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APPROVALS

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PURPOSE

The purpose of the Quality Clauses contained within this instruction is prepared as a means to flow down various quality requirements to suppliers. These requirements may include regulatory and statutory requirements.

SCOPE

This instruction contains the Quality Clauses to be placed on purchase orders or sub-contracts for the procurement of materials, goods, and services.

Note: Subcontracts may include requirements in the subcontract Statement of Work (SOW) that differ from the requirements in the individual clauses noted herein. In the event of conflicting requirements, the requirements in the SOW take precedence over these clauses.

APPLICATION

These clauses apply to MDA suppliers and their lower-tier suppliers as applicable.

This instruction and/or its associated process(s), complies with the AS9100 Quality Management Systems requirements of the standards document section 7.4.2 Purchasing Information.

Quality Clauses

Q1 – Certificate of Conformance Required

Supplier shall provide a certification with each shipment to attest that the parts conform to the Sub-contract/Purchase Order requirements. When other documentation is required, each line item of the certificate shall have an identified and separate package. Certificates shall contain the following:

- MDA's Sub-contract/Purchase Order number
- Part number as identified in the Sub-contract/Purchase Order
- Name and address of supplier
- Manufacturer's lot number, heat lot number, batch number, date code, and/or serial number(s), if applicable
- A certification statement stating that all requirements of the drawing, Sub-contract/Purchase Order, and all associated specifications have been met
- A signature and date of an authorized supplier representative
- List of any MDA approved exceptions

Q2 – Dimensional Inspection Report Required

Dimensional inspection reports, of any written format with recorded actual measurements are required for all dimensions shown on drawing. Drawings notes shall be acknowledged as being accepted or complied with. Multiple place features are to be reported as a range – not a single value. Unless otherwise specified, dimensional inspection reports are required for each item being procured.

Q3 – Material Certifications Required

Certifications of chemical, physical, mechanical and/or analytical test results are required in accordance with the applicable material specification for each item delivered. Certifications shall include:

- Reference to the applicable specification(s) and revisions as noted.
- Shelf life and temperature sensitive material certifications shall include applicable storage conditions, maximum shelf life and out time requirements.
- DFARS Compliant Material Only

Q4 – Special Process Certifications Required

Certifications are required for each shipment of items from special processing (i.e. priming, painting, plating, anodize, heat treating, passivation, etc.). Certifications shall include:

- Supplier's name and address
- MDA purchase order number
- Part number(s)
- Serial number if applicable
- Reference to the applicable process specification
- Lot and/or batch number of the raw materials used as applicable (e.g., primer, paint etc.)
- Objective evidence, shall be available upon request, showing compliance with the applicable specification as required

Q5 – Right-Of-Entry

MDA, its customers and regulatory agencies reserve the right to examine the supplier's facility as necessary to ensure that quality of work, records, and material are being processed in accordance with Purchase Order / Contract requirements.

Q6 – Source Inspection Required

Source inspection is required and shall be requested no less than 5 working days in advance of the need date. The type and frequency of the Source Inspections will be specified in the Contract / Purchase Order and may include in-process or final mandatory inspection points (MIP's). Request shall be sent to **qualityengineering@mdacorp-us.com** with a copy to the MDA buyer issuing the Contract / PO. Item(s) may be released only after the MDA representative approves by stamping or initialing the supplier's documentation for in-process inspections and the shipper or packing slip for final pre-ship inspection.

Q7 – First Article Inspection Report Required

A first article inspection report (AS9102 or similar format) of all dimensions and notes shall be furnished to MDA with recorded actual measurements for each part number listed on this purchase order. Multiple place features are to be reported as a range – not a single value. This report (all three forms) is to accompany the first shipment of each part number.

Q8 – Nondestructive Test Certifications Required

Certifications are required in accordance with the applicable specifications. Certifications shall be included with each shipment. Certifications shall include:

- Reference to the MDA purchase order number
- Name and address of the company performing NDI/NDT
- Date of inspection
- Reference to the applicable specification and revision
- Inspector/name/stamp and NDI/NDT certification level
- Specification and revision or other requirement defining the NDI/NDT accept/reject criteria (if different from bullet 4)
- Material or item identification
- Inspection results

Q9 – Certificate of Calibration

Calibration shall be performed using equipment and standards fully traceable to NIST. A certificate of calibration is required which includes actual measured values, a statement of NIST traceability and a signature attesting to the correctness of the results.

Q10 – End Item Data Package Required

EIDP is to be furnished with hardware shipment. The data package shall include (when applicable) as a minimum, a certificate of conformance, inspection data, test data, cure charts and any other process documentation as specified on the purchase order or for sub-contracts, within the Statement of Work (SOW) requirements.

Q11 – Testing

Test results are to be furnished upon completion of the required tests. The report document can be in any format unless otherwise designated on the purchase order, specification or Statement of Work. Traceability shall be maintained on all lot(s) throughout processing.

Q12 – Quality Management System Requirements

Supplier is required to maintain a quality system that complies with the requirements as set forth by MDA at their time of approval. The supplier is further required to notify MDA Quality Assurance of any change to the status of their registration, if so registered at the time of approval, change in Quality management personnel, and revisions to their Quality Management System.

Q13 – NADCAP Accreditation of Special Process Sources

Suppliers performing special processes, as identified below, shall be accredited by the National Aerospace and Defense Contractors Accreditation Program (NADCAP). Special processes requiring NADCAP accreditation:

- Heat treatment
- Non-destructive testing
- Chemical processes (e.g., chemical milling, chemical conversion coat, anodize, prime, paint)
- Welding
- Brazing
- Shot peening
- Material testing by independent test laboratories

Q14 – Limited Life and Age Controlled Items

Based on the specified method of shelf life determination this order requires submittal of date of manufacture when shelf life is based on such, or date of shipment from the manufacture when shelf life is based on date of shipment. Upon shipment, shelf life remaining shall meet the minimum shelf life specified on the Contract / Purchase Order. If no shelf life is specified, 75% of the shelf life shall be remaining on the product at the time of receipt.

Q15 – Supplier (sub-tier) Process Controls

The supplier is responsible for maintaining a system to control processes per this Contract / Purchase Order, not only at their facilities, but for the processes performed at lower-tier suppliers' facilities. This clause mandates that all requirements, which are invoked or applied per this purchase order or contract, including this clause, shall be flowed down to sub-tier suppliers.

Q16 – Electrostatic Discharge (ESD) Protection Program and Packaging

Supplier shall document and implement an ESD protection program in accordance with ANSI/ESD S20.20, ESD Association Standard for the Development of an Electrostatic Discharge Control Program for protection of Electrical, Electronic, and Electromechanical (EEE) parts, assemblies and equipment. EEE Parts shall be properly packaged and identified as required in ANSI/ESD S20.20. All EEE parts shall be placed in conductive or static- dissipative packages, tubes, carriers, conductive bags, etc., for shipment. The packaging must be clearly labeled to indicate that it contains electrostatic sensitive parts and the level of sensitivity, if it is below 100 volts.

Q17 – Nonconformance Reporting

The supplier shall notify MDA QA upon identification of a nonconformance to a product or test failure. For major nonconformance, a report must be provided within 1 working day for MDA review and disposition. For minor nonconformance, the supplier shall report to MDA QA within 1 week. The definitions for major and minor nonconformance is detailed below. If there are any questions as to the proper classification of a defect, nonconformance or test failure, contact the MDA Quality Assurance Engineer at qualityengineering@mdacorp-us.com. A copy of all completed nonconformance reports, both major and minor, shall be sent with each shipment and referenced on the supplier's Certificate of Conformance. For "use as is" dispositions relating to dimensional issues, the discrepancy shall be shown as nonconforming on the supplier AS9102 First Article Inspection report or on their inspection report with the nonconformance report number listed in the appropriate area. For rework dispositions, the supplier is required to rework the part to conform to the drawing requirements.

Major Nonconformance Definition

- Affects form, fit or function as required by the contract including all drawings, specifications and related SOW requirements.
- Impacts the program requirements in the following areas: (1) operational or functional requirements; (2) reliability and maintainability; (3) lifetime; (4) interchangeability; (5) interfaces with hardware and/or software of different contractual responsibility; (6) contractual requirements.
- Deviates from qualification or acceptance test procedures or expected results at any level of integration.
- EEE component non-conformances occurring after delivery from the manufacturer (except for failures prior to installation where no risk for a lot related reliability or quality problem exists).

Minor Nonconformance Definition

- Does not affect form, fit, or function as required by the contract (e.g., derived requirements).
- Minor inconsistencies in the accompanying documentation.
- Cannot be classified as major, and is (1) inconsequential nature as regards Class I/Major features, or (2) trivial with regard to workmanship criteria.

Q18 – Third Party Material Test Report Required

Supplier shall send a sample of the material to an independent third party laboratory for analysis. Certifications of chemical, physical, mechanical and/or analytical test results are required in accordance with the applicable material specification for each item delivered. Certifications shall include:

- Testing laboratories name and address
- Reference to the MDA sub-contract/purchase order number
- Date of testing
- Reference to the applicable specification(s) and revisions as noted.
- Reference to lot number, heat lot number and/or batch number of the raw materials

Q19 – Prohibited Materials

The use of zinc, cadmium or pure tin is expressly prohibited. For electrical or electromechanical (EEE) hardware, all tin finishes must be alloyed with a minimum of 3% lead (Pb). Supplier shall submit a certificate with each shipment stating compliance with this clause. Any deviations from this requirement shall be approved by MDA Quality Assurance in writing prior to acceptance of the purchase order.

Q20 – Deleted

Q21 – Quality Records Retention

Supplier and lower-tier suppliers shall maintain verifiable objective evidence of all inspections and tests performed, results obtained, and dispositions of nonconforming articles. These records shall be clearly associated with the procured supplies, including heat lot number of materials and unit or lot serialization and made available to MDA, its customer and/or government Representatives upon request. Records shall be retained in a safe, accessible location for a period of seven (7) years after date of delivery. The supplier's records associated with the manufacture of serialized or lot controlled articles will provide for continued traceability of serial number(s) or lot number identification through all phases of manufacture, commencing with raw material and continuing through final acceptance of the end item. Records held for the required retention period (10 years) shall not be destroyed without MDA's written concurrence.

Q22 – Packaging, Handling, and Labeling

The supplier shall provide packaging that maintains the quality of the item and prevents damage or loss in transit. The supplier shall label the exterior of the package to ensure adequate identification of the precautions needed to ensure the integrity of the product being shipped. All supporting documentation required to accompany the shipment must be inside the container or one of the containers.

Q23 – GIDEP Alert and Problem Advisories

The supplier shall participate in the Government-Industry Data Exchange Program (GIDEP) per requirements of the GIDEP S0300-BT-PRO-010 and S0300-BU-GYD-010, available from the GIDEP Operations Center, PO Box 8000, Corona, CA 91718-8000. The supplier shall review GIDEP Alerts, GIDEP Safe-Alerts, GIDEP Problem Advisories, GIDEP Agency Action Notices, and NASA Advisories to determine if they affect the suppliers products/services provided to MDA. For those that affect the program, the supplier shall take action to eliminate or mitigate any negative effect to an acceptable level. The supplier shall generate the appropriate failure experience data report(s) (GIDEP Alert, GIDEP Safe-Alert, GIDEP Problem Advisory) whenever failed or nonconforming items, available to other buyers, are discovered during the course of the purchase order.

Q24 – Digital Product Definition

The supplier shall adhere to MDA's process specification 20014012, Digital Product Definition.

Q25 – Changes in Approved Processes or Product

The supplier shall not change any process or product approved or agreed to from the time of the submission of the quote to throughout the order term, without notification and approval by the MDA buyer.

Q26 – Right of Inquiry

The supplier shall notify all lower-tier suppliers that they must accommodate any and all reasonable inquiries or requests pertaining to the materials and processes supplied in support of the completion of this MDA Sub-contract/Purchase Order. Including the right to review and request documentation up through the end of the record retention period.

Q27 – Product Serialization

Product requiring serialization must ensure that the serialization is maintained throughout processing as applicable. Any required documentation accompanying the item must also identify the serial number(s).

Q28 – Material Batches and Lots

For each part number, all material used shall be from the same heat lot or batch. When this is not achievable MDA approval must be obtained in writing.

Q29 – Suspect Counterfeit Parts

"Suspect/Counterfeit Parts" are parts that may be of new manufacture but labeled to represent a different class of parts or used and/or refurbished parts with false labeling representing them as new parts or a manufacturer other than the actual manufacturer. Examples of suspect/counterfeit parts that have been prominent include:

1) Fasteners, including bolts and nuts, made of carbon steel (designated as grade five or grade eight) or stainless steel, with head marks or stamps shown on the head mark list prepared by the United States Customs Service (see latest revision)
2) electrical or electronic parts and components that are falsely identified and/or labeled, or properly identified, but passed as acceptable product when it is known to be nonconforming to specified OEM requirements
3) Piping, valves and flanges bearing labels that falsely indicate that the items meet recognized ASME, ASTM, or other consensus standards, or falsely bear independent testing laboratory markings; and,
4) Used or refurbished molded-case electrical circuit breakers or similar type switch gear

Supplies furnished to MDA under this sub-contract/purchase order shall not include suspect/counterfeit parts nor shall such parts be used in performing any work under this sub-contract/purchase order whether on or off the facility site.

If suspect/counterfeit parts are furnished under this sub-contract/purchase order and are found in any of the goods delivered hereunder, such items will be impounded by appropriate MDA personal. The Seller shall promptly replace such suspect/counterfeit parts with parts acceptable to the Buyer and the Seller may be liable for any and all costs relating to the removal and replacement of said parts, including without limitation Buyer's external and internal costs of removing such counterfeit parts, of reinserting replacement parts and of any testing necessitated by the reinstallation of Seller's goods after counterfeit parts have been exchanged. At Buyer's request, Seller shall return any removed counterfeit parts to Buyer in order that Buyer may turn such parts over to its Government customer for further investigation. Seller agrees that any Government or quasi- Government directive, such as a GIDEP alert, DOE, or a directive from MDA indicating that such parts are counterfeit, shall be deemed definitive evidence that Seller's parts contain counterfeit

parts and such reports may be referred to the Department of Justice.

The rights of MDA in this clause are in addition to any other rights provided by law or under this contract.

Q30 – Digital Photographs

A set of high-resolution digital pictures of each of the subassemblies / board assemblies, connectors, harnesses and all deliverable items will be provided with each shipment to MDA.

Q31 – Thread Depth Inspection

To determine the acceptance process for internal threaded features (tapped / threaded holes), supplier shall adhere to MDA US Systems Technical Memo 20020845. In the event of a conflict between the provided drawing and the 20020845 technical memo, an MDA US Systems representative shall be contacted to resolve.
See http://www.mdacorp-us.com/terms.html for a copy of technical memo 20020845.

Q32 – Material Safety Data Sheets (MSDS)

Material Safety Data Sheets for any chemicals used in the product being delivered to MDA must be included in the End Item Data Package at the time of delivery. This may include lubricants, sealants, bonding materials, adhesives or other similar materials.

Q33 – Qualified Titanium Procurement

To ensure the titanium material used to produce the product being delivered to MDA meets specific criteria, supplier shall adhere to MDA US Systems document 20022801. In the event of a conflict between the provided drawing and 20022801, an MDA US Systems representative shall be contacted to resolve.

CHANGE LOG

Revision	Prepared By	Approved By	Pages Affected	Issue Date
A	FEV	SVZ	Initial Release	08/12/08
B	FEV	SVZ	All	12/10/09
C	MC	SVZ	All (reworded and added Q29)	See title page
D	MA	RM	Del. Q20, revised Q1, 2, 7, 10, 14, 15, 17 & 26	10/20/15
E	MA	RM	Revised Q1, Q10, Q17, add Q30, Q31 & Q32	6/22/16
F	RM	RM	Q3: Replaced domestic material only w/ DFARS Compliant Material Only, added a line after Q19 stating Q20 is deleted	08/03/2017