



## 9120-02742-0200 Rev M

# Purchase Order Generation

### Change Record

| Rev | ECO # | Description Of Change  |
|-----|-------|--|
| —   | 7251  | Initial Release – ISO 9001:2000. Replaces procedure 9120-01206-0102  |
| A   | 11487 | Paragraph 4.1.2, 5.1.1, 5.1.3 and 5.1.5 revised  |
| B   | 14592 | Paragraphs 4.1.3 & 5.1.3 modified; 4.1.4 & Section 6 added – to identify how PO Amendments are handled and to add information pertaining to the copying of international POs to the Trade Compliance Officer.  |
| C   | 34532 | Changes Include:<br><b>3.</b> Title Change from Purchase Order Generation and Approval to “Purchase Order Generation”<br><b>4.</b> Approvers as follows: Remove Al Seprinski & Kris Hildebrandt. Add Curt Peterson, Sr. Subcontract Manager representing Contracts and Eric Havens, Subcontract Manager, representing Operations<br><b>5.</b> Title of “Purchasing Agent” with “Buyer”; “Export” with “Trade”<br><b>6.</b> Reference Changes |
| D   | 64472 | ECR # 64472 Added Note to Section 5.1.1 regarding RoHS Requirements. Updated the approver block  |
| E   | 75046 | ECR 75046 - Incorporated Quality Clause requirements from document 9120-02742-0300 into section 7.1.5 (9120-02742-0300 is being cancelled). Specific Quality Clauses are now standardized as a corporate-level document DRS-SCQ-0100. Updated to new format.   |
| F   | 80129 | 4/7/10: Updated Quality Clause TCML406 with specific SPC requirements  |
| G   | 80703 | Changed Reference Document 9120-27000-0100 to 9130-27000-0900.   |
| H   | 80952 | Added Quality Clause TCML409 for Calibration Laboratories  |
| J   | 82198 | Updated TCML402 with additional software supplier requirements   |
| K   | 84090 | Updated TCML405 with a RoHS compliance statement. Added Updated TCML406 with Cpk data requirements   |

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| L | 85663 | Added new Quality Clause (TCML410) for First Article Inspection (FAI). It addresses the use of the MOVEIT FTP site for sharing first article data with suppliers. This clause will take the place of QC202 where required on purchase orders.   |
| M | 87338 | Adds Quality Clause TCML411 that specifies limitations on hexavalent chromium as specified by DFARS Clause 225.223-7008, Quality Clause TCML 412 (including Note 2) that specifies labeling requirements for packages shipped to DRS-TS, and Quality Clause QC211 for moisture sensitive devices for board level components. Updated references from Departmental Quality Assurance to Product Assurance. |



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## 1. PURPOSE

The purpose of this procedure is to document the method in which authorized DRS Tactical Systems, Inc. (DRS-TS) personnel will generate purchase orders.

## 2. SCOPE

This document applies to all material and services purchased for customer orders.

## 3. DEFINITIONS

- ERP System – Enterprise Resource Planning. Computer software system used to manage material and material flow through the manufacturing process.
- PDM – Product Data Management. Computer software system used to manage and maintain product requirements and specifications. Tactical Systems uses Agile to maintain the majority of these requirements.
- DPAS Rating – Defense Priorities and Allocations System. This system was established to assure the timely availability of industrial resources to meet national defense requirements and provide a framework for rapidly expanding industrial resources in a national emergency. It is comprised of a 2-digit rating symbol and a 2-digit program identifier. The rating symbol is either a DX or DO. The program identifier is assigned based on the type program the order supports. For example, A1 identifies defense aircraft programs and A7 identifies defense electronics programs. A rated order takes precedence over a non-rated order and a DX order takes precedence of a DO order.
- Quality Clause – Quality Clauses define specific quality requirements suppliers must meet when providing parts and assemblies to the buying organization. These clauses are normally placed on purchase orders and specify system, process, and material requirements necessary to fulfill the PO.
- Product Lifecycle Management (PLM) – This is a computer software system used for configuration control of systems and equipment in an organization. Tactical Systems uses Agile which is managed and monitored by the Configuration Control Board (CCB).

## 4. ACRONYMS

N/A

## 5. STAKEHOLDERS

Supply Chain Management

Product Assurance



## 6. RESPONSIBILITIES

- 6.1 The Buyer is responsible for the preparation of purchase orders in accordance with this work instruction.
- 6.2 Product Assurance is responsible to identify, maintain, and recommend the appropriate quality clauses for the specific commodities.

## 7. PROCESS

- 7.1 The Buyer receives order requirements off the computerized ERP system, and requisitions.
  - 7.1.1 The Buyer prints from PDM, the applicable drawings and specifications from Configuration Management database. Items can be purchased for prototype builds with the input of the responsible Design Engineer.

**NOTE: FOR ROHS RELATED MATERIALS, THE BUYER WILL VERIFY THE SUPPLIER IS ROHS APPROVED USING THE 9350-02741-0000 ROHS APPROVED SUPPLIER LIST IN THE DRS-TS PLM SYSTEM. IF SUPPLIER IS NOT LISTED, FORM 9130-02741-0105 SHALL BE SENT AND RECEIVED PRIOR TO GENERATING A PURCHASE ORDER.**

- 7.1.2 In the event an Offshore Procurement, refer to the applicable procedure for further instructions prior to proceeding with purchase.
- 7.1.3 After source selection is complete the Buyer prepares a purchase order.
- 7.1.4 The Buyer will deliver a copy of all purchase orders for an international supplier to the Trade Compliance Officer.
- 7.1.5 Standard Quality Clauses
  - 7.1.5.1 Purchasing is responsible for applying the applicable quality clause for each commodity as outlined in this document.
  - 7.1.5.2 The Contracts Department will provide written notification to the Purchasing Department of any rated order identifying the applicable contract or purchase order number and the associated DPAS Rating.
  - 7.1.5.3 Supplier Quality Clauses are listed in Corporate document DRS-SCQ-0100. The following are suggested quality clauses for purchase order flowdown to suppliers:



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| Commodity   | Recommended Clauses   |
|---|---|
| Printed Circuit Boards (PCB's)                              | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC206, QC210, TCML405, TCML406, TCML408, TCML410, TCML412                 |
| Circuit Card Assemblies (CCA's)                             | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC205, QC207, QC210, QC211, TCML405, TCML406, TCML408, TCML410, TCML412   |
| Cable Assemblies<br>Cable & CCA (combo) Assemblies          | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC207, QC209, QC210, TCML405, TCML406, TCML408, TCML410, TCML412          |
| Cast and Machined Parts                                     | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML406, TCML407, TCML410, TCML411, TCML412                             |
| Sheet Metal   | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML406, TCML407, TCML410, TCML411, TCML412                             |
| Molded Plastic Parts  | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML406, TCML407, TCML410, TCML412                                      |
| Board-Level Components (IC's, transistors, capacitors, etc) | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC205, QC211, TCML405, TCML412  |
| Keyboards   | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC205, QC207, QC209, QC210, TCML405, TCML406, TCML407, TCML408, TCML410, TCML412 |
| LCD's, Touchscreens and Display Windows                     | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML406, TCML408, TCML410, TCML412                                      |



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|                                       |   |
|---------------------------------------|---|
| Cable and Wire                        | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC209, TCML405, TCML412                   |
| Heater and Thermistor Pads            | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, QC209, TCML405, TCML406, TCML408, TCML412 |
| <b>Commodity</b>                      | <b>Recommended Clauses</b>  |
| Hardware                              | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML412                                 |
| Connectors/Pins                       | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, QC204, TCML405, TCML412                          |
| Adhesives and Chemicals               | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML401, TCML405, TCML412                        |
| Batteries                             | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML401, TCML405, TCML412                        |
| Tooling                               | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML407, TCML412                        |
| Labels                                | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML410, TCML405, TCML406, TCML412               |
| Software                              | QC103, QC104, QC108, QC110, QC111, QC112, TCML402   |
| Calibration Services                  | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML402  |
| Gaskets                               | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC109, QC110, QC111, QC112, TCML405, TCML406, TCML410, TCML412               |
| COTS Distributor                      | QC100, QC101, QC102, QC103, QC104, QC105, QC106, QC107, QC108, QC110, QC112, TCML405  |
| Analysis and Calibration Laboratories | QC103, TCML409  |



7.1.5.4 The following are unique DRS-TS Quality Clauses that are not identified in the Corporate-level document:

**TCML400** – The Seller shall maintain a quality system that satisfies the requirements in CFR TITLE 21 PART 820.

**TCML401** – The seller shall supply a copy of the material safety data sheet meeting OSHA requirements and a manufacturer’s technical data sheet for each item on this purchase order.

**TCML402** – The supplier shall establish a software development program consistent with contract/engineering requirements as defined herein. The supplier shall ensure that the software development program plan provides independent assessment of software products and identifies activities which include all phases of the software lifecycle including:

1. Requirements definition
2. Software design concept
3. Code development and integration
4. Verification and validation Testing
5. Code release
6. Installation / checkout
7. Operational performance

The supplier shall document and implement procedures relating to the establishment, maintenance, and control / production of software products. The procedures shall address revision control, build, testing, release, media reproduction, archiving, environmental control, and virus protection. A disaster recovery process shall be defined and implemented.

The supplier shall document and implement a software configuration management process which addresses; configuration identification, baseline and traceability, change control, peer review, problem reporting and resolution, archive, retrieval, and release.

Preferred suppliers will be registered to ISO 90003 or equivalent internationally recognized Quality Management System.

**TCML403** – All tooling and associated items procured under this purchase order are the property of DRS Tactical Systems, Inc.



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
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**TCML404** – All materials on this purchase order are supplied by, and the property of DRS Tactical Systems, Inc. This purchase order is for assembly and test (if applicable) activities only. Materials are to be returned to DRS Tactical Systems, Inc. upon request.

**TCML405** – Supplier will ensure all supplied materials and processes used to manufacture RoHS compliant parts meet the requirements specified in the European Union directives 2002/95/EC and 2002/96/EC. It applies to all DRS Tactical Systems parts containing the letter 'F' as the fifth character in the part number (e.g. 2041F18966-0000). Supplier will provide a Certificate of Compliance or material data sheet containing a statement the parts are RoHS compliant.

**TCML406** – Suppliers are required to establish process capability (Cp's and Cpk's) on all Critical to Quality (CTQ) features identified by the  symbol on drawings.

Data from 30 contiguous pieces must be used to establish the process capability (Cpk) for all CTQ's. Cpk data will be obtained for each mold, machining center, fixture, etc. which is used to manufacture a DRS part.

For lot sizes smaller than 30, perform 100% inspection and verification on the identified CTQ features. DRS expects a Cpk of no less than 1.33 on CTQ's. Once capability for all CTQ's is established, the supplier will routinely monitor Cpk data until the CTQ features achieve a Cpk of 1.67. Processes shown to sustain a 1.67 Cpk or higher no longer require routine monitoring. Any changes in the part or process will require re-verification of the CTQ features.

Cp and Cpk data will be provided to DRS upon request.

**TCML407** – Painted parts and assemblies must meet the requirements of ASTM 3359 and meet or exceed the visual criteria of 4B.

**TCML408** - 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.

**TCML409** – Gage calibration and test laboratories must maintain accreditation to the applicable requirements of ISO/IEC 17025. Cal labs must notify DRS-TS of any tools and equipment found Out-Of-Tolerance (OOT) when received. Such notification will be independent of equipment calibration data sheets and shall include OOT tags on returned equipment and/or separate documents titled Out-Of-Tolerance Equipment.

**TCML410** - 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 parts supplied to DRS Tactical will be accompanied with a First Article Inspection Report (FAIR) showing conformance to all drawing or performance requirements specified by DRS. FAI Dimensional measurements will have a minimum of the part number, revision, measurement location, print specification, tolerance, actual measurement, and out of tolerance variance (if indicated) listed on the FAIR.

Those suppliers who have access to the DRS Tactical **MOVEIT** site may submit the FAI data to this site in lieu of sending data with the parts. First Articles will not be accepted by DRS without this data.

**TCML411** – Material supplied to this purchase order is used for a government contract and must meet Defense Federal Acquisition Supplement (DFARS) Clause 252.223-7008. Specifically, all parts or assemblies provided must not contain hexavalent chromium in concentrations greater than 0.1 percent by weight in any homogeneous material.

**TCML412** – Packaging containing material supplied to this purchase order must be labeled in accordance with the General Shipping Label detailed in DRS-TS drawing 5100-52957-0000. Supplier should affix one label, faced, in the bottom right corner of each box contained in the shipment. Labeling requirements contained in this clause take precedence over identification requirements in clause QC101.

**Note 1**– Quality Clauses TCML400, TCML403, TCML404, and TCML411 are purchase order dependent. Buyers need to consider the applicability of these clauses before placing an order with the seller.

**Note 2** – Quality Clause TCML412 is not applicable for COTS items or other indirect purchases

## 8. FINAL REVIEW

### 8.1 Purchase order review

- 8.1.1 The Buyer reviews the entire data package to ensure that the purchase order includes all items required by the Purchasing Checklist
- 8.1.2 Final purchase order approval is indicated when the Buyer signs the lower right hand corner of the purchase order and dates it.
- 8.1.3 The Buyer distributes the purchase order as follows:
  - a) Supplier/Subcontractor and acknowledgement (if subcontract or PO exceeds \$100,000.00) copy to supplier on purchase order
  - b) Purchasing copy is retained for purchasing records



PO requiring acknowledgements will be attached to the original purchase order and filed once the signed copy is returned from the supplier/subcontractor.

- 8.1.4 For items that are purchased to a DRS-TS Drawing, the supplier is required to acknowledge the purchase order by returning the signed acknowledgement copy of the purchase order, or by sending a written acknowledgment to DRS-TS.
- 8.1.5 Buyer is responsible for making every effort to obtain a signed acknowledgement. Buyer will contact the suppliers (as needed) who have not returned the signed acknowledgments that are over two weeks old for follow-up. Buyer will document the file that the supplier has been contacted.
- 8.1.6 Buyers will perform informal peer reviews for all purchase orders under \$100,000 to ensure compliance

## 9. PURCHASE ORDER AMENDMENTS

- 9.1 A purchase order amendment is required when any element of the original purchase order requires changes.
  - Suppliers require notification of all purchase order amendments.
  - Purchase orders need to be revised in the DRS-TS ERP System.
  - Hard copy of purchase order amendments are distributed to the supplier with supplier acknowledgement of the same.
  - All purchase order amendments and supplier acknowledgements must be filed with the original purchase order.
  - A copy of amended purchase orders for international suppliers will be delivered to the Trade Compliance Officer.

## 10. REFERENCE DOCUMENTS

- 9130-27000-0900 – Form – Purchasing Checklist – 25K and Greater
- 9130-02742-0201 – Purchase Order Requisition
- 9120-02741-0100 – Supplier Assessment & Reassessment
- 9120-27000-0501 – Source Selection
- DRS-SCQ-0100 – DRS Corporate Quality Assurance Clauses