performance+) may result in the supplier's removal from the approved supplier list.

Suppliers are expected to work with Collins Aerospace personnel to continuously find process and cycle time improvements as well as cost reductions.

3.5.1 SCORECARDS FOR KEY SUPPLIERS

(For Rosemount Aerospace Only)

Additional scoring criteria are applied to key suppliers identified by Collins Aerospace. These criteria are established to facilitate our key suppliers' ability to achieve stated objectives and include the following:

- Supplier Health Assessment (SHA)
- Market Feedback Analysis (MFA)

Criteria for eligibility as a key supplier, as well as the supplier's status as to being a key supplier, along with their scorecard, can be provided by the buyer or supply chain quality engineer.

3.5.2 KEY SUPPLIER CERTIFICATION PROCESS (DOCK-TO-STOCK)

(For Rosemount Aerospace Only)

Suppliers are expected to achieve a Certified Supplier status and become eligible for dock-to-stock shipments. Suppliers are classified in the following categories:

Certified – A supplier that has demonstrated sufficient levels of process capability, such that the requirement for Rosemount Aerospace inspection can be completely removed. By maintaining the required quality performance and successfully completing a process audit, suppliers are eligible to ship parts under the dock-to-stock program.

Designated – A supplier that participates in the Designated Supplier Quality Representative (DSQR) program. Incoming inspection requirements are removed from Rosemount Aerospace and replaced by source inspection performed by a designated supplier quality representative.

Approved – Initial status assigned to a production supplier. Incoming inspection will be required at Rosemount Aerospace until such time that quality performance results are consistently being met.

Directed Inspection - In the event a supplier fails to meet quality performance expectations, Rosemount Aerospace may elect to employ a 3rd party source inspector to oversee the processing and release of product to Rosemount Aerospace. Any costs associated with the implementation of directed inspection would be the responsibility of the supplier.

3.6 COUNTERFEIT PARTS PREVENTION

Suppliers providing electronic assemblies, components, or containing electronic components to Collins Aerospace shall be compliant to this section. Further guidance can be found in SAE AS5553.

3.6.1 PROCUREMENT PRECEDENCE

3.6.1.1 Electronic parts shall be purchased directly from the Original Equipment Manufacturer (OEM) or their Franchised Distributors whenever available. Product lead-time and cost shall not preclude adherence to this provision. Parts from the OEM or their Franchised Distributors shall have:

- Original manufacturer warranty
- Acquisition traceability to the OEM via proper packaging, handling, storage, and shipping.
- OEM Certificates of Conformance per [Section 3.13](#).

3.6.1.2 Electronic parts that are out of production and not available per *section 3.6.1.1* may be procured through a Broker with prior Collins Aerospace site approval and providing component authenticity has been established per this section.

- Certificates of Conformance and acquisition traceability (CoCT) shall be provided.
- Reasonable effort shall be made to verify authenticity of the documentation by the purchasing company.
- Brokers shall be AS9120 accredited and have an active counterfeit part detection program in accordance with AS6081. Collins Aerospace Supply Chain Management shall review relevant databases (ERAI, GIDEP) to evaluate broker's history of supplying counterfeit components prior to approval.
- Inspection protocols F, A, B of [Table 4](#) shall be performed. Test reports shall be reviewed and approved by Collins Aerospace prior to shipment.
- Suppliers should notify the appropriate site buyer to request Design activity for component replacement or circuit card re-design per local site procedure.

3.6.1.3 Electronic parts not available per *sections 3.6.1.1 or 3.6.1.2* may be procured from a Broker without CoCT only after Collins Aerospace site approval, and component authenticity verification per *section 3.6.2* and sub and [Table 4](#).

- Broker shall be AS9120 accredited and have an active counterfeit part detection program in accordance with AS6081. SCM shall review relevant databases (ERAI, GIDEP) to evaluate broker's history of supplying counterfeit components prior to approval.
- Suppliers shall notify the appropriate site buyer to request Design activity for component replacement or circuit card re-design.

3.6.2 COMPONENT VERIFICATION

All inspection and testing shall be performed to the original manufacturer's specifications and parameters. Steps A through F should be performed in order, reference [Table 4](#). General inspection methodology can be found in ARP6328, AS6081, and IDEA-STD-1010. If a nonconformity is found, stop testing, reject the lot, and notify the site buyer. Testing shall only be performed by Laboratory Service Providers (i.e., test houses) pre-approved by the cognizant Collins Aerospace Supply Chain Quality Engineer.

3.6.2.1 VISUAL INSPECTION

Each lot to be delivered shall be subjected to a visual inspection at an AQL of 1.0 or tighter with 40x minimum magnification. 100% of the remaining lot shall be visually inspected without magnification. Visual inspection shall include but is not limited to verifying lot/date codes against manufacturers database, correct English spelling, manufacturer's logo, evidence of component remarking, damage, bent leads, chip-outs, scratches, cracks, terminal finish inconsistent with manufacturer's specification for that part number, any discrepancies to the pin one indicating area, and inconsistencies between the upper and lower mold of the component. See ARP6328 section 3.5.1.2 for detailed guidelines.

3.6.2.2 AUTHENTICITY VERIFICATION

Each lot to be delivered shall be subjected to an inspection at an AQL of 1.0 or tighter. Testing shall include verification of the component's physical attributes to the original manufacturer's drawing, swabbing, and other applicable testing to verify authenticity. Swabbing shall be performed in accordance with ARP6328 section 3.5.1.5.

3.6.2.3 X-RAY INSPECTION

Each lot to be delivered shall be subjected to an inspection at an AQL of 1.0 or tighter. X-ray inspection shall include checking for the presence of the die, cracks in the epoxy, checking wire bonds, product or manufacturing markings that are X-ray detectable and any mixed die configurations within the same lot/date code. See ARP6328 section 3.5.1.8 for detailed guidelines.

3.6.2.4 ELECTRICAL TESTING

Electrical testing of each lot to be delivered shall be completed at an AQL of 1.0 or tighter. Testing shall include verifying electrical specifications from the original manufacturer's technical data sheets as approved by Collins Aerospace per ARP6328 section 3.5.10. Testing shall be performed at thermal temperatures as identified on the OEM specification.

3.6.2.5 DESTRUCTIVE PHYSICAL ANALYSIS

Each lot to be delivered shall be subjected to a DPA inspection of 2% to a maximum of 30 units per lot code. Inspection shall include verification of authenticity of the die and any other internal features that may be shown on the original manufacturer's technical data. See ARP6328 section 3.5.1.14 for guidance.

3.6.2.6 PLATING INSPECTION

Each lot shall be verified for lead finish per manufacturer's specification using appropriate methodology such as X-Ray Fluorescence (XRF) per ARP6328 section 3.5.1.9

TABLE 4: TESTING / ANALYSIS REQUIREMENTS BY COMPONENT TYPE

Component Type	Visual Inspection (A)	Authenticity Verification (B)	X-ray Inspection (C)	Electrical Testing (D)	Destructive Physical Analysis (DPA) (E)	Plating Inspection (F)
Capacitors	X			X		X
Connectors	X	X				X
Crystals	X	X	X	X	X	X
Diodes	X			X		X
Fuses	X			X		X
Heat Sinks	X	X				
IC	X	X	X	X	X	X
Inductors	X	X		X		X
LED	X			X		X
Mechanical Parts	X	X				
Potentiometer	X			X		X
Relays	X	X		X		X
Resistors	X			X		X
Speakers	X			X		
Switches	X	X				
Transformers	X	X		X		X
Transistors	X			X		X

3.6.3 DISPOSITION AND REPORTING OF COUNTERFEIT PARTS**3.6.3.1 DISPOSITION AND SEGREGATION**

Nonconforming parts shall be segregated and dispositioned per this document. Confirmed counterfeit parts shall be prevented from re-entering the supply chain.

3.6.3.2 REPORTING

All occurrences of counterfeit parts shall be documented and reported, as appropriate, through local Collins Aerospace site procedures and to external organizations (i.e., GIDEP, ERAI, law enforcement agencies). For contracts in which Defense Federal Acquisition Regulation Supplement (DFARS) is cited, a GIDEP shall be issued. Membership and reporting through ERAI (Electronics Retailers Association International) or other industry organizations is strongly encouraged.

3.6.3.3 LIABILITY

Suppliers shall be held liable for any counterfeit parts entering Collins Aerospace supply chain up to and including all costs incurred by Collins Aerospace resulting from the counterfeit parts.

3.7 KEY CHARACTERISTICS (KC)

When KC or Critical to Quality (CTQ) characteristics have been identified by Collins Aerospace, the six symbols defined in *Table 5* are typically used. The characteristics are either safety critical or non-safety critical.

Note: If UTAS-PRO-0028 (superseded by COL-PRO-0028) or COL-PRO-0028 are referenced on the drawing, this section will provide guidance.

Key Product Characteristic 1 (KPC1) and KPC2 are generally applied when variable data can be used to statistically control the process. Suppliers shall manage process variation of KCs per AS9103. A Measurement Systems Analysis (MSA) shall be performed on all gages used to measure KCs with an acceptable gage precision-to-dimension tolerance ratio of $\leq 20\%$ (Gage R&R). The supplier shall use the Gage R&R Long Study form found in the [RTX PPAP Toolbox](#).

Frozen process characteristics are often used in association with attribute data or when destructive testing is required. [Section 3.8](#) applies when frozen process characteristics are present.

CTSC and CTQC designations apply to supplier-designed equipment.



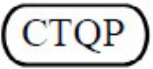
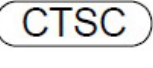
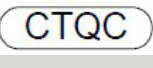
TABLE 5: CRITICAL TO QUALITY (CTQ) CHARACTERISTICS

	Variable Data	Frozen Process	Supplier-Designed
Safety Critical	KPC1	★	CTSC
Non-safety Critical	KPC2	CTQP	CTQC

Table 6 provides detailed descriptions for the standard Collins Aerospace characteristics:

TABLE 6: CRITICAL TO QUALITY (CTQ) CHARACTERISTIC DEFINITIONS

Symbol	Description	Objective and Requirements
KPC1	An observable safety characteristic (such as a dimension or feature) of a Safety Part, assembly, subassembly, or system, that if not produced within the prescribed acceptance limits, could directly result in an unsafe condition.	Statistical Management – Safety Applied to safety characteristics that benefit from variation management and thus require the use of Statistical Process Control – Due to safety significance of the characteristic 100% inspection is also required.

Symbol	Description	Objective and Requirements
	An observable quality characteristic (such as a dimension or feature of a part, assembly, subassembly, or system) if varied from the prescribed acceptance limits may impact performance, form, fit, function, reliability, service life or possible mission abort, failure to launch, prevent readiness for use resulting in extreme customer dissatisfaction.	Statistical Management – Non-safety Applied to quality characteristics that benefit from variation management and thus require the use of Statistical Process Control.
	Frozen Safety Characteristic (FSC) typically cannot be directly inspected, such as material flow, grain structure, cold work depth, metallurgy, etc. shall be subjected to periodic comprehensive (destructive) testing. May be used for assembly sequence or presence of a detail or feature where absence or misassembly may result in an unsafe event.	Frozen Process Management – Safety Processes that create, affect, or inspect this characteristic shall be managed under safety frozen process control. Initial process and all changes, including nonconforming material assessment, to a frozen process shall be approved by Collins Aerospace prior to implementation. A 40-year record retention requirement applies. Rework of nonconforming product is not allowed.
	Critical-to-Quality Process (CTQP). Applied to quality characteristics that are not directly observable and can benefit from control of the process that produces them. Based on an assessment of risk by Collins Engineering, processes specified on the Engineering drawing (i.e., cleaning, soldering, torque, etc.) that have the greatest impact on the quality or operation of the product.	Frozen Process Management – Non-safety Processes that create, affect, or inspect this characteristic shall be managed under frozen process control. Initial process and all changes to a frozen process shall be approved by the cognizant Collins Aerospace Quality Authority (and/or designee) responsible for the design prior to implementation.
	Critical-to-Safety Characteristic (CTSC). Elements or functions of a part or assembly that have the greatest impact to the safety of the product. This designation is only used for producer designed items procured via Source Control or Vendor Item (Spec Control) drawings. CTSCs drive the selection of FSCs and KPC1s.	Safety Function communication Applied to Collins engineering procurement documents to communicate safety function to be managed by the producer's design and manufacturing system. Additional approval of the cognizant Collins Aerospace product safety review board or their documented designee is required to assign or change this characteristic at the design level, including nonconforming material reviews.
	Critical-to-Quality Characteristic (CTQC). Elements or functions of a part or assembly that have the greatest impact to the quality or operation of the product. This designation is only used for producer designed items procured via Source Control or Vendor Item (Spec Control) drawings. CTQCs drive the selection of KPC2s.	Critical To Quality Function communication Applied to Collins engineering procurement documents. Characteristic to be managed by the producer's design and manufacturing system.

Symbol	Description	Objective and Requirements
SAFETY PARTS DRAWING / DOCUMENT	Will be included in an area adjacent to the title of all product definition documents where a safety part is identified or contained.	Product Definition document annotation – Safety

3.8 FROZEN PROCESS

During Critical Design/Part Review or during a subsequent Quality review, Frozen Processes may be established for some products per [Section 3.7](#). Frozen processes shall be identified as such on the supplier's manufacturing router or shop traveler. These processes shall not be changed without Collins Aerospace approval.

Requests for frozen process change approval shall be submitted to the buyer using COL-ASQR-FRM-0003, reference [Section 1.9 Supplier Communications](#).

All changes to frozen processes will require new First Article Inspection Report (FAIR) in accordance with AS/EN9102 and this document.

3.9 FIRST ARTICLE INSPECTION (FAI)

Partial or Full FAI is required to be submitted for each drawing revision change (without regard to form, fit, or function). If the revision is only an administrative correction, the FAI shall state that.

The supplier shall perform the FAI, against the drawing for the top-level part number identified on the PO and each FAI shall be performed against only one part or assembly number. Submitted FAIRs require supplier CofC, and material certification traceable to the original manufacturer, including all vendors who may have also handled the product. This applies to partial FAIs when material is affected.

Collins Aerospace reserves the right to review and approve completed FAIRs before authorizing the shipment of material.

Commercially Available Off-the-Shelf (COTS) or Catalog Items that are procured through a Collins Aerospace drawing, including those which only require bag and tag, are excluded from the requirement to have an FAI per AS/EN9102.

For Collins Aerospace drawings used to procure Modified COTS (MCOTS) products (e.g., C-drawings), an FAI is only required for the specific characteristics controlled or modified by the Collins Aerospace drawing (e.g., painting an OTS screw would require an FAI on the paint only).

Supplier shall retain the most recent full FAI for all active part numbers, regardless of record retention timelines, even after a subsequent delta FAI has been submitted.

Note – FAI guidance material is available within the Supply Chain Management Handbook (SCMH) to assist suppliers in executing an effective AS/EN9102 program. Access to the SCMH is provided at no cost by the International Aerospace Quality Group (IAQG) at <https://www.sae.org/scmh>. FAI-specific resources are located within section *SCMH-Make, 3.2 First Article Inspection (FAI)*.

3.10 SOURCE INSPECTION

When Collins Aerospace source inspection is required at the supplier's facility, it shall be after supplier inspection, and prior to packaging and shipment. In-process inspection or witness of Material Test Plan (MTP)/Acceptance Test Plan (ATP), when required by purchase order, does not need to be performed prior to Collins Aerospace inspection. The supplier shall supply the purchase order or contract including amendments, drawings, specifications, and applicable records, certifications, and all necessary measuring equipment. Evidence of source inspection shall be indicated on the inspection or MTP/ATP record, and the shipping paperwork.

The supplier shall notify the Collins Aerospace buyer at least 48 hours in advance of the time product is to be inspected. Collins Aerospace reserves the right to waive source inspection.

When a purchase order specifies "**Government Source Inspection required**," the supplier shall immediately furnish a copy of the purchase order to the government representative who has delegation for the supplier's facility. If the supplier does not have such a representative, the supplier shall notify the

government inspection service 14 days in advance, when possible, of the time when source inspection will be required.

3.11 PACKAGING

For H&W: Each Purchase order line item (lot) shall be boxed separate from other Purchase Order line items (lots) to be delivered to H&W.

3.12 SHELF-LIFE ITEMS

For Rosemount Aerospace: The supplier shall provide material/items with $\geq 75\%$ shelf-life remaining as determined by the manufacturer, at time of receipt, unless otherwise authorized in design documentation or approved via a deviation/waiver from Rosemount Aerospace.

For H&W: The supplier shall provide material/items with $\geq 80\%$ shelf-life remaining, at time of receipt, unless otherwise authorized in design documentation or approved via a deviation/waiver from H&W.

3.13 CERTIFICATE OF CONFORMANCE / COMPLIANCE (CofC)

The supplier shall provide a CofC with the shipment in accordance with, and containing the required information within, COL-ASQR-PRO-0003. Additionally, the following requirements apply:

CofCs shall include Government contract number when applicable.

Suppliers performing special processes shall submit a special process CofC with each shipment. This CofC shall include:

- Collins Aerospace Part Number and Revision
- Quantity of parts processed (i.e., lot size)
- Lot/Heat number(s), and Processing Date
- Name and Address of Special Process facility
- Process name, specification number and revision that the parts were processed, and applicable class, type and color as defined by the drawing
- Signature of the Quality Representative of the processing facility
- NADCAP watermark is required if special process is performed by a NADCAP accredited processor

CofC documentation requirements from distributors can be met in one of the following ways:

- 1) OEM/Original Component Manufacturer (OCM) certifications shipped with material or parts, plus the distributor's certification
- 2) Distributor's certification referencing OEM/OCM documentation that is maintained on file. Distributors in this category are designated as "Franchised Distributors" or "Qualified Distributors" and shall be licensed by the manufacturer to distribute product or be certified in accordance with [Section 1.6](#).
- 3) For distributors of raw material, when the applicable specification(s) establishes requirements for chemical, physical and/or mechanical properties, the seller shall obtain a Certificate of Analysis (CofA) (i.e., test report) which provides evidence that materials shipped possess the required properties per applicable specifications. The CofA shall be traceable to heat/lot or batch numbers.

For raw components purchased from circuit card assembly suppliers, the supplier shall provide a CofC, and if required, OCM's CofC.

Material purchased from Collins Aerospace, and then subsequently repurchased, shall show traceability via the original PO to Collins Aerospace used to acquire the material.

3.14 CORRECTIVE ACTION

(For Rosemount Aerospace Only)

A Supplier Corrective Action Request (SCAR) or Notice of Nonconformity (NoNC) may be issued if nonconforming material is received. Per requirements of the SCAR process, the supplier is required to provide a containment response via COL-FRM-0055 and a root cause and corrective action response via COL-FRM-0054. Collins Aerospace may escalate to Supplier's senior management for failure to respond in a timely manner. Containment response should be done within 2 business days. NoNCs do not require

a formal response to Collins Aerospace, but suppliers are required to maintain evidence showing containment, internal root cause and corrective action for audit purposes.

Regardless of the material or product's warranty status, when requested, the supplier is required to provide a root cause and corrective action for failures that occur immediately upon installation.

Failure to comply with the rules of this SCAR process requirement may jeopardize Buyer's determination of supplier's compliance to the contract requirements. When corrective action progress is insufficient, Collins Aerospace may place a supplier on probation status. Suppliers on probation status will not be considered for new procurement activity.

Failure to provide acceptable and timely responses to SCARs may be the cause for revocation of business. The supplier may request an extension to the due date of a corrective action response or implementation action(s) if requested prior to the due date. The supplier shall provide justification for the request that clearly identifies the reason an additional extension is required.

3.15 MAINTENANCE, REPAIR, AND OVERHAUL (MRO) SUPPLIERS

All Suppliers providing MRO services shall meet the requirements of this section, and all applicable requirements, including specifications on purchase orders or contracts, unless otherwise authorized by purchase order, contract or other agreement.

Any change in status of the supplier's QMS shall be communicated to Collins Aerospace.

All U.S.-based MRO service suppliers for commercial articles shall obtain a Federal Aviation Administration (FAA) approved drug and alcohol program per 14 CFR Part 120 and retain it on file with Collins Aerospace.

3.15.1 NON-CERTIFICATED MRO SUPPLIERS

Non-certificated MRO suppliers shall provide, at a minimum, a CofC for the service provided.

An initial on-site audit of the supplier will be performed by either the Rosemount Aerospace Repair Station or H&W. Subsequent audits shall be performed at a frequency of every 2 years, unless otherwise specified.

For Rosemount Aerospace: MRO suppliers who do not hold a repair station certificate shall be monitored and maintained in accordance with RMT-MRO-1910.1 – Repair Station Quality Control Manual (RSQCM).

For H&W: MRO suppliers who do not hold a repair station certificate shall be monitored and maintained in accordance with H&W procedures. Regardless of FAA Part 145 certification, suppliers shall allow right of entry for the FAA.

3.15.2 CERTIFICATED MRO SUPPLIERS

A certificated MRO supplier shall have, at a minimum, FAA Part 145 certification and/or an equivalent national aviation repair authority certification. Certificated MRO Suppliers shall provide an airworthiness release tag/certificate (i.e., FAA 8130-3, European Union Aviation Safety Agency (EASA) Form 1, etc.).

An initial on-site audit of the supplier will be performed by Collins Aerospace, to include appropriate rating and capability.

For Rosemount Aerospace: Subsequent audits shall be performed at a frequency of every 2 years, or as otherwise defined by the RSQCM.

3.16 DELIVERABLE SOFTWARE / FIRMWARE SUPPLIERS

All plans discussed in this section shall be submitted to Collins Aerospace for review and approval prior to the start of the development process. All subsequent revisions/changes shall also be submitted for review and approval.

RTCA/DO-178 and/or AS9115 is the preferred approach for all software/firmware development and quality management. The supplier shall complete and maintain a checklist that defines the RTCA/DO-178 and/or AS9115 requirements and supplier compliance to these requirements.

RTCA/DO-254 and AS/EN/JISQ9100D is the preferred approach and QMS for firmware product realization requirements.

The Software Quality Assurance (S/W QA) Plan shall include the following:

- A description of the S/W QA environment, including the scope, organizational responsibilities and interfaces, standards, procedures, tools, and methods.
- A statement of the S/W QA authority, responsibility, and independence, including the approval authority for software products.
- The S/W QA activities that are to be performed for each software life cycle process and throughout the product development including:
 - S/W QA methods, (e.g., reviews, audits, reporting, inspections, and monitoring of the software life cycle processes, etc.)
 - Activities related to the problem reporting, tracking and corrective action system
- A description of the method used to ensure disposition and retention of any remaining S/W QA open action items, change requests, and completion of all software development tasks at the conclusion of the program
- A definition of the records to be produced by the S/W QA process

The Software Development Plan (SDP) shall include the following:

- Identification of software being developed
- Resources (e.g., requirement, design code and verification environment, etc.)
- Organizational structure and responsibilities
- Software Development process (e.g., including prototype and flight test software, etc.)
- Software Development schedule and milestones
- Quality and project records
- Integrated Product Teams
- Formal reviews
- Computer resource utilization
- Corrective action process
- Risk management
- Control and development of software tools
- Software metrics
- Subcontractor management
- Security and safety requirements
- Data Management/Software Development libraries including documents to be produced
- Program language(s)
- Standards (e.g., requirements, Design code, etc.)
- Development and formal configuration management (if included in the SDP)

The Software Configuration Management Plan shall include both the developmental and formal configuration management process and the following:

Note: This plan can be included as part of the SDP.

- Configuration Identification of all life cycle artifacts (e.g., Software unique identifier, etc.)
- Configuration Control (e.g., Developmental and Formal, etc.)
- Subcontractor Configuration Management
- Organization and Resources
- Software Configuration Management Roles and Responsibilities
- Storage, Handling and Security
- Authorization including the release of project media and master versions of software
- Version Control
- Configuration Status Accounting
- Configuration Audits (e.g., Physical, Functional and Software Development Library Audits, etc.)
- Access Control

The Software Test or Verification Plan shall address Computer Software Unit or Module Test and Computer Software Configuration Item (CSCI) Test and include the following:

Note: This plan can be included as part of the SDP.

- Identification of the CSCI

- Software Test Environment including hardware and software elements
- How installation and Test activities are controlled
- Configuration and Change Control including test environment
- Regression Analysis
- Data Recording, Reduction, Analysis, and Retention including a plan for formal results

3.17 GLOBAL TRADE COMPLIANCE (IMPORT/EXPORT REGULATIONS)

Suppliers shall comply with the applicable Global Trade requirements found in the RTX Standard Terms & Conditions, found at the following link:

- <https://www.rtx.com/suppliers/purchase-terms-and-conditions>

4 L'HOTELLIER REQUIREMENTS

4.1 PURPOSE

This section defines the additional or modified Quality Management System (QMS) requirements for suppliers to the **L'Hotellier (Antony, France) site**.

The requirements in this section supersede the following requirements:

- IQC10640

4.2 SCOPE AND APPLICABILITY

In addition to the requirements of [RC-9000 Section 1](#) and COL-ASQR-PRO-0003, this section is applicable to all suppliers authorized by L'HOTELLIER, which may be:

- Type 1: Build-to-Spec or Special Process Suppliers
- Type 2: Build-to-Print (BTP)
- Type 3: Maintenance, Repair, and Overhaul (MRO) suppliers
- Type 4: Original Equipment Manufacturers (OEM) and Distributors

For determining requirements applicability by supplier type, refer to *Table 7*.

TABLE 7: L'HOTELLIER APPLICABILITY MATRIX

Section	Title	Types			
		1	2	3	4
4.3	Record Retention	X	X	X	X
4.4	Supplier Obligation	X	X	X	X
4.5	Supplier-Initiated Changes	X	X	X	X
4.6	Supplier Performance	X	X	X	X
4.7	Lead Time Management	X	X	X	X
4.8	Customer Supplied or Owned Property	X	X	X	
4.9	Part Marking	X	X	X	
4.10	First Article Inspection (FAI)	X	X		
4.11	Packaging and Identification	X	X	X	X
4.12 & 1.12	Shelf-Life Items	X	X	X	X
4.13	Certificate of Conformance / Compliance (CofC)	X	X	X	X
4.14	Nonconforming Material Control	X	X	X	X
4.15	Corrective Action	X	X	X	X
4.16	Maintenance, Repair, and Overhaul (MRO) Suppliers			X	
4.17	Confidentiality	X	X	X	X
4.18	Global Trade Compliance (Import/Export Regulations)	X	X	X	X
4.19	Global Chemical Regulations And Materials Of Concern	X	X	X	X

4.3 RECORD RETENTION

Suppliers are required to record inspection operations and archive the documented information necessary to provide evidence of product conformance and contract compliance, in accordance with *Table 8*.

TABLE 8: RECORD RETENTION REQUIREMENTS

Record Type	Examples	Retention Period
Management review	Minutes of meetings	6 years
Design review	Minutes, reports	Life of Product (LOP) + 10 years
Contract review	Minutes	6 years after completion of the contract
Supplier assessment	Minutes of visit, approval sheet, inquiry questionnaire, audit report; list of approved suppliers, supplier rating, supplier quality assessment	10 years
Product identification and traceability	Certificate of Conformance/Compliance (CofC), acceptance inspection report, identification of production run or batch numbers, raw material certifications and traceability	LOP + 10 years
Record and data generated during the production phase: parts manufactured in a production run	Manufacturing records: manufacturing order, monitoring sheets, manufacturing parts list, technical modification record, CofC for subcontracted processes, characteristics and special process parameters record sheet	LOP + 10 years
Record and data generated during the production phase: parts not manufactured in a production run	Manufacturing records: manufacturing order, monitoring sheets, manufacturing parts list, technical modification record, CofC of subcontracted processes, characteristics and special process parameters record sheet	10 years
Record of inspections and tests: parts manufactured in a production run	Inspection and test sheets and records: inspection reports, completed inspection procedures, first item file	LOP + 10 years
Record of inspections and tests: parts not manufactured in a production run	Inspection and test sheets and records: inspection reports, completed inspection procedures, first item file	10 years
Record of equipment maintenance work	Work records: repair order, monitoring sheets, bill of materials, characteristics and special process parameters record sheet	6 years
Record of periodic calibrations and verifications	Calibration report, periodic verification report for production facilities	6 years
Record of nonconformities	Nonconformity sheet, assessment report, technical inquiry file for concessions	LOP + 10 and 50 years
Record of corrective actions	Internal and customer corrective action report, report on the causes of nonconformities, record of the assessment of the effectiveness of the corrective actions	LOP + 10 years

Record Type	Examples	Retention Period
Record of quality audits	Internal and customer quality audit reports	6 years
Record relating to personnel	Recruitment file, evidence of training, history of amendments to the employment contract, job descriptions	3 years after the end of the employment contract
	Record of inspector and delegate stamps	15 years after the end of the employment contract
Document relating to the product's airworthiness	Input data (specifications), drawings, bills of materials, design diagrams, material characteristics, process specifications, repair diagrams, concessions with limitations, qualification/certification file, record of modifications/changes, list of authorized signatories, type approval, airworthiness notices (CN/AD), records of initial certification conformity, certification schedule and associated resources, declarations of certification	LOP + 10 years
Document attesting to the product's airworthiness	Certificate of airworthiness (European Union Aviation Safety Agency (EASA) Form 1 or equivalent)	LOP + 10 years

4.4 SUPPLIER OBLIGATION

In application of regulations relating to the obligations of weapons suppliers (NATO) for the DQP/SQ and regulation PART 145/FAR 145, TCCA, PART 21G or EMAR/FRA21G for civil authorities DGAC/OSAC, TCCA and Federal Aviation Administration (FAA), the supplier shall take the actions necessary to comply with the following clauses:

- Request from L'HOTELLIER all information and documents it requires to supply a product that complies with the contractual requirements
- Report to L'HOTELLIER all nonconformities and defects, and all modifications to the processes used
- Deliver a compliant product
- Allow the official surveillance departments' representatives, appointed by L'HOTELLIER, to proceed with audits or quality surveys

"The services in this order form part of a whole subject to the quality assurance exerted by the DGA quality department or by the authority of the OSAC for the DGAC."

The PO/Contract holder therefore assumes the responsibility to facilitate the activities of Collins Aerospace surveillance department personnel and representatives (e.g. auditors), at its plants and to provide them with the necessary objective evidence of product quality and conformance, in order to complete their tasks."

4.5 SUPPLIER-INITIATED CHANGES

The supplier shall:

- Inform L'HOTELLIER of any planned changes related to the product or service, including changes to material, site, tooling, processes, and IT/ERP systems.
- Request approval from L'HOTELLIER, for any changes that could affect the interchangeability, performance, dimensions, mass, reliability, useful life or cost of the product.
- Use the equivalence sheet contained in quality instruction IQC10601 for any request to change the design definition (e.g., material, electronic component, protection, etc.).

4.6 SUPPLIER PERFORMANCE

At a minimum, the supplier shall measure customer (Collins Aerospace) satisfaction and their performance in terms of product and/or service conformity (quality) and On Time Delivery (OTD).

These two indicators are monitored by L'HOTELLIER, which reserves the right to demand an in-depth analysis of the causes of poor performance (refer to [Section 4.14 Nonconforming Material Control](#)).

4.7 LEAD TIME MANAGEMENT

The supplier shall have a process to respond to the Collins Aerospace request for quote (e.g., "RFQ Process"), and a process for the review of the Collins Aerospace order (e.g., "Contract Review").

The supplier's processes shall be capable of defining and quoting accurate lead times to Collins Aerospace and shall demonstrate efficiency in its scheduling of the products and services ordered by Collins Aerospace.

At a minimum, the suppliers processes shall include a review of capability, resources required, capacity and cycle time in quoting lead times to the Collins Aerospace.

The supplier shall acknowledge receipt of an order from Collins Aerospace within (5) working days of receipt. If the supplier fails to acknowledge receipt of the order, then the lead time/delivery due date on the order shall be binding.

The supplier shall have an inventory management process, which provides requirements for the following:

- Security stock
- The accuracy of inventory
- The input/output data essential to managing the process

4.8 CUSTOMER SUPPLIED OR OWNED PROPERTY

The supplier shall maintain the identification of all materials supplied or procured by L'HOTELLIER, including the following:

- Grades (reference or LH code)
- L'HOTELLIER batch number
- Dimensions
- Quantities

Any nonconformity detected in material supplied by L'HOTELLIER, shall be immediately reported to Collins Aerospace.

Materials supplied by L'HOTELLIER are allocated to a specific production run, and the supplier shall not change this allocation without the agreement of L'HOTELLIER.

The supplier shall not procure materials itself to complete a batch, compensate for scraps during manufacturing or use materials left over from previous production runs.

4.9 PART MARKING

Identification marking applied by the supplier shall be compliant with all L'HOTELLIER design requirements (i.e., drawings, specifications, standards, etc.), and include an inspection mark compliant with standard NF L06-150.

4.10 FIRST ARTICLE INSPECTION (FAI)

A First Article Inspection Report (FAIR) is required to be submitted when specified by a Collins Aerospace purchase order and/or when required by AS/EN9102. The supplier shall perform the FAIR, against the drawing for the top-level part number identified on the PO and record the results on Smart FAIR Form QC104 (preferred) or equivalent per AS/EN9102 and attach all necessary supporting documentation including the ballooned drawing. Attached documentation shall contain traceability to the original manufacturer. Attachments shall include Material CofC, General CofC, Special Process CofC, Test Report(s) as applicable per the drawing and scope of the FAIR. Prior to shipping parts, when FAI requirement is present on the purchase order, the supplier shall complete and submit the FAI and subsequent report to the L'Hotellier SCQE FAI team.

For assemblies and detail parts that require sub-level parts (such as machined castings), sub-level FAIRs shall be compliant with the requirements herein and shall be attached with the FAIR.

4.11 PACKAGING AND IDENTIFICATION

Unless otherwise specified on the Drawing or Purchase Order, the supplier shall identify/label all **immediate** (e.g., bags, bubble wrap bags, ESD packages, etc.) and **intermediate** (e.g., boxes, containers, crates, etc.) product packaging with the following information:

- Vendor Name
- Vendor Code
- Purchase Order Number
- Part Number
- Part Description
- Quantity, including Unit of Measure
- Batch/Lot/Serial number (as applicable)
- Shelf-Life (as applicable) (Reference [Section 1.12](#))

The supplier shall take necessary precautions with packaging and delivery to ensure that product deliveries to L'HOTELLIER arrive without nonconformities such as damage or corrosion, or potential for electrostatic discharge.

When ROHS regulations apply to the product or material being shipped, the product packaging shall bear the appropriate marking, indicating compliance to ROHS regulations.

For parts subcontracted by L'HOTELLIER (e.g., sent out for heat treatment, surface treatment, etc.), if the supplier chooses to re-use L'HOTELLIER'S packaging, the package/container marking shall be updated by the supplier to match the current configuration of the parts being returned to L'HOTELLIER.

L'HOTELLIER reserves the right to request that the supplier affix bar codes on packaging and/or delivery documents. The data contained in these bar codes will be defined by the Buyer.

4.12 SHELF-LIFE ITEMS

The supplier shall provide material/items, at time of receipt, with $\geq 50\%$ shelf-life remaining, or ≥ 3 months shelf-life remaining (for those items with < 6 months total shelf-life), unless otherwise authorized in design documentation or approved via a deviation/waiver from L'HOTELLIER.

Shelf-life requirements also apply to tantalum and chemical capacitors, where the shelf-life start date (i.e., commissioning date) corresponds to the power-up date.

MS1 Electronic components which are treated as MSL3 components, do not have an expiration date

4.13 CERTIFICATE OF CONFORMANCE / COMPLIANCE (CofC)

The supplier shall provide a CofC with the shipment in accordance with, and containing the required information within, COL-ASQR-PRO-0003. Additionally, the following requirements apply:

For nonconforming or reworked parts, or parts delivered under deviation/equivalence request, the supplier shall reference the Nonconformity Report (NCR) number (i.e., QC02 number) and/or deviation/equivalence number on the packing slip and CofC, and include all of these documents with the part(s) shipment (including a copy of the deviation, etc.).

With each delivery, the supplier shall also provide a packing slip which contains:

- part number and name as listed on the PO or Contract
- shipment quantity
- PO or Contract number

If the packing slip serves as a declaration of conformity (i.e., CofC), it shall contain all the required information in this section and in COL-ASQR-PRO-0003 and shall be delivered in two copies to L'HOTELLIER.

The supplier's CofC shall comply with the requirements of standard NFL 00.15 or equivalent which can be accomplished by including all of the required CofC information outlined in COL-ASQR-PRO-0003. Additional conditions or requirements may be indicated on the PO including Raw Material CofC/Certificate of Analysis (CofA) and Inspection Reports.

If the supplier fails to provide the required accompanying documentation with the shipment (i.e. packing slip and CofC), L'HOTELLIER may elect to return the parts back to the supplier at the supplier's expense.

On the CofC from approved Repair companies, the supplier shall indicate the operations performed and replacement parts used or provide an EASA PART/FAR 145 DUAL RELEASE when specified in the order.

4.14 NONCONFORMING MATERIAL CONTROL

When nonconformities are discovered, L'HOTELLIER reserves the right to reject and return the entire lot or batch of parts/material back to the supplier for 100% inspection, and Rework, Repair or replacement.

L'HOTELLIER may also elect to perform 100% inspection, and Rework or Repair of the nonconforming parts in-house, at the supplier's expense.

For nonconformities determined to be caused by suppliers to L'HOTELLIER, the supplier shall take full responsibility for the nonconformity including any costs incurred by L'HOTELLIER as a result of the nonconformity. Additionally, the supplier may be subject to cancellation of orders and negative impacts to the supplier quality rating.

In addition to the requirements above, suppliers shall also notify L'HOTELLIER of nonconformities encountered on similar or identical products supplied to L'HOTELLIER. An impact study may be conducted jointly to determine whether the nonconformity has potential consequences on other products supplied to L'HOTELLIER.

4.15 CORRECTIVE ACTION

For each nonconformity discovered by L'HOTELLIER, a Supplier Corrective Action Request (SCAR) – QC02 – will be sent to the supplier. The supplier is required to respond to the request for corrective action within the due date identified by the request.

As part of Containment/Immediate Action, the supplier shall verify the following to contain and segregate all nonconforming parts to prevent further nonconforming deliveries to L'HOTELLIER:

- Parts at the sub-tier supplier
- Parts in inventory (stock)
- Parts in Work-In-Process (WIP)
- Parts already delivered, which may contain the same nonconformity

According to the severity and impact of the nonconformity, the cognizant L'HOTELLIER quality manager may determine additional actions for the supplier to take in correcting and/or preventing the nonconformity from re-occurring.

4.16 MAINTENANCE, REPAIR, AND OVERHAUL (MRO) SUPPLIERS

In accordance with PART/FAR 145 regulations, companies authorized to repair L'HOTELLIER products, and mentioned in the associated "CAPABILITY LISTS", shall:

- Be PART and/or FAR 145, FRA 145 or EMAR/FR 145 approved by the DGA, DGAC and/or FAA
- Comply with PART and/or FAR 145, FRA 145 or EMAR/FR 145 regulations, in particular the terms of use in L'HOTELLIER maintenance documentation (CMM) and specific tooling referenced in the CMMs.

4.17 CONFIDENTIALITY

Any information of any type whatsoever, such as specifications, plans, technical drawings or IT files, received directly or indirectly from L'HOTELLIER previously, or as part of the services provided by the supplier and hereafter referred to as "Information" is, and remains, the property of L'HOTELLIER which divulges it and supplies it solely for the requirements of the aforementioned services.

The supplier that receives the Information agrees not to divulge it or make it accessible, fully or partially, amended or not, in any form whatsoever, to a third party, and to take all necessary measures to keep this information confidential.

The supplier undertakes only to communicate the information to members of its personnel who need to know it in order to perform the aforementioned services and to ensure that these same personnel comply with the provisions in this clause.

Furthermore, the supplier that receives the Information shall not reproduce, copy or use it with a view to manufacturing components with a purpose other than that defined in the above-mentioned service conditions.

However, the supplier may, for the purposes of these services alone, following written authorization from L'HOTELLIER, divulge it to third parties on the condition the supplier obtains the written commitment of these third parties to comply with the provisions of this confidentiality clause.

This confidentiality clause will come into force on the date of signature by the parties and will be valid until termination or expiry of the contract relating to the above-mentioned services.

The confidentiality obligations stipulated in this clause will be valid for a period of ten (10) years from the aforementioned termination or expiry.

In the event of a dispute, French law shall be applicable.

4.18 GLOBAL TRADE COMPLIANCE (IMPORT/EXPORT REGULATIONS)

Suppliers shall comply with the applicable Global Trade requirements found in the RTX Standard Terms & Conditions, found at the following link:

- <https://www.rtx.com/suppliers/purchase-terms-and-conditions>

4.19 GLOBAL CHEMICAL REGULATIONS AND MATERIALS OF CONCERN

To the extent the Goods contain, or the manufacturing processes for the Goods use, chemical substances subject to Global Chemical Regulations or Materials of Concern ("MOC"), as defined below, Supplier shall:

- Comply with all applicable Laws regarding the global regulation of chemicals, including but not limited to any: (i) registration, notification, authorization, restriction, or ban obligations; and (ii) hazard classification, labeling, packaging, Safety Data Sheet, or safe use compliance and communication obligations (the "Global Chemical Regulations").
- Cooperate with Buyer's efforts to comply with Global Chemical Regulations and applicable customer requirements and to develop products and manufacturing processes that minimize risk to human health and the environment. Such cooperation includes, but is not limited to: (i) investigating and communicating to Buyer the nature and extent of any MOCs contained in the Goods or in the processes used to manufacture, assemble, use, maintain, or repair any Goods; (ii) providing all reasonably necessary documentation to verify the material composition, on a substance by substance basis, including quantity of each MOC contained in any Goods; (iii) providing Buyer with safe use communications and safety data sheets; (iv) promptly responding to Buyer's requests for information, in the form requested by Buyer, regarding MOC used or intended to be used in connection with the Goods and related regulatory controls such as use restrictions and permit and authorization requirements; (v) upon request, cooperating with efforts to obtain necessary regulatory approval(s), including, but not limited to, registrations and authorizations for the continued sale to and use of Goods by Buyer; and (vi) using the tools and forms provided by Buyer through the RTX Supplier Site, or other means.

For purposes of this Section, "MOC" means substances that are substances of concern to Buyer or Buyer's customer identified in a Materials of Concern list made available through the RTX Supplier Site or provided through other means.

5 APPENDIX A: ACRONYMS, TERMS AND DEFINITIONS

Acronym	Term	Definition
	Attribute Data	Data where there are two possible values – pass or fail
BTP	Build-to-Print:	A supplier of a component, assembly, minor system, or sub-system for which the supplier has less than total design responsibility and authority. May also be known as <i>Customer-owned design, Customer-design, Buyer-design, etc.</i>
	Build-to-Spec:	<p>A material defined as Build-to-Spec is a material that is defined by a performance specification, which also may include drawings detailing the envelope. The performance specification shall define the requirements while the supplier is responsible for creating a design that meets the performance specification and the envelope. The requirements are not prescriptive, allowing the supplier to utilize their engineering expertise to design the material.</p> <p>The supplier may be responsible for a defined level of qualification and qualification testing. The supplier will retain an amount of IP for their design effort.</p> <p>May also be known as <i>Supplier-owned design, Supplier-design, Design-responsible suppliers, etc.</i></p>
	Calibration or Laboratory Service Provider	An organization qualified to perform calibration services on Monitoring, Measuring and Test Equipment used in the production of Collins Aerospace products, and laboratory services to include material testing.
	C-Drawings	Rosemount Aerospace or H&W drawings for off-the-shelf component items. However, in some instances features are added or customized beyond the current off-the-shelf configuration.
CofC	Certificate of Conformance/ Compliance	A legal document provided by the manufacturer or supplier which certifies that the processes, products, and services supplied to the customer meet the requirements specified on the order.
COTS	Commercially Available Off-The-Shelf	Commercially available items or products, defined by industry recognized specifications and standards, sold through public catalog listings.
	Deviation	A specific written authorization granted prior to the manufacture of an item to depart from a particular requirement (s) of an item's currently approved configuration documentation for a specific number of units or a specified period of time.
	Direct Material	Material that goes into and forms a permanent part of the end product. Services that may affect the form, fit or function of these materials is included in this definition.
	Distributor	Organizations carrying out the purchase, storage, splitting, and sale of products and not transforming, assembling, or otherwise modifying purchased product. By definition, Distributors are limited to distribution of raw material, industry standard, and COTS parts.
	Frozen Process	A manufacturing process that has been identified by Rosemount Aerospace, H&W or their customers that shall not be changed without prior approval. These include process operating parameters, sequence of operation, material, or sources.
	Industry Standard Part or Industry Standard Raw Material Manufacturer	Manufacturer of parts or raw materials that conform to an established industry or national authority-published specification (e.g., Aerospace Material Specification (AMS))

Acronym	Term	Definition
NADCAP	National Aerospace and Defense Contractors Accreditation Program	Nadcap (formerly NADCAP, the National Aerospace and Defense Contractors Accreditation Program) is a global cooperative standards-setting program for aerospace engineering, defense, and related industries.
	Nonconformity	Any material or product that does not meet the associated engineering drawing or specification or was not processed in accordance with the proper specification or procedure. May also be known as a <i>nonconformance</i> or <i>defect</i>
QMS	Quality Management System	A formalized system that documents processes, procedures, and responsibilities for achieving quality policies and objectives.
	Repair:	The subjection of nonconforming material to an approved process designed to reduce but not eliminate the nonconformity, requires Collins Aerospace approval.
	Rework:	All work performed on articles with known nonconformities to bring such articles into full compliance with documented requirements.
	Special Process:	Those processes where the resulting output cannot be verified by subsequent monitoring or measurement, without destructive testing. Subsequently, any nonconformities become apparent after the product has been placed into use or delivered to customers. Typically, Special Processes are defined by the Performance Review Institute (PRI) and controlled through NADCAP accreditation.
	Special Process Supplier:	Any supplier that performs special processes on Collins Aerospace products.
	Supplier Gold	A UTC program that classifies a supplier's performance through multiple criteria, such as their quality reject history and On Time Delivery as well as customer satisfaction and supplier health assessment. It is complementary to a supplier's current Lean program and aligns with the UTC ACE Operating system. More information is available on the UTC Public website.
	Technical Data:	Technical Data (TD) is information in any form necessary for the design, development, production, operation, installation, modification or maintenance of Hardware, Materials, Software, or processes related to those necessary actions. Technical Data does not include financial, management, and specific publicly available data.
	Variable Data	Data available when a characteristic can be measured on a continuous scale using variable gaging.
	Vendor Managed Inventory	Inventory that is stocked and managed under contract by a supplier.
	Waiver	A written authorization to accept an item, which during manufacture or after having been submitted for acceptance is found to depart from specified requirements but is suitable for use as is or after a repair
AML	Approved Manufacturer List	
CofA	Certificate of Analysis	
CFR	Code of Federal Regulations	
DOT	Department of Transportation	
EASA	European Union Aviation Safety Agency	
FAA	Federal Aviation Administration	
FAI	First Article Inspection	

Acronym	Term	Definition
FAIR	First Article Inspection Report	
FOD	Foreign Object Damage/Debris	
GIDEP	Government Industry Data Exchange Program	
H&W	Hoist & Winch	
ISO	International Organization for Standardization	
KC	Key Characteristic	
MRO	Maintenance, Repair, and Overhaul	
MSA	Measurement Systems Analysis	
OCM	Original Component Manufacturer	
OEM	Original Equipment Manufacturer	
OTD	On Time Delivery	
QAL	Quality Approval Level	
QML	Qualified Manufacturers List (as defined by the US Defense Logistics Agency)	
QPL	Qualified Products List (as defined by the US Defense Logistics Agency)	
RTCA	Radio Technical Commission for Aeronautics	
SBU	Strategic Business Unit	
SCAR	Supplier Corrective Action Request	

6 APPENDIX B: REFERENCES

074-8432-999	Supplier Advanced Quality System KC Summary Sheet and Detail Data Sheet
489-0073-001	Supplemental Requirements for Fabricated Parts
580-0001	Bright Alloy Finish Specification
580-0034	Chem-Film on Copper and Copper Alloys
580-0151	Tin Plate Finish Process Specification
580-0225	Tin Plate Process Specification
580-0778	Approved Alternates for Canceled Military, Federal, and Industry Standards / Specifications
580-0798	Supplemental Performance Requirements, Printed Wiring Boards
580-1497	Process, Marking, Identification
580-4023	Heat Treatment for Electrical Iron
580-5800	Fabrication Practices
839-8031-001	Inspection and Test Requirements for Key Characteristics of Components
952-0766	Corrosion Resistant Electroless Nickel
14 CFAR Part 21.9	Replacement and Modification Articles
14 CFR Part 120	U.S. Department of Transportation, Conducting Workplace Drug & Alcohol Testing
49 CFR Part 40	U.S. Department of Transportation, Conducting Workplace Drug & Alcohol Testing
99FP	Rockwell Collins General Terms and Conditions of Purchase
AMS2817	Packaging and Identification of Molded Elastomeric Seals and Sealing Components
ANSI/ESD S20.20	Protection of Electrical and Electronic parts, Assemblies and Equipment
ANSI/IPC A-610	Acceptability of Electronic Assemblies
AQAP 2110	NATO Quality Assurance Requirements for Design, Development and Production

AS6081	Fraudulent/Counterfeit Electronic Parts: Avoidance, Detection, Mitigation, and Disposition – Distributors
AS9115	Quality Management Systems – Requirements for Aviation, Space, and Defense Organizations – Deliverable Software
AS9131	Nonconformance Data Definition and Documentation
ASQR-20.1	Supplier Sampling Requirements
ASTM D3951	Standard Practice for Commercial Packaging
COL-ASQR-PRO-0003	Aerospace Supplier Quality Requirements
COL-PRO-0012	Supplier Quality Audit and Auditor Requirements
EASA Part 21	Airworthiness and Environmental Certification
EASA Part 145	
EIA JESD-625	Requirements for Handling Electrostatic-Discharge-Sensitive (ESDS) Devices
EMAR/FRA 145	
FAR 145	
FRA 21G	
HRC-QMS-I-308	Rockwell Collins- AS/EN9102 Electronic FAIR Submittal
HRC-QMS-I-358	Quality Assurance Purchase Order Codes
IEC 61340-5-1	Protection of Electronic Devices from Electrostatic Phenomena
ISO 6789	Assembly Tools for Screws and Nuts – Hand Torque Tools – Requirements for Calibration and Determination of Measurement Uncertainty
J-STD-001	Requirements for Soldered Electrical and Electronic Assemblies
NAS-412	Foreign Object Damage/Foreign Object Debris (FOD) Prevention
RMT-FRM-68137	Deviation/Waiver Request Form
TCCA	
UTAS-ITC-PRO-0800	
UTC Corporate Policy Manual (CPM) Sections 20 & 20A	

7 REVISION HISTORY

Only the document owners identified below are formally authorized to make changes to this document. This document supersedes the following documents:

- RC-9000, Revision Date: 29 JUL 2022
- RMT-ASQR-PRO-0003, rev. B
- DP MSD 601, rev. A
- IQC10640

Document No./Title	Revision Date	Document Owner(s)	Approved By	Summary of Changes
RC-9000	01/31/2024	Zach Hightower (AVI) Karen Kennedy (MIS)	Kyle Gage (AVI) Scott Plemmons (MIS)	Consolidated multiple site flow-down documents into a singular QMS requirements flow-down document for Avionics and Mission Systems