

QUICKSTEP TECHNOLOGIES PTY LTD

SUPPLIER FLOW DOWN REQUIREMENTS

Issue 8

Quickstep



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I Purpose

The purpose of this document is to detail Quickstep's quality assurance expectations and requirements for external suppliers. This includes internal, customer & industry flow down requirements for Quickstep suppliers.

Any additional requirements to those contained herein shall be specified on a Purchase Order.

2 Scope

This procedure is applicable to all Quickstep Category I suppliers and their sub-tiers.

3 Definitions and Acronyms

Acronyms

AAM	Authorised Aftermarket Manufacturer	ISO	International Organisation for Standardisation
AS	Authorised Suppliers	JSF	Joint Strike Fighter
AS	Aerospace Standard	LM	Lockheed Martin
BAES	British Aerospace Systems	MBD	Model Based Definition
BFE	Customer Furnished Equipment	MRB	Material Review Board
CAA	Civil Aviation Authority	NCR	Nonconformance Report
CAR	Corrective Action Report	NG	Northrop Grumman
CoC	Certificate of Conformance	NOE	Notice of Escapement
COPS	Condition of Part Supply	OM	Original Manufacturer
DOD	Department of Defense	OEM	Original Equipment Manufacturer
DMS	Diminishing Material Supply	OSHA	Occupational Safety and Health Administration
DFARS	Defense Federal Acquisition Regulation Supplement	OASIS	Online Aerospace Supplier Information System
DPD	Digital Product Definition	PCD	Process Control Document
DSD	Design Support Database	PO	Purchase Order
EPA	Environmental Protection Agency	QMS	Quality Management System
EMAPS	Engineering Materials and Approved Products	QS	Quickstep
FAA	Federal Aviation Administration	RFP	Request for Proposal
FAI	First Article Inspection	SDL	Supplier Disclosure Letter
FOD	Foreign Object Damage/Debris	SQAR	Supplier Quality Assurance Requirements
Fod	Foreign Object Debris	SQE	Supplier Quality Engineer
GSI	Government Source Inspection	SQM	Supplier Quality Manager
I/R	Interchangeability / Replaceability		

Definitions

Customer:	Business or sole trader who procures products or services via a Purchase Order
Supplier:	In this document “supplier” term referred to as Quickstep’s supplier and supplier’s supplier/sub-tier
Counterfeit Part/Work:	Work for which credible evidence (including, but not limited to, visual inspection or testing) provides reasonable doubt that the Work part/material is authentic
Original manufacturer:	The original component manufacturer, the original equipment manufacturer, or the contract manufacturer
Distributor:	Organisations that procure parts, materials and assemblies and resells these products to a customer in the aviation, space and defence industries. This includes organisations that procure products and split them into smaller quantities including those that coordinate a customer controlled service on the product
Special Processes:	Processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement and, as a consequence deficiencies become apparent only after the product is in use or the service has Process Details

3.1 Quality Management System Requirements

3.1.1 Certifications

AS/EN 9100 certification is required for all products, except as defined below:

- a) AS/EN9120 is required for suppliers performing as Distributors. Suppliers acting as distributors with AS9100 certification must have a Scope of Approval that includes Distribution if AS9120 certification is not held
- b) AS9110 is required for suppliers performing Maintenance, Repair or Overhaul (MRO) activity on product for which they are not the OM. OMs with AS9100 certification must have a Scope of Approval that includes MRO activity if AS9110 certification is not held
- c) ISO9001, as a minimum, is required for suppliers providing ground support or manufacturing support equipment
- d) ISO9001 is required as a minimum for calibration service providers

Supplier shall have a current third-party certification from an accredited registrar, and shall ensure that their own and their supplier/sub-tier’s quality system is registered by an accredited registrar.

The supplier shall permit their customer to access all data in OASIS and NADCAP databases (when applicable). This data includes registration documentation, certifications, audit reports, findings, corrective actions, etc.

Supplier shall ensure that their personnel are aware of:

1. Their contribution to product or service conformity;
2. Their contribution to product safety;
3. The importance of ethical behaviour.

3.1.2 Counterfeit Parts / Materials Prevention

The supplier shall establish and maintain a Counterfeit Prevention and Control Plan using the latest version of AS6174 and AS5553 (applicable to electronic parts only).

The supplier shall not deliver any counterfeit or suspected unapproved parts/material to the customer.

1. Supplier shall, upon request from the customer, provide traceability from the OM/AAM/AS, to the Supplier's Work.
2. Supplier shall notify the customer of noncompliance to these requirements.
3. Supplier shall use the part/material as per Engineering Materials and Products (EMAP)

3.1.3 Foreign Object Debris/Damage (FOD prevention)

1. Supplier shall maintain a FOD prevention program in accordance with National Aerospace Standard AS9146, Foreign Object Damage/Debris (FOD) prevention.
2. Prior to closing inaccessible or obscured areas and compartments, Supplier shall inspect for FO/materials and ensure no protective devices (e.g., bags, caps, covers, plugs, masking materials) remain embedded. Supplier shall ensure tooling, jigs, fixtures and test or handling equipment are maintained in a state of cleanliness and repair sufficient to prevent FOd and FOD.
3. By delivering Items to Customer, Supplier shall be deemed to have certified to Customer that such Items and packaging are free from any FO/FOD.

3.1.4 First Article Inspection (FAI)

Supplier shall carry out and maintain documented information regarding the First Article Inspection process in accordance with the Aerospace Standard AS9102.

For customer-specific requirements, refer to the relevant Appendix.

3.1.5 Calibration

The supplier shall maintain a system for calibration and maintenance of tools, jigs, inspection and test equipment that is compliant with an industry-recognised standard (e.g. ISO 17025, ISO 10012-1, ANSI Z540).

3.1.6 Customer-Furnished, Supplier-Manufactured or Supplier-Owned Tooling

The supplier shall include in its documented quality system written procedures for the control, maintenance and calibration of special tooling, jigs, inspection and test equipment, and other devices used in manufacturing processes.

3.1.7 Training

The Supplier shall ensure personnel receive training and have experience commensurate with the requirements necessary for the performance of contracts.

The supplier shall maintain training records as well as relevant personnel qualifications, certifications or approval records of competency.

3.1.8 Contract Review

The supplier shall establish and maintain a process for contract review. Before acceptance of a contract, contract change notice or other required change, the supplier shall:

- a) Determine that the requirements are defined and documented.
- b) Determine that they have the capacity and capability to meet all contract requirements.
- c) Maintain records of contract reviews

3.2 Notification Requirements

3.2.1 Quality System Changes, Notification and Findings

Suppliers shall notify their customer in writing within 10 days of any of the following:

- a) Change in Management Representative with assigned responsibility and authority or change in ownership
- b) Any occurrence of natural disaster that diminishes Supplier's ability to deliver conforming goods or services
- c) Change in Supplier's quality organisation, processes, designs or procedures that are known to affect or could potentially affect conformity of any Item
- d) Adverse action taken by a US Government entity (e.g. FAA, CAA, OSHA, DoD etc.), third party registrar, International Government Agencies, or Nadcap that may include, but is not limited to any of the following:
 - a. Loss of third party registrar's certification status
 - b. Issuance of any major Corrective Action Request associated with customer Items, Quality Management System or processes associated with customer Items
 - c. NADCAP accreditation is withdrawn, expires, failed audit or scope of accreditation is changed etc
 - d. Any major finding received from third party registrar
 - e. Suspension of Government Source Inspection (where applicable)
 - f. Prolonged Labor Disputes
 - g. Change in key personnel, including those who have been granted access to Lockheed Martin Aeronautic online systems

Any known or suspected product escapes shall be managed in accordance with Section 3.3.1.

3.2.2 Sale, Relocation, or Closure of Supplier's Facility or Transfer of Manufacturing Operations

The supplier shall notify their customer, in writing, at least 90 days in advance of any sale, relocation, or closure of Supplier's facility, prolonged shutdown of normal manufacturing operations or transfer of manufacturing operations (subject to any legal or regulatory restrictions). Supplier shall include the following, as a minimum, in the written notification:

- a) Purpose of the applicable changes
- b) Address of the new location(s), as applicable

Sale, relocation or closure of Supplier's facility (subject to any legal or regulatory restrictions).
*Relocation includes reassignment of all or select products to new location (location other than stipulated on PO)

- c) Assessment of actual or potential impact to the current POs/contracts
- d) Risk mitigation plan to ensure compliance to existing requirements that includes: Actual/Potential impact to PO schedule/performance; and record retention/transfer plan
- e) Plan to define the identification, storage, protection, retrieval and retention of records (if applicable)
- f) Master schedule and timeline of applicable change activity
- g) Relocation Coordinator/Point of Contact

3.2.3 Dissolution of a Business

In the event of dissolution of business between the customer and the supplier, the supplier shall notify the customer at least 90 days in advance.

The supplier shall either maintain any customer-required records or transfer to the customer by agreed arrangements at the time. Relevant records are stipulated Section 3.5.1.

3.3 Nonconforming Material Control

Nonconforming material must be identified and documented, segregated or bonded, pending disposition when found, to prevent its unintended release or use and evaluated to determine the actions necessary to contain its effect on other processes or products.

The supplier MRB shall not perform any disposition on any nonconformance to customer requirements that affect form, fit, function, weight, interchangeability, maintainability, reliability, unique key characteristics or safety unless MRB authority has been specifically authorised in writing by the OM. The supplier's disposition authority of nonconformances is limited to rework to specification, return to supplier and scrap.

Supplier shall not scrap Items where BFE has become an integral, inseparable part of an assembly without prior, written authorisation from the customer.

3.3.1 Disclosures/ Notifications

The supplier's system shall provide for timely reporting of nonconformities that may affect already delivered product, including any continuing airworthiness actions. Notification shall be submitted to the customer on company letterhead and include a clear description of the discrepancy, and identification of all suspect parts (including part numbers, Purchase Order Numbers and Item Numbers, serial numbers, manufacturing dates, quantities, etc.) and material affected by the deficiency, date(s) delivered, any information relating to the Root Cause/Corrective Action steps initiated to address the defective condition, and preventive measures taken to preclude recurrence of the process failure.

The supplier disclosure shall be submitted:

- a) Within 24 hours of discovering a potential or verified nonconformance impacting flight safety
- b) Within 5 working days of discovery for all other nonconformances

This disclosure process shall also be extended to the issuance of any Government (DCMA, DCAA, etc.) issued Corrective Action Request to the supplier and/or their sub-tiers at any level for material and/or processes used to manage material. Notification shall include identification of the material, in addition to any manufacturing, processing, testing, quality system or other deficiencies cited. Copies of the initial CAR and subsequent responses necessary to close the CAR shall be sent to the customer with the notification letters.

To expedite the return of "suspect" or known nonconforming hardware to supplier for investigation, and necessary repair or replacement, suppliers shall provide return material authority (RMA) Number(s) if requested.

3.3.2 Corrective & Preventive Actions, Request and Reporting

Supplier shall maintain a documented system for determining root causes of documented defects and obtaining corrective action and preventive action both internally and from its suppliers. The supplier is accountable for effectiveness of corrective and preventive actions taken.

The supplier shall respond to all requests for corrective action by the customer on or before the requested response due date and in the format identified on the corrective action request.

3.4 Competence Operator Self-Verification

Supplier shall develop and implement an Operator Self-verification program in accordance with AS9162

3.5 Language

Supplier documents and records submitted to the customer shall be in English.

3.6 Document / Data Control

The supplier shall meet the following requirements for document/data control:

- a) Establish and maintain documented procedures to control all approved documents/data
- b) Establish and maintain a system to prevent the use of obsolete/superseded documents
- c) Establish a process to ensure the timely review, distribution, implementation, and maintenance of all authorised and released drawings, standards, specifications and planning
- d) Maintain a record of change incorporation and, when required, coordinate these incorporations with the customer and/or regulatory authority

- e) Ensure that sub-tier processes have the appropriate revision level of the process standards/specifications prior to performing processing in connection with the Items listed on the purchase order
- f) Ensure sub-tier suppliers' unique written procedures are relevant to the processes performed within their facility and the relevant Special Process Control documents are approved where applicable and required

3.6.1 Quality and Processing Records

Supplier shall control and maintain quality records for all manufacturing, inspection, testing and shipping process items listed below for the life of the company (unless stated otherwise on the PO). This includes, but is not limited to:

- a) Process capability or tooling controlled data
- b) Nonconforming material dispositions, assignable causes, corrective and preventive actions, and effectiveness evaluation of corrective actions
- c) First Article Inspection reports
- d) Training certifications and approvals
- e) Periodic inspection and control of inspection media
- f) Records to indicate control of special tooling and test equipment
- g) Test reports and records of all qualification and acceptance testing performed
- h) Certification of personnel as required by specification and/or contract
- i) Raw material and process certifications
- j) Material review reports and/or traceability data
- k) Maintain records of all Special Processing "Work" performed and/or procured

Upon request, the supplier shall forward a copy of quality records to the customer.

3.7 Purchasing

Suppliers shall meet the following purchasing requirements:

- a) Ensure that purchased product (i.e. parts, materials or hardware) meets specified requirements - including, but not limited to - EMAP/DSD requirements, technical data sheets, engineering drawings and specifications, etc.
- b) Ensure PO documents clearly define the product ordered, including the applicable drawings, specifications, processing requirements and other relevant customer-defined data
- c) Have a process for evaluating and approving their sub-tier supplier(s) and maintaining a list of those suppliers and sub-tiers. Where applicable and relevant, ensure prior to use that supplier/sub-tier process source(s) use customer-approved sources
- d) Perform reviews of suppliers/sub-tiers' quality performance to establish the level of controls to be implemented, and ensure full compliance with applicable PO requirements & specifications

3.8 Manufacturing Quality Requirements

3.8.1 Product Identification and Traceability

The supplier shall observe the following requirements:

- a) Establish and maintain a process for identifying a product or lot by suitable means, from receipt and during all stages of production to delivery of the product
- b) Maintain traceability throughout the entire process when serialisation is required
- c) Maintain accountability and configuration control of all parts during processing
- d) Document and maintain traceability control of split order quantities

3.8.2 Verification and Validation of Product/Process

The supplier shall:

- a) Establish and maintain a documented procedure for inspection and/or test activities that verify product/process compliance with specifications
- b) Inspect the product/process to ensure compliance to the relevant purchase order/contract, drawing(s) and specifications
- c) Ensure inspection activities are traceable to the individual performing the inspection
- d) Ensure that data in test reports is acceptable (per applicable specifications) when certification test reports are utilised to accept material
- e) Establish appropriate controls for acceptance media if used (e.g. stamps, electronic signatures etc.)
- f) Where required, establish statistical techniques (including sampling plans) for product acceptance. The statistical techniques to be used shall be specified by the customer or by industry standards (i.e. ASQ_Z1.4, ASQ_Z1.9, Mil-Std-1916 or ARP9013).

Customer approval shall be required for any special requirements, critical items and/or key characteristics unless otherwise stated on a PO.

3.8.3 Manufacturing Instructions and/or Planning Requirements

The supplier shall utilise written instructions for all manufacturing, processing and inspection operations. Instructions shall be in the form of planning, manufacturing operation sheets, shop orders, travellers or any other identifying document. Such instructions shall identify - in sufficient detail - all operational steps (in sequence), controls, conditions and materials necessary to demonstrate compliance to all engineering, technical and quality requirements of manufacturing specific to the product being made or item being processed.

The supplier shall ensure all planning includes, at a minimum, the following items:

- a) Item/part number
- b) Material type
- c) Processing condition (where required)
- d) Job traveller/planning route number
- e) Identification of personnel performing the work (i.e. stamps, signatures, initials etc.)
- f) Quantity of parts including accept/reject quantities
- g) Dates of all the process operations

If a numerical controlled (NC) or automated systems are used, the supplier shall have a configuration control system in place and a method to validate the system operates properly.

Where required, special processes planning shall be approved by Customer or OM prior to implementation.

3.9 Facility Access

Suppliers shall provide facility access (including internet access) to customers and regulatory agency personnel in order to perform item inspections, surveys or system/process surveillance as part of verification of conformance to PO requirements. This includes:

- a) Facilities where the work is being performed or is scheduled to be performed item inspections, surveys or system/process surveillance
- b) High Speed internet access for Customer's SQE, SPQE, Customer's customers or regulatory agencies.

3.10 Delivery of Products and Services

3.10.1 Packaging

Supplier shall take precautions to ensure that shipments are delivered on schedule and in an acceptable condition. Where specified, the supplier shall use a customer-approved packaging design (i.e. shipping containers, boxes, packaging).

3.10.2 Shipping

The supplier shall deliver shipments to the customer in accordance with PO dates & requirements, unless otherwise specified in writing by the customer.

3.10.3 Certificate of Conformance

All suppliers shall provide a Certificate of Conformance (CoC) assuring that all work performed in connection with the purchase order conforms to requirements therein. A copy of the CoC shall be attached with any deliveries to the customer (or as required per the PO).

The supplier CoC shall include the following information at a minimum:

- a) Name and address of the facility (including Cage Code if applicable)
- b) Customer PO number
- c) Part number and description
- d) Specification or Standard the part was produced to (where applicable), including revision letter
- e) Quantity of parts (i.e. in terms of pieces, box containers etc.)
- f) Date the CoC was issued
- g) Date of Manufacture & Date of Expiry (if applicable)
- h) Any NCRs/concessions related to the product that required customer MRB disposition
- i) Signature and title of authorised Quality Representative
- j) A statement on the CoC: "This material/part conforms to the PO/specification requirements"

Additionally, any supplier conducting Special Processes shall include the following information:

- a) Title, specification number (including revision letter) and special process code of the process
- b) Customer-assigned processor number
- c) Fracture durability classification or serialisation (as applicable)

3.10.4 Export Licence

The Supplier shall comply with all applicable import and export control laws and regulations with respect to the export, re-export or transfer of work.

4 Appendices

4.1 Appendix A - LM-Specific Flow Down Requirements

The Seller should ensure conformance with Lockheed Martin's Quality Appendices QX & QJ, Efforts to Eradicate Human Trafficking requirements and the below DFARS clauses. The supplier shall in turn ensure all its sub-tier suppliers also conform.

DFARS clauses:

252.225-7007	Prohibition on Acquisition of United States Munitions List Items From Communist Chinese Military Companies.
252.225-7009	Restriction on Acquisition of Certain Articles Containing Specialty Metals
252.204-7008	Requirements for Contracts Involving Export-Controlled Items
252.225-7001	Buy American and Balance of Payments Program
252.225-7006	Quarterly Reporting of Actual Contract Performance outside the United States
252.225-7013	Duty Free Entry
252.225-7016	Restriction on Acquisition of Ball and Roller Bearings
252.225-7021	Trade Agreements
252.225-7033	Waiver of United Kingdom Levies
52.222-50	Combating Trafficking In Persons

Quality Appendices:

<https://www.lockheedmartin.com/en-us/suppliers/business-area-procurement/aeronautics/quality-requirements/quality-appendices.html>.

Human Rights and Ethics Training weblink: <https://www.lockheedmartin.com/en-us/who-we-are/ethics/human-trafficking.html>.

LM Quality Appendix QJ, Section 2.0 to be referred for the special process requirements of product manufactured to Lockheed's PO and alternate repair sources repairing OEM items.

Link to Appendix QJ:
[Quality Appendices | Lockheed Martin](#)

Specific Special Process Requirements for Suppliers working to LM PO:

Quality Management System Requirements:

a) Ensure effective corrective and preventive action is taken (including repetitive nonconformances dispositioned "Use-As-Is" or "Repair" by customer's actions) to prevent, minimize or eliminate nonconformances.

NOTE!!!: Special Process sources are NOT allowed to disposition hardware as "Use-As-Is" or "Repair"

b) Evaluate each nonconformance for its potential to exist in previously produced items and notify to the customer in writing on items in transit or delivered to customer or customer's customers in accordance with the following:

- Provide customer with Initial notification within three (3) business days if supplier's assessment reveals it likely that an escape has occurred, except as noted below for flight safety and counterfeit.

Provide preliminary disclosure information on the following, at a minimum:

- facility,
- part number(s),

- preliminary affected number of parts,
 - discrepancy and containment action [Follow up with additional detail within five (5) business days after initial notification with supplemental details including: purchase order number(s), purchase order line item(s), affected Lockheed Martin program(s), preliminary root cause(s) and updated scope of escape].
- Notify the customer within 24 hours of the supplier's discovery if potential exists for a non-conformance escape to affect **Flight Safety** or if delivered product is **Suspect Counterfeit Work**.
Provide preliminary disclosure information on the following, at a minimum:
 - facility, part number(s),
 - preliminary affected number of parts,
 - discrepancy and containment action.
 - Assess all customer and customer identified nonconformances, regardless of if Item(s) was/were returned to supplier and take appropriate actions to ensure cause(s) of nonconformance are corrected.

Records Retention Requirements:

1. Maintain complete records of the following:
 - a) All manufacturing, inspection, test, process capability (if applicable), CoC, and
 - b) All nonconforming material, dispositions, corrective and preventive actions, assignable causes and effectiveness of corrective actions.
2. Make such records available for at least three (3) years after final payment of the relevant PO or for longer periods if specified by customer.
3. Maintain records of all Special Process "Work" performed or procured for at least seven (7) years after final payment of the PO or for longer periods if specified by customer.
4. Provide an electronic copy of quality and processing records upon customer's request.

Special Process CoC Requirements (Additional):

- Quantity of parts Accepted and or Rejected
- Special Process Supplier Only – Include any portion of the specifications if NOT completed

4.2 Appendix B - NG-Specific Flow Down Requirements

The Seller should ensure conformance with Northrop Grumman's SQAR requirements. The supplier shall in turn ensure all its sub-tier suppliers also conform to the NG SQAR.

SQAR: <https://www2.northropgrumman.com/suppliers/Pages/QualityDocs.aspx>

4.3 Appendix C - BAE/Marand-Specific Flow Down Requirements

The Seller should ensure conformance with BAE Systems BAES-JSF-QMS-I41-03-DV and BAE/AG/QC/SCI. The supplier shall in turn ensure all its sub-tier suppliers also conform to these requirements. If a copy of the latest version is required please contact your buyer immediately.