



Millennium Space Systems Supplier Quality Manual

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Millennium Space Systems Supplier Quality Manual is intended to define and clarify quality expectations of material made for, sold and/or delivered to any Millennium Space Systems' business unit.

1. DEFINITIONS

- a. Buyer shall mean Millennium Space Systems: A Boeing Company.
- b. Seller shall mean the party that sells or contracts to sell material or services to Buyer.
- c. Distributor shall mean authorized seller of original equipment manufacturer/original component manufacturer (OEM/OCM) items.
- d. Material shall mean item(s) contracted by a Purchase Contract.
- e. Service shall mean intangible labor, process, digital documentation, testing and/or other non-physical action or activity contracted by a Purchase Contract.
- f. Purchase Contract shall mean the purchase order, subcontract, or contract. This may also incorporate by reference the Standard Terms and Conditions (TC-001).
- g. Customer Furnished Material (CFM) - Material consigned by Millennium Space Systems for use by Seller in manufacturing or assembly process of Millennium Space Systems' contracted items.
- h. Build to Print (BTP) - Item(s)/Material(s) designed by Buyer

2. GENERAL QUALITY REQUIREMENTS

- a. Any activity performed by the Seller against the Purchase Contract shall constitute acceptance of the Purchase Contract as applicable, such as but not limited to:
 - i. furnishes the materials or services
 - ii. any shipment is made
 - iii. delivery received
 - iv. acceptance of payment
- b. Substitutions to materials ordered shall not be accepted unless approved in writing prior to shipment by an authorized Millennium Space Systems procurement authority.
 - i. Substitution agreement documentation shall be included with Seller's documentation package.
- c. Seller shall maintain a documented Quality Management System (QMS) that meets the intent of the latest ISO 9001 or an equivalent system that provides adequate inspection and/or testing to verify products or services are in full compliance with the Purchase Contract requirements and all applicable specifications/standards. This shall include Seller organizational awareness of their contribution to product conformity, service conformity and product safety.
- d. If the Seller has a QMS or special process certification, Seller shall notify Buyer in writing of any significant change in the QMS or special process certification (e.g. expiration, loss or suspension of any certification or eligibility for AS9100, ISO 9001:2015, NADCAP) within 3 business days and ensure receipt by Buyer of such notification.
- e. Seller is responsible for adequate and effective control over sub-tier sellers. The applicable Quality Requirements shall be flowed down to sub-tier sellers as necessary to ensure the quality and reliability of their products.
- f. Seller shall not ship items having less than eighty percent (80%) shelf life remaining from the initial date of certification without the written approval of the Buyer. Proof of approval shall be included with Seller's documentation package.

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- g. Seller shall preserve, package, and contain all items in a manner that will ensure protection against damage, corrosion, contamination, oxidation, deterioration, loss and/or substitution in accordance with Buyer specifications, manufacturer specifications or best commercial practices, given preference in that order.
- h. Packaging shall have a label affixed to any/all external packaging in accordance with the contractual requirements. At a minimum, the label shall indicate that the item is temperature sensitive, moisture sensitive, electrostatic discharge sensitive, shock sensitive or hazardous (as applicable), along with any other information that would be critical for taking the necessary precautions to avoid damage to the packaging and material and injury to personnel.
- i. Seller shall notify Buyer within 3 business days of identifying any material that will result in a nonconformance to the requirements of a received Purchase Contract by submitting the Supplier Deviation Request Form MSS02854-101-FRM with any applicable supporting documents and photographs. Buyer will notify Seller with disposition and Seller shall process as such. If approved for shipment, Seller shall include the approved Supplier Deviation Request Form with hardware delivery.
- j. When requested by Buyer, Seller shall investigate nonconformities to determine the root cause(s) of nonconformance and take effective action(s) as appropriate to correct the items and prevent future nonconformances. Corrective action(s) shall be documented in a mutually agreed upon format and completed in a timely manner. The standard response timeframe for an RCCA is five to seven (5-7) business days upon identification of nonconforming parts or longer as mutually agreed upon in writing by both parties. Previous dispositions shall not be considered precedence for acceptability. When requested by Buyer, Seller shall submit proof of correction or corrective action on discrepancies prior to acceptance of item in a timely manner.
- k. Buyer shall notify Seller in writing of any suggested disposition of “use as is” or “repair” to nonconformances to the requirements of this Purchase Contract. Seller shall submit suggested dispositions, identification of the cause of nonconformance and the corrective actions taken in writing to Buyer. Further work that may result in the same nonconformance shall not be performed until disposition has been directed in writing by Buyer.
- l. Buyer reserves the right to evaluate Seller’s applicable documents, facilities, and any sub-tier facilities to:
 - i. Audit the Seller’s QMS
 - ii. Determine the capability and competency of Seller to meet the requirements of the Purchase Contract.
 - iii. Verify that corrective action measures have been implemented after a non-conformance.
 - iv. Conduct performance surveillance to meet the requirements of the Purchase Contract; and/or
 - v. Monitor Seller’s performance.Access rights shall extend to Buyer’s customers and government or regulatory agency representatives. If access is requested by Buyer, Seller shall coordinate a mutually acceptable date with Buyer in a timely manner.
- m. Seller shall maintain a documented Foreign Object Damage (FOD) control plan to ensure the prevention, detection, and removal of FOD.
- n. Seller shall have and maintain documented procedures to control, calibrate and maintain inspection, measurement, and test equipment (including software and tooling) that is used to demonstrate the conformance of products or services and is traceable to National Institute of Standards and Technology (NIST) standards.

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- o. Seller shall ensure all items provided to Buyer are not counterfeit and have a counterfeit parts avoidance, detection, mitigation, and disposition program meeting the intent of Aerospace Standard AS5553 Review. Seller shall only deliver authentic items that are manufactured by or obtained from the OEMs, OCMs or authorized distributors. Seller shall make the documentation that authenticates and provides traceability of the item to the applicable OEM or OCM available upon Buyer's request.
- p. Items furnished under a Purchase Contract for which no Buyer drawing exists (being proprietary to Seller), with exception of Commercial Off the Shelf Parts (COTS), shall be accompanied on the initial shipment by a copy of Seller's drawings, specifications, etc. to facilitate Buyer's receiving inspection. It is understood that data supplied is not expected to be proprietary. Seller shall notify Buyer in writing of any changes proposed in product design, fabrication methods, materials, or processes of proprietary products, including those procured from secondary sources and/or including assembly components, and shall obtain Buyer approval prior to supplying such products on this Purchase Contract. All deviations shall follow the requirements in Section 2i.
- q. Seller shall use recognized statistical principles that are appropriate for the product when employing sampling for product acceptance (such as ANSI/ASQ Z1.4).
- r. Seller shall not provide refurbished, reconditioned, or re-used items unless approved in writing in Purchase Contract by Buyer.
- s. Seller shall maintain legible copies of all records, either digital or physical, related to all materials and/or services for a minimum of 7 years. At any time, Seller shall be obligated to notify Buyer in writing and obtain approval prior to destruction or deletion of any digital or physical records.
- t. Unless otherwise specified and as applicable, Seller shall use up to 10 x magnification for inspection purposes, with a maximum referee magnification of 20 x.
- u. When Buyer requires Source Inspection, Seller shall notify Buyer, at least 2 business days prior to Source Inspection at Sellers' facility. Buyer shall specify in writing whether Final and/or In-Process Source Inspection is required.

3. BUILD TO PRINT (BTP) PROCUREMENTS

- a. Seller is required to maintain configuration of the products with the specified requirements (design documentation). Seller shall impose the same configuration requirements on sub-tier suppliers.
- b. Seller shall comply with special requirements, critical items or key characteristics as defined on Buyer released engineering and/or Purchase Contract.
- c. Seller shall maintain internal traceability of items to the raw material level and shall be able to provide such traceability within 10 business days if requested by Buyer.
- d. Seller shall maintain Work Order Traveler/Build Documentation for all material contracted and shall provide to Buyer within 5 business days if requested by Buyer.
- e. Unless otherwise specified, interpret imperial threads as Class 3 per ASME B1.1.
- f. When applicable, Seller shall maintain test sample(s) of each batch or lot with all relevant specifications sufficiently tested and documented. Each test sample shall clearly and permanently be marked with:
 - i. Batch or lot number.
 - ii. Date manufactured.
 - iii. Specification or material control information.
 - iv. Manufacturer's designation; and
 - v. Purchase Contract document number.

Sample(s) shall be maintained for a minimum of seven (7) years and be deliverable to Buyer, upon request.

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4. EEE Electronic Parts Requirements

- a. All electrical, electronic, and electromechanical (EEE) parts shall be controlled, handled, and packaged in accordance with latest revisions of ANSI/ESD S20.20, ANSI/ESD S541, or Buyer-approved Seller equivalent ESD control process. EEE parts storage shall comply with the moisture sensitivity level associated with each part as defined per IPC-J-STD-033, manufacturer data or Buyer-approved Seller equivalent process.
- b. Unless waived by Buyer, the following materials are prohibited:
 - i. Cadmium, magnesium, zinc, or selenium, except internal to hermetically sealed devices.
 - ii. Unalloyed tin (pure tin or Pb-free solder) except when resulting solder joint is verified for “mixed alloy” soldering.
 - iii. Corrosive solder fluxes unless detailed cleaning procedures are specified along with appropriate verification methods to insure removal of residual contaminants.
 - iv. Mercury and compounds of mercury.
 - v. Materials exhibiting or known to exhibit natural radioactivity such as uranium, potassium, radium, thorium and/or any alloys thereof; and
 - vi. Materials exhibiting or known to exhibit health hazards such as unalloyed beryllium, toluene, lithium and/or any alloys thereof.
- c. Restriction of hazardous substances (RoHS) components may be used with a Sn63Pb37 solder alloy resulting in a “mixed alloy” solder joint. The resulting “mixed alloy” soldering process shall be validated for complete coverage with leaded solder.
- d. Date lot code limitations for Electrical, Electronic and Electromechanical (EEE) parts will be five years or less. Buyer may grant specific exceptions approving shipment of EEE parts exceeding this requirement in writing. Evidence of approval shall be provided with Seller’s documentation package.
- e. Seller shall have a systematic approach to evaluate and respond to Government Industry Data Exchange Program (GIDEP) Alerts that are received or forwarded by Buyer. Seller shall investigate, resolve, and document items that are affected and communicate any GIDEP Alerts to Buyer that could affect the product/service.