



DRS-SCQ-0100 Rev -

DRS COMMON SUPPLIER QUALITY CLAUSES

Change Record

| Rev | ECO # | Description Of Change |
|------------|--------------|------------------------------|
| - | | Initial Release. |
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TABLE OF CONTENTS

| | | |
|----|--------------------------|----|
| 1. | PURPOSE..... | 3 |
| 2. | SCOPE..... | 3 |
| 3. | DEFINITIONS..... | 3 |
| 4. | ACRONYMS..... | 3 |
| 5. | RESPONSIBILITIES..... | 3 |
| 6. | STAKE HOLDERS..... | 4 |
| 7. | PROCEDURE..... | 4 |
| 8. | REFERENCE DOCUMENTS..... | 10 |



1. PURPOSE

The purpose of this document is to identify common quality clauses used on purchase orders by DRS Technologies.

2. SCOPE

This procedure applies to all DRS Technologies divisions and their suppliers. It is intended to establish common language for supplier quality requirements related to DRS generated purchase orders.

3. DEFINITIONS

N/A

4. ACRONYMS

P.O. – Purchase Order

ESD – Electrostatic Discharge

CCA – Circuit Card Assembly

UID – Unique Identification

QMS – Quality Management System

C of C – Certificate of Conformance

MRB – Material Review Board

C of A – Certificate of Analysis

PCB – Printed Circuit Board

C of T – Certificate of Test

5. RESPONSIBILITIES

- 5.1 It is each individual DRS division’s responsibility to determine which codes are applicable on their purchase orders. The quality department within each division is also responsible to coordinate review and approval of this document with their supply chain management.
- 5.2 DRS Tactical Systems has configuration and maintenance responsibility for this document. DRS Tactical Systems is also responsible to coordinate periodic updates to this document with the other DRS divisions. This document will be available through a company-wide accessible on-line system, such as SharePoint.
- 5.3 It’s the responsibility of the supplier to review all identified quality clauses and ensure compliance to the specified requirements. When there is any confusion or conflicts between identified clauses or other DRS documentation, then it is the supplier’s responsibility to contact the DRS division buyer to resolve those conflicts prior to initiating work.



6. STAKE HOLDERS

The stake holders are the Quality and Supply Chain personnel at each of the DRS facilities who use these clauses. Those stake holders are identified in the 400-series Quality Clause table under the “DRS Site” column.

7. PROCEDURE

7.1 Quality Clause Structure

7.1.1 The Quality clauses are categorized into 100, 200, 300, and 400 series numbers.

7.1.1.1 The 100-series clauses are standard requirements for all DRS divisions and will normally be identified on all material purchase orders.

7.1.1.2 The 200-series clauses are common across all DRS divisions but are commodity specific. The same clause numbers will normally be identified on all purchase orders of the same commodity. Which 200-series clauses are used on a purchase order is optional by each division.

7.1.1.3 The 300-series clauses are common process-related clauses that are DRS division specific. Application of these quality clauses on a purchase order are determined by the individual division.

7.1.1.4 The 400-series clauses are unique to each DRS location. To prevent duplication of these clauses, they are preceded by a four character alphanumeric that represents the specific DRS location (e.g. CCCT401 is clause number 401 from Consolidated Controls in Danbury Connecticut).

7.1.2 When there is a conflict between quality clauses on a purchase order, then the higher number clause will take precedence (e.g. QC200-series clause takes precedence over a QC100-series clause).

7.2 DRS Common Quality Clauses

QC100 – Quality Management System: The seller shall maintain a Quality Management System that complies with the requirements of ISO 9001 or a Quality Management System approved by DRS. Suppliers that are registered by an RAB accredited registrar are preferred.

QC101 – Identification, Preservation, Packaging, and Packing: All shipments to DRS must be packaged to avoid damage and deterioration and must be shipped to the address specified on the PO unless otherwise noted. Packaging and packing shall be in accordance with good commercial practices unless otherwise specified on the PO. Parts shall not be intermingled unless otherwise specified. Each box or container shall be labeled and have as a minimum the following information: (1) Part number and revision, (2) PO number, (3) PO Line Item, (4) Quantity and (5) Manufacturer’s identification.



QC102 - Source of Supply: Suppliers are responsible to ensure compliance for materials used to manufacture parts supplied to DRS Technologies. Suppliers will only purchase materials from Original Equipment Manufacturer's (OEM's), standard catalogues, or the OEM authorized distributors. Purchasing from independent brokers or other sources is not authorized unless approved in writing by DRS Technologies.

QC103 – Measuring & Test Equipment: It is the seller's responsibility to ensure all equipment, including Customer Furnished Equipment and Government Furnished Equipment, used to test and inspect DRS supplied parts are maintained and traceable to the National Institute of Standards and Technology (NIST) requirements. A calibration system in accordance with ISO 10012-1, ANSI/NCSL Z540-1, or equivalent will be used by the supplier.

QC104 – Control of Quality Records: All records related to the manufacturing, testing and inspection of parts supplied to a DRS Technologies purchase order will be maintained for a minimum of 7-years unless otherwise specified by the individual DRS company.

QC105 – Supplier Material Review Board (MRB) Authority: The Supplier does not have MRB authority to accept or repair non-conforming product. Any nonconformances on final deliverable product to the purchase order, drawing, specifications or applicable documents must be submitted to DRS for approval prior to shipment.

QC106 – Shelf Life: No materials with a shelf-life date will be shipped to a DRS Technologies purchase order with less than 80% of the full shelf-life as determined by the original manufacturer unless previously approved in writing by DRS. The expiration dates shall be clearly recorded on the packaging and the shipping documents.

QC107 – Temperature Sensitive Material: The Seller must indentify each shipment of temperature sensitive material with the manufacture date, storage temperature and recommended shelf life, in addition to the normal identification requirements of Name, Type, Size, Lot Clause and Quantity. Identification and special handling conditions must be recorded on the shipping document.

QC108 – Test and Analysis Data: The data from any qualification testing, functional testing, analysis test and/or lot acceptance test required for the manufacturing of DRS parts shall be maintained for a minimum of 7 years and available upon request from the buyer.

QC109 – Certification of Special Processes: If drawings and/or specifications listed in this purchase order require special processes at the seller or the seller's sub-tier, these processes shall be documented, reviewed and approved by DRS Technologies prior to



production. Approval of special processes by DRS does not absolve the supplier from supplying conforming product.

These processes include, but not limited to, the following: Bonding, brazing, casting, chemical surface treatments, composites, conformal coating, contamination control, destructive physical analysis (DPA), dye penetration inspection, forging, heat treating of metals, painting, plating, pressure testing, magnetic particle inspections, radiographic inspection, soldering, ultrasonic inspection, welding, or any other process defined in the purchase order.

QC110 – Notification Responsibility: The Supplier shall inform DRS immediately where there is a reason to suspect that products previously supplied to DRS may not be in accordance with the DRS drawing, specification or purchase order requirement. The Supplier shall promptly inform DRS of any circumstance related to materials, manufacturing, processing methods, design, etc. which may make a product susceptible to premature failure or otherwise place the safe operation of that product at risk. The notification shall describe the nature of the discovered anomaly, its applicability to DRS part number(s), quantities affected and the probable impact to the proper function/performance of the item supplied. DRS shall also be immediately notified in writing of any change to the Supplier's Quality Management team responsible for DRS products, other significant change in the Supplier's organization, change in financial condition, change in location or change in ownership of the Supplier.

QC111 – Control of Lower-Tier Suppliers: The Supplier shall flow-down all applicable DRS purchase order requirements, including, but not limited to Terms and Conditions and Quality Clauses to Sub-Tiers performing work involving this purchase order.

QC112 – Supplier Corrective Action Request: A Supplier Corrective Action will be forwarded by DRS to a Supplier when corrective action is required. Upon notification of the non-conformance, the supplier shall take immediate containment action and complete the analysis of cause and proposed corrective action within 10 days. Failure to respond in a timely manner may result in the removal of Supplier from the Approved Suppliers Listing. Upon notification of the non-conformance shipments may be suspended until containment processes are enacted.

QC200 – Quality Management System: The seller shall maintain a QMS that complies with the requirements of TS16949. Suppliers registered by an RAB accredited registrar are preferred.

QC201 – Quality Management System: The seller shall maintain a QMS that complies with the requirements of AS9100. Suppliers registered by an RAB accredited registrar are preferred.



QC202 – First Article Inspection: A first article inspection in accordance with AS9102 is required for this purchase order if one of the following apply:

- (1) First time submission (part or new supplier)
- (2) Revision change affecting form, fit, or function
- (3) A process change used to manufacture the part
- (4) Change in manufacturing location (facility)
- (5) More than 24 months have passed since the supplier last produced part
- (6) As requested by DRS

All first article inspections performed by the seller will be accompanied with a First Article Inspection Report (FAIR) showing conformance to all drawing or performance requirements specified by DRS.

QC203 – Source Inspection: Parts and materials supplied to this purchase order require source inspection by DRS Technologies or government representative prior to shipment. The supplier will notify the individual DRS company in advance when parts and materials will be ready for source inspection. It is the supplier’s responsibility to ensure part conformance to specified requirements prior to requesting source inspection.

QC204 – Solderability: Any solderable parts supplied to DRS manufactured must meet the solderability requirements of the applicable ANSI/J-Standards.

QC205 – Electrostatic Discharge Control (ESD): All electrostatic sensitive devices shall be packaged, marked and handled in compliance with ANSI/ESD S20.20 (or equivalent).

QC206 – Printed Circuit Board’s: PCB’s will comply with IPC-A-600 unless otherwise specified.

Note: The supplier will default to Class 3 requirements if the class is not otherwise specified on the PO or other buyer supplied documents.

QC207 – Circuit Card Assemblies: CCA’s will comply with IPC-A-610, Acceptability of Electronic Assemblies, unless otherwise specified.

Note: The supplier will default to Class 3 requirements if the class is not otherwise specified on the PO or other buyer supplied documents.

QC208 – Circuit Card Assemblies: CCA’s will comply with IPC-J-STD-001, Requirements for Soldered Electrical and Electronic Assemblies unless otherwise specified.



Note: The supplier will default to Class 3 requirements if the class is not otherwise specified on the PO or other buyer supplied documents.

QC209 – Wiring Harnesses: Cables and Wiring Harnesses will comply with IPC/WHMA-A-620 unless otherwise specified.

Note: The supplier will default to Class 3 requirements if the class is not otherwise specified on the PO or other buyer supplied documents.

QC210 – Rework Authorization of Circuit Card Assemblies: the seller may rework CCA's supplied to this purchase order in accordance with IPC-7711A.

QC211 – Moisture Sensitive Components: All moisture sensitive components, as classified by IPC/JEDEC J-STD-033 or other documented procedure.

QC300 – Certificate of Compliance (C of C): All parts supplied to this purchase order will be accompanied by a C of C. The C of C will be dated and signed by the responsible company representative certifying the supplied parts meet all purchase order, specification, and drawing requirements from the buyer. Certifications must include the following:

- (1) DRS PO Number
- (2) DRS Part Number, Revision, Serial Numbers and Lot Clauses where applicable.
- (3) Quantity Shipped
- (4) Name of approved lower-tier supplier and descriptions of service provided (if applicable)
- (5) Authorized signature and date.

QC301 – Certificate of Analysis (C of A): A Certificate of Analysis is required to accompany all materials supplied to this purchase order. The C of A will include:

- (1) Manufacturer's name
- (2) Country of origin/melting/smelting
- (3) Specification number
- (4) Material grade
- (5) Material condition
- (6) Size
- (7) Heat lot



- (8) Date Clause
- (9) Chemical analysis
- (10) Physical properties applicable to the procured material

QC302 – Certificate of Test (C of T): All parts supplied to this purchase order will be accompanied by a C of T. The C of T will be dated and signed by the responsible company representative certifying the supplied parts meet all purchase order, specification, and drawing requirements from the buyer. Certifications must include the following:

- (1) DRS PO Number
- (2) DRS Part Number, Revision, Serial Numbers and Lot Clauses where applicable
- (3) Quantity Shipped
- (4) Name of approved lower-tier supplier and descriptions of service provided (if applicable)
- (5) Authorized signature and date
- (6) Test Results
- (7) Name and Address of the tester or independent laboratory
- (8) Date and run time if applicable

QC303 – Unique Identification (UID) marking requirements: Unique Identification (UID) marking on labels, decals or metal plates shall be per MIL-STD130M. The UID marking shall have a minimum Grade of B when verified per ISO/IEC 15415. Sampling of the verification of the UID marking requirements shall be per ANSI/ASQC Z1.4 using General Inspection Level II and Single Sampling Plans for Reduced Inspection at an AQL of 1.0. The first and last UID marking on labels, decals or metal plates of the lot shall be part of the samples that are verified.

Deliverable: A Certificate of Conformance stating that the labels, decals or metal plates were manufactured in accordance with MIL-STD-130M and verified per ISO/IEC 15415. The Certificate of Conformance shall also state the Grade that was achieved when verified per ISO/IEC 15415. A legible and reproducible copy of the verification that was performed on the labels, decals or metal plates of the sample shall be included with each shipment.



DRS TECHNOLOGIES

Title: Common Supplier Quality Clauses

Document Number: DRS-SCQ-0100

Revision: -

Page 10 of 10

400-Series Codes: The following table lists the DRS site specific alpha-numeric characters that will precede the 400-series code number (e.g. PSFE401):

| DRS Site | Code |
|--|------------|
| RSTA-FL & NVS | RSFL |
| RSTA -TX | RSTX |
| Power Control Tech - Milwaukee | PCTM |
| Power Tech - Fitch/Hudson | PTMA |
| Power Systems - Vermont | PSFE |
| Power Systems - Bridgeport | PSBR |
| Power Systems - Halifax | PSHA |
| Power Systems - Chantilly | PSCH |
| Sustainment Systems - Florence KY | SSFL |
| Mobilized Environmental - Cincinnati, OH | MECN |
| Marlo Coil - High Ridge, MO | MCMO |
| Tactical Computing - Melbourne, FL | TCML |
| Sustainment Systems - West Plains & St. Louis, MO | SSMO |
| DRS UK - Farnham, Surrey | UKSU |
| C3 Systems - Gaithersburg, MD; Wyndmoor, PA | C3GA; C3WY |
| Engineering and Logistics - All Line of Business Sites | N/A |
| Control Systems - FT Walton Beach | CSFW |
| Data and Imaging Systems - Oakland, NJ | DINJ |
| Manufacturing - Johnstown, PA; Largo, FL | C3PA; C3FL |
| DRS Canada Company - Kanata & Carleton Place, Ontario | CNKN |
| Tactical Communications and Network Solutions | TCNS |
| Satellite Communications and Enterprise Solutions | SCES |
| Security and Maritime | SEMT |
| Signal Solutions, Columbia, MD, Gaithersburg, MD | SSCO; SSGA |
| Codem Systems, Merrimack, NH; Sunnyvale, CA | CDNH; CDCA |
| Intelligence and Avionics Systems, Dayton, OH | IAOH |
| Surveillance and Targeting Systems, Cypress, CA | STSC |
| Consolidated Controls, Danbury, CT | CCCT |
| Test and Energy Management, Huntsville, AL | TEMA |
| Test and Training, Ft. Walton Beach, FL | TTFW |
| EW & Network Systems, Buffalo, NY | EWNS |

8.0 REFERENCE DOCUMENTS

N/A