SUPPLIER QUALITY REQUIREMENTS MANUAL

Title

REV	SUMMARY OF REVISIONS	ECA NO.	DATE
A	Original Written by: Glenn Gee and Mary White	---------	8/9/11
B	Added Additional Quality Clauses	15767	2/20/12
C	Updated Section 5.0	18916	6/4/13
D	Complete re-write	25183	11/5/15
E	Revised Steps 4.1, and 4.2	27656	2/22/17
F	Added steps 3.2, 3.3.	28278	11/9/17
G	Updated section 4.0	30608	11/14/19
H	Added step 14.7	31172	6/25/20
J	Updated Section 4.0	34991	6/25/26

1.0 SCOPE

1.1 This document is applicable whenever specified on the Purchase Order or Contract. In case of conflict between the Purchase Order, Drawings, and requirements in this document, the Purchase Order, Drawings, and then Requirements in this document (in order of precedence) shall take precedence.

2.0 PURPOSE

2.1 This document outlines Quality Assurance requirements for suppliers providing materials, processes or services used in the production of deliverable end item products.

3.0 RESPONSIBILITIES

3.1 It is the responsibility of HSI suppliers to comply with applicable HSI drawings, including flow down requirements from HSI customers.
3.2 Understand Product Safety
3.3 Practice and understand the importance of ethical behavior.

4.0 GENERAL QUALITY REQUIREMENTS

NOTE: GENERAL QUALITY REQUIREMENTS ARE APPLICABLE TO ALL PURCHASE ORDERS.

4.1 **Supplier shall maintain the required Quality and Delivery ratings.**

Quality Rating % = $\frac{\text{Number of shipments accepted}}{\text{Total number of shipments}} \times 50$

Delivery Rating % = $\frac{\text{Number of on time shipments}}{\text{Total number of shipments}} \times 25$

Administrative Requirements Rating % = # of Shipments with Correct and Complete Incoming Paperwork X 25 / Total number of Shipments

Administrative performance addresses appropriateness and completeness of the documentation upon receipt of order (i.e. certificate of compliance, material certification, lot number, batch number, UL sticker, etc.)

Overall % = $\frac{\text{Quality Rating + Delivery Rating + Admin. Rating}}{\text{Total Number of Shipments}}$

If any category falls below 89%, a corrective action request may be issued. Failure to respond to the corrective action request and correct the quality or delivery issue could result in being disapproved as a supplier.

4.2 **Supplier shall notify HSI Sensing of any product, process or facility changes and provide new First Article Samples for re-qualification approval.**

4.2.1 When a supplier is manufacturing to HSI Sensing drawings, we require that our supplier notify us of any changes made to our purchased materials that may adversely affect the assembly, reliability, and/or quality performance of our products. No changes that affect these drawings and specifications shall be made unless specifically authorized in writing by HSI Sensing's Buyer and/or Quality Manager.

4.2.2 When a supplier is supplying a product of his own design, the supplier must provide notification of proposed design or process changes that may affect fit, form, function, reliability or safety to HSI Sensing's Buyer prior to implementation. No changes shall be made unless authorized in writing by HSI Sensing's Buyer and/or Quality Manager.

4.2.3 Supplier shall give HSI Sensing written notice before relocating any production, inspection or processing facilities; or, transferring work between different facilities; or, when applicable, prior to initiating any changes in the source of major components procured by the Supplier and designated for use in or for installation on products scheduled for delivery to HSI Sensing. Such changes are subject to approval/disapproval by HSI Sensing. A change in ownership or a change in the individual designated as the management representative with respect to the Suppliers Quality/Inspection System shall be construed as a facility change and requires the Supplier to notify HSI Sensing.

4.3 **Supplier shall submit certifications with the shipment as indicated on the Item Drawing.**

4.3.1 A Certification of Compliance showing compliance with all drawing and purchase order requirements will be submitted with all deliveries when required.

4.3.2 Required certifications may also include Material Certification, and /or ROHS Certification and/or Certificate of Calibration.

4.4 **HSI Sensing has the right to perform Source Inspection/Quality Audits at Supplier's facility.**

4.4.1 HSI Sensing, its customers and/or regulatory agencies shall have the right to visit a supplier's facility, at any level of the supply chain, to inspect products, witness inspections or tests, evaluate processes and evaluate the Supplier's Quality Management System and to review all applicable records.

4.5 **Supplier shall submit adequate corrective action upon request by HSI Sensing.**

4.5.1 Supplier shall provide answers to identified nonconformance and provide cause and corrective action to HSI Sensing's Buyer within 10 working days of receipt of notification. Corrective action due dates can be extended upon request. Corrective action may be reissued if response is deemed unacceptable.

4.6 **Supplier shall have adequate monitoring and measurement equipment needed to provide evidence of conformity of material to determined requirements.**

4.6.1 Measurement equipment used to determine conformance to determined requirements should be calibrated or verified at specified intervals.

4.7 **Supplier shall have a system for identifying and controlling nonconforming material.**

4.7.1 MRB authority is NOT granted to HSI Sensing suppliers. The supplier shall forward all material review requests to the HSI Sensing buyer or Quality Manager. The supplier shall also notify HSI Sensing within 72 hours of any detected deficient or suspect materials, which may have been shipped to HSI Sensing.

4.8 **The supplier shall preserve the conformity of material during delivery to HSI Sensing.**

4.8.1 The supplier shall package and protect items to be delivered to HSI Sensing in a secure manner. All precision surfaces shall be individually protected, and all parts shall be protected against rust and corrosion. Additional packaging and preservation requirements may be noted on the drawing or purchase order.

4.8.2 In the event the product requires any special storage (refrigeration) or handling, the supplier shall note on the packing sheet.

4.9 **First Article Inspection**

4.9.1 Supplier shall provide First Article Inspection on each new part or new configuration shipped to HSI Sensing. First Article inspection part is to be identified/tagged and the inspection form is to be shipped with the first article unit.

4.10 **Records Held By Suppliers**

4.10.1 Records of inspection reports, heat melts, metallurgical analysis, final inspection reports, machine runs, and/or procedures will be held by the supplier/vendor.

- The supplier/vendor will maintain the records.
- Records can be maintained in hardcopy or softcopy media.
- The supplier/vendor must maintain required records minimum of 25 years.
- If needed supplier/vendor hardcopy records can be transferred to HSI Sensing for storage. The transfer costs will be at the supplier/vendor expense. Electronic records will be accepted.

4.11 **Traceability**

Supplier shall provide positive tracking of product by cross referencing all manufacturing and shipping documents to test reports and certifications for the specific raw material lot from which parts were manufactured. Traceability may be provided by identifying the raw material heat, lot, batch or melt number from the certification/test report on tags attached to each product and/or on packaging (when used).

4.12 **Counterfeit Parts**

Suppliers to HSI Sensing are responsible for ensuring that all packaging and parts supplied have been rigorously checked for altered markings or damage. This would include:

- Visual inspection of marking for correct and accurate content.
- Checking for evidence of physical alteration, such as re-surfacing or re-marking, etc. including copies of production records from the original component manufacturer.
- Checking for evidence of poor storage and handling conditions.

- The supplier warrants that all items provided to HSI Sensing shall be genuine, new and unused unless otherwise specified in writing by the supplier.
- The supplier further accepts responsibility for any financial loss, injury, or property damage resulting directly or indirectly from material, components, or parts that are not genuine, original, and unused, or not otherwise suitable for the intended purpose. This includes materials that are defective, suspect, or counterfeit; materials that have been provided under false pretenses; and materials or items that are materially altered, damaged, deteriorated, degraded, or result in product failure.
- HSI Suppliers to flow down these requirements to their suppliers.

4.13 **Quality Management System**

The supplier shall establish and maintain a Quality management system which includes at a minimum inspection and test and calibration systems.

4.14 **Special Processes**

Special processes 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 been delivered must be validated and approved.

4.15 **FOD Control –** The Supplier shall establish, document and maintain a program to control and eliminate Foreign Object Damage (FOD) and/or contamination during the Supplier's manufacturing, assembly, test and inspection operations.

4.16 **Altering Data on Documents**

The use of any method that causes the original data on documents to be obliterated and unreadable (i.e. the use of correction fluids, correction tape, write-over, or other methods) to correct, modify or otherwise alter the data and/or entries on any certifications, test reports or other documents required by the Contract, is strictly prohibited. Corrections may be made on inspection reports providing it is clearly obvious that a correction was made and it is signed (initialed) or stamped by an authorized individual.

4.17 **Obsolescence Control and Notification**

4.17.1 For products, or HSI Sensing designed parts, the Supplier shall notify the HSI Sensing Buyer regarding part or material obsolescence as soon as the information becomes available, with an expectation to provide notification at least six months prior to the last date an order will be accepted.

4.17.2 For products where the Supplier has design responsibility, the Supplier shall develop and implement a Part Obsolescence Management Process. This Process shall include the following elements at a minimum:

4.17.2.1 Annual assessment of Bill of Materials to identify any obsolescence that will potentially impact delivery of product to HSI Sensing.

4.17.2.2 Proactive identification and detection of part, materials, or manufacturing/test equipment obsolescence issues.

4.17.2.3 Action Plan to resolve each obsolescence issue, including forecast analysis, product support decision(s), (i.e. Life-Time Buy, Re-Design or Product Sunset)

4.17.2.4 Life-Time Buy inventory management plan to ensure long term ability to produce product.

4.17.2.5 Advanced notification to the HSI Sensing Buyer of any potential interruption in the ability to meet HSI Sensing forecasted demand due to an obsolescence issue.

4.18 **DFAR 252.225-7001 -** Buy American Act. Material must be melted in the USA or a qualified country (225.872.1) as required.

4.19 **Conflict Minerals**

Must meet the Dodd Frank Act if supplying Tin, Tungsten, Titanium, or Gold products to HSI.

4.20 **Safety Data Sheets (SDS)**

Safety Data Sheets (SDS) shall be provided for all materials for which an SDS is required by applicable manufacturing regulations.