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AAI CORPORATION TEXTRON SYSTEMS

SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR) DOCUMENT QA-SP47 (Rev. D)

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

NOTE: The change history of this process guide can be found at the end of this document.

1.0 INTRODUCTION AND SCOPE

1.1 This Supplier Quality Assurance Requirements document defines Supplier restrictions and quality system requirements applicable when goods and services are procured to AAI part numbers or Military, Federal or Industry specifications or standards. It describes the minimum requirements and processes that AAI expects Suppliers to implement.

1.2 AAI is committed to working with Suppliers to ensure customer satisfaction through conformance to Quality requirements, competitive costs, improved communication, reduction of variation, elimination of non-value added work and meeting delivery expectations. We intend to establish and maintain long-term relationships with Suppliers who are committed to continuous improvement in quality, delivery, cost and service. This commitment is an expectation of all Suppliers. Those Suppliers who embrace this philosophy will have the opportunity to enter into long-term relationships with AAI. As we explore new markets, we need support from our entire supply base and commitment in meeting or exceeding our customer's needs. We look forward to continuing our proactive relationship with Suppliers that is mutually beneficial and long term.

1.3 We believe that evidence of this commitment to a continuous improvement philosophy includes ISO9000, ISO14000, AS9100, QS9000 (TS16949) certification, proactive supply chain management, productivity improvements and frequent cost-saving proposals. In turn, AAI will deal honestly with our Suppliers, strive to listen to our Suppliers concerns, communicate our requirements and provide our Suppliers with the appropriate tools to perform at world-class levels.

1.4 Appropriate requirements and controls are identified for both manufacturers as well as distributors. Section A defines the requirements applicable to manufacturers and Section B defines the requirements for distributors.

2.0 DEFINITIONS

2.1 **“BUYER”** shall mean a duly authorized Subcontract Manager/Buyer representative of AAI Corporation as stated in the Purchase Order.

2.2 **“SELLER”** means the vendor/Supplier and/or distributor performing the work/supplying the materials, parts, assemblies, subassemblies, and systems, subsystems, or services pursuant to the Purchase Order.

3.0 GENERAL REQUIREMENTS

APPLICABILITY – These general requirements shall apply to Sellers whenever this SQAR is invoked on the Purchase Order (Purchase Order Code “4M”). Other variable requirements specific to the Purchase Order shall be identified as additional quality requirements with the applicable Quality Code. All purchase order codes can be found at http://aaicorp.com/contact_us/suppliers.html under “Purchase Order Codes - Requirements”.

3.1 Applicable revision status of such specifications shall be the revision in affect on the date of the Purchase Order, unless specified in the Purchase Order or related documents. Revision status of procured/deliverable items shall always be as specified in the Purchase Order.

3.2 In the event that the Purchase Order or contract conflicts with the requirements of this document, the Purchase Order/contract requirement will supersede this document.

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SECTION A DESIGN/MANUFACTURING/PROCESS SUPPLIER REQUIREMENTS

4.0 SUPPLIER'S QUALITY SYSTEM REQUIREMENTS

4.1 The Seller shall implement a quality management system which complies with ISO 9001:2000, AS9100 or an equivalent system approved by AAI. The Seller should employ advanced quality techniques and tools which foster continuous improvement of fabrication and assembly processes.

4.2 The Seller shall immediately notify the Buyer in writing of any change to the quality management system that may affect the inspection, conformity, or safety of the product or quality system status. (e.g., Seller converts to an ISO900-based system; or Seller is no longer registered to AS9100)

5.0 CORRECTIVE ACTION SYSTEM

5.1 The Supplier shall have a functioning system for closed loop corrective action. Seller agrees to provide to the Buyer corrective action using Buyer's Form M-803 (Supplier Corrective Action Request) within 30 days from issuance of a SCAR. Seller further agrees to:

- a) Conduct a thorough failure/root cause analysis identifying the cause(s) for the discrepancy(ies) noted.
- b) Determine and take the necessary corrective action(s) to prevent recurrence.
- c) Identify whether any previous shipments for the subject or similar parts contain the noted discrepancy.
- d) Identify the effectivity of the corrective action(s).

The failure/root cause analysis should be conducted using proven techniques such as 5-Why's, Cause and Effect/Fishbone diagrams, Fault Tree diagrams, etc.

6.0 RECORDS OF OBJECTIVE EVIDENCE/RECORD RETENTION

6.1 Suppliers shall maintain Quality records in accordance with ISO 9001:2000 or an equivalent AAI approved system. The records shall be retained for a period of not less than 10 years from the completion of the Purchase Order. The records shall include but not limited to:

- Verifiable objective evidence of inspection and tests performed during execution of this Purchase Order, including nonconformance documentation.
- Test data records of all qualification and acceptance tests performed.
- Raw material and Process certifications.
- Material Review Reports. (MRB)
- Certification of personnel as required by specification and/or contract.
- First Article Inspection reports.

These records shall be provided to the Buyer upon request.

7.0 CALIBRATION AND PREVENTATIVE MAINTANCE SYSTEM

7.1 Seller test and measurement equipment services shall have a calibration system in compliance with the requirements of MIL-STD-45662A, ISO 10012 or ANSI/NCSL Z540. Calibration procedures must be maintained which provide sufficient information for periodic calibration of inspection, measuring, and test equipment (IM&TE).

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7.2 Seller shall establish and implement a preventative maintenance program. This program shall include proper scheduling of maintenance requirements, documentation for completion or inability to complete the maintenance requirement, a quality control process that ensures the proper procedure is followed and maintenance inspections are being completed properly, and material and parts support to ensure that maintenance requirements can be completed in the frequency assigned.

8.0 SHELF LIFE MATERIAL CONTROL PROGRAM

8.1 Supplier shall establish a shelf life and storage control program to ensure that no material that has exceeded its shelf life can be used in the assembly of AAI product. Such a program shall include policies and procedures for:

- Identifying and maintaining a database (a list) of all items that have shelf life limitations and/or special storage requirements.
- A receiving inspection process that can ensure that all incoming products are still within their shelf life limitation period.
- A process for physically identifying, labeling, or coding each item so that its shelf life can be readily determined and stating that the item is under shelf life control.
- A procedure(s) for reviewing (auditing) the status of all items under shelf life controls both in stock and previously issued items/products.
- Identifying and tracking repackaged consumables. This should include all appropriate information, such as part number, batch number, receiving information (for tracking), date opened, and expiration date. Note: Repackaged consumables with shelf life/storage condition requirements, on which the status cannot be verified, should be properly disposed of.

9.0 ELECTROSTATIC DISCHARGE (ESD) PROTECTION

9.1 Components and assemblies, which are susceptible to electrostatic discharge damage, shall be handled and packaged to prevent ESD damage utilizing MIL-STD-1686, ANSI/ESD S20.20, or EIA/JEDEC JESD625 as a guideline or equivalent system approved by AAI.

10.0 WORK INSTRUCTIONS

10.1 Suppliers shall maintain work instructions or equivalent control mechanism that directs procedures and processes appropriate for the control of quality and configuration through all stages of production.

11.0 NONCONFORMING MATERIAL CONTROL

11.1 Nonconforming material shall be identified, documented, evaluated, segregated and dispositioned to prevent its unintended use. Unless otherwise stated in the Purchase Order, the Seller is authorized to conduct limited Material Review and disposition of nonconforming products identified by the Seller using the following disposition alternatives:

- a. rework to applicable requirements,
- b. scrap, or
- c. RTV – return to (the Supplier's) sub-tier source for rework or replacement.

11.2 Nonconforming products are defined as any products that fail to meet the requirements of the AAI engineering drawing, specification, Purchase Order or other approved product description, including products (such as products under the Supplier's proprietary design control) which fail to meet requirements established and controlled by the Seller or the Seller's sub-tier sources.

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

11.3 The Seller may propose and formally request a “use-as-is” or repair (salvage) disposition from AAI by submitting Form M-798, “Supplier MRB Disposition Request” http://aaicorp.com/contact_us/suppliers.html, to the AAI Buyer. The Seller’s Material Review and nonconforming product disposition records, as well as the Material Review records at the Supplier's sub-tier sources are subject to on-site verification by AAI to ensure that the Seller is in compliance with these requirements.

11.4 The Seller shall not ship to AAI any nonconforming products that have not been dispositioned by AAI MRB unless authorized by AAI in writing. When AAI MRB dispositioned products are delivered to AAI, the Seller shall reference on the packing list/shipper the MRB document which describes the AAI MRB disposition. When the Supplier's shipment includes products dispositioned by AAI MRB along with conforming products, the products dispositioned by AAI MRB shall be segregated and marked or tagged so as to permit easy identification upon receipt at AAI.

12.0 PRODUCT CHANGES

12.1 Seller shall not make any changes in material(s), software, design, manufacturing source(s), process (es) and tooling, which potentially affects the fit, form, or function of the item for items on this PO without the prior notification and approval of the Buyer. Production parts fabricated in advance of Buyer approval shall be at the Seller’s risk.

12.2 The Seller’s change control system shall assure that the latest applicable drawings, specifications, technical requirements, Purchase Order information and changes thereto will be available at the time and place of acceptance of material and/or services.

12.3 Buyer reserves the right to test the changed hardware in its system or by using simulators to verify the compatibility of changed hardware prior to accepting said hardware or changes. This includes full re-qualification if necessary.

13.0 SUPPLIER FIRST ARTICLE INSPECTION (FAI)

13.1 When the Supplier is manufacturing a production AAI part numbered product for the first time, a First Article Inspection (FAI) is required per the requirements of AS9102, “Aerospace First Article Inspection Requirement” In addition to the top assembly, all subassemblies that are part of the top assembly shall be included in the FAI report. Refer to Supplier Instruction QA-SP52 Supplier First Article Inspection Instructions located at http://aaicorp.com/pdfs/supplier_instr_qasp52.pdf for specific details. If the Seller is unsure if the Purchase Order is for production product, the Seller shall contact the Buyer for clarification.

The Seller shall contact AAI 7 days prior to the commencement of the FAI. The FAI must be completed **prior** to product acceptance and shipment to AAI.

Should any of the following conditions apply since the last build of an AAI part numbered product, the Supplier shall perform a full or partial FAI in accordance with the AS9102 Purchase Order requirements (guide or full compliance):

1. A change in the design affecting fit, form or function of the part.
2. A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling or materials, that can potentially affect fit, form or function.
3. A change in numerical control program or translation to another media that can potentially affect fit, form or function.
4. A natural or man-made event, which may adversely affect the manufacturing process.
5. A lapse in production for two years.

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14.0 STATISTICAL TECHNIQUES

14.1 Suppliers are responsible for understanding and reducing variation within processes, and are encouraged to use control-charting techniques.

15.0 SUPPLIER CONTROL

15.1 The Seller, as the recipient of the Purchase Order, is responsible for meeting all Purchase Order specified technical and quality requirements, whether the Seller performs the work, or the work is performed by the Supplier's sub-tier sources. When the Supplier uses sub-tier sources for components or to perform work on products and/or services scheduled for delivery to AAI, the Seller shall flow-down all on Purchase Orders or Contracts, to his sub-tier sources, all of the applicable technical and quality requirements of the AAI Purchase Order including, when applicable, the requirement to document and control 'key characteristics' and/or 'key processes', and to furnish certifications and test reports required by the applicable Purchase Order requirements.

16.0 INDUSTRY SPECIFICATIONS AND STANDARDS

16.1 For all Military, Federal, and Industry specifications and standards, the Supplier shall comply with the revision in affect at the time the AAI Purchase Order is issued. AAI reserves the right to request a different revision that would be specified on the Purchase Order.

17.0 ALTERING DATA ON DOCUMENTS

17.1 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. Upon receipt at AAI, products or services represented by documents that show evidence that they have been corrected or altered in an unauthorized manner are subject to return to the Supplier.

18.0 COMPONENT OBSOLESCENCE MANAGEMENT

18.1 The Supplier shall develop, document and implement an electronic component management process that addresses all aspects of the product life cycle from design through service, including component selection, application, and standardization and obsolescence management. Supplier's program shall address the following issues:

- a. In the event that a component becomes obsolete or otherwise unprocurable, the Supplier's obsolescence management process shall include provisions for alternate parts, end-of-life buys, and/or upgraded parts.
- b. When alternate parts are being considered, parts shall be selected from alternate sources, which are form-fit- function replacements and meet the same quality, reliability, and selection criteria as the original parts.
- c. Note that form-fit-function alternate parts that require modification to the printed wiring board layout also require AAI approval.
- d. When end-of-life buys are being considered, the Supplier shall formally notify AAI of its intent and the lifetime buy requirement shall be negotiated and approved by AAI.

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e. When alternate parts cannot meet form-fit-function requirements or when upgraded parts are being considered, the Supplier shall formally notify AAI of its intent and shall provide a detailed engineering analysis of the re-screening or testing requirements which will provide form-fit-function equivalency to the original parts. Note that form-fit-function alternate parts that require modification to the printed wiring board layout also require AAI approval.

f. The Supplier's analysis report to AAI for upgraded parts shall substantially respond to the following questions:

1. Reason for change
2. Will the component be substituted into a critical function?
3. List equipment in which new component will be used, and the quantities of each
4. Existing component part number
5. Existing component rated temperature range
6. Operating temperature environment
7. Existing component quality assurance process, e.g. MIL-SPEC screening, etc.
8. New component Part Number
9. New component rated temperature range
10. Operating temperature requirement
11. New component quality assurance process, e.g. MIL-SPEC, screening, etc.
12. What is impact of the substitution on equipment reliability and safety? (Report analysis results)
13. Briefly describe the analysis and results that show the new component will be reliable in this application e.g., in-service data, etc.

g. In the case of out-of-production equipment where obsolescence issues render the equipment to be unsupportable, AAI shall be notified of the circumstances that caused the unsupportability of the product. AAI and the Supplier will work together to provide timely, accurate, standardized communications to notify customers of an impending product obsolescence and/or discontinuance.

19.0 FOREIGN OBJECT DEBRIS/DAMAGE (FOD) CONTROL PROGRAM

19.1 The Supplier shall establish, document and maintain a program to control and eliminate FOD and/or contamination during the Supplier's manufacturing, assembly, test and inspection operations. When applicable, the Supplier's FOD control program shall include controls to preclude FOD or contamination at the Supplier's sub-tier sources.

19.2 The Supplier's FOD prevention program shall include the review of design and manufacturing processes to identify and eliminate foreign object entrapment areas and paths through which foreign objects can migrate. Supplier shall ensure work is accomplished in a manner preventing foreign objects or material in deliverable items.

19.3 The Supplier shall maintain clean and orderly Inspection, Assembly and Test area work tables to prevent contamination and foreign objects from entering the product.

Operators should practice a "Clean As You Go" approach to every product being assembled. Only the parts, tools and/or equipment necessary for performing the work shall be allowed on the work tables. All tools used during the product assembly, shall be accounted for upon completion of each assembled unit or groups of units.

19.4 All hardware items shall be accounted for upon completion of each assembled unit or groups of units. Assembly/Inspection personnel shall ensure all assemblies are visually inspected for FOD prior to closing.

19.5 Supplier shall document and investigate each FOD incident and ensure elimination of the root cause, and implement corrective action of each such incident.

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19.6 The Supplier's FOD program is subject to on-site review and approval by AAI.

19.7 Delivery of product shall be deemed as certification that items delivered are FOD free.

19.8 Definitions.

19.8.1 Foreign Object Debris (FOD): A substance, debris, or article alien to a vehicle or system which could potentially cause damage which downgrades or renders the system unusable or unsafe for operation. Other contaminants having the same potential as foreign objects include, improper or incomplete cleaning and deburring of machine parts, high concentration of oil and/or water vapor in pneumatic test facilities, food and beverage residue, grease, etc.

19.8.2 Foreign Object Damage (FOD): Any damage attributed to a foreign object that can be expressed in physical or economic terms which may or may not degrade the product's required safety and/or performance characteristics.

19.8.3 Foreign Objects: Any loose objects such as solder balls, electrical wire clippings, safety wire clippings, screws, washers, metal filings, RTV clods, machine shavings, detached burrs, staples, tools, etc.

20.0 NOTIFICATIONS/ DISCLOSURES

20.1 The Supplier's system shall provide for timely reporting of nonconformities that may affect product already delivered, including any continuing air-worthiness actions. Notification to the buyer shall include a clear description of the discrepancy, identification of all suspect parts (to include mfg. dates, serial numbers, 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. Modifications of a disclosure (additions or deletions of data) requiring subsequent issuances shall be revision controlled to provide definitive sequencing (i.e. Rev 'A', 'B' etc.).

21.0 EXCEPTION TO REJECTIONS

21.1 In the event a Supplier does not accept the responsibility for a discrepant condition, the Supplier may complete AAI Form M-816 to their buyer. The form can be accessed at http://aaicorp.com/contact_us/suppliers.html

22.0 SOFTWARE CONFIGURATION MANAGEMENT

22.1 The Seller shall implement a Software Configuration Management (SCM) system which includes CM planning, identification, change control, status accounting and CM audits.

22.2 The Seller shall implement a Corrective Action / Problem Tracking System to track problems/corrective actions to closure.

23.0 COUNTERFEIT PARTS PREVENTION

Definitions

OCM – Original Component Manufacturer/OEM Original Component Manufacturer – The supply chain entity who designs and controls the manufacture of an item. The OCM/OEM warrants performance of the item to its published specifications.

Franchised/Authorized Distributor – A seller that has a contractual relationship with the OEM/OCM to buy, stock, re-package and sell its product lines. A Franchised/Authorized Distributor offers the OCM/OEM's full flow through warranty including failure analysis and corrective action support.

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Independent distributor/broker – Any seller that does not have has a contractual relationship with the OEM/OCM to stock and sell its products.

23.1 Seller shall develop and implement a comprehensive counterfeit parts and assembly prevention control plan to prevent the introduction of counterfeit parts and assemblies into items delivered to AAI. The plan shall comply with the requirements of AS5553 Counterfeit Electronic Parts, Avoidance, Detection, Mitigation and Disposition. The program shall include a plan that describes methods to assure component parts and assemblies are procured only from the OCM/OEM or a franchised/authorized distributor. The plan shall include a process for assuring integrity of procurements made from sources such as independent distributors, brokers or after market sellers.

23.2 Incorporation of components or assemblies purchased from other than the OCM/OEM or a franchised/authorized distributor shall be submitted to the buyer for approval and must be accompanied by a plan to assure product integrity prior to delivery of the product.

23.3 These independent distributor/brokers shall:

- Furnish unbroken documentation of part traceability to the part/assembly OCM/OEM.
- Provide inspection, x-ray, Destructive Physical Analysis (DPA) and testing by a third party PRIOR to acceptance by the Buyer if traceability to the OCM/OEM is not available.
- Comply with the requirements of JEDIC Standard JESD31C – General Requirements for Distributors of Commercial and Military Semiconductor Devices.
- Require inspectors to be certified to IDEA-ICE-3000 (IDEA 1010) Inspectors Certification Program.

23.4 All of the above counterfeit parts prevention requirements shall be flowed down to sub-tier suppliers

23.5 If suspect/counterfeit parts are furnished under this Purchase Order and are found in any of the goods delivered hereunder, such items will be impounded by Buyer. The Seller shall promptly replace such suspect/counterfeit parts with parts acceptable to the Buyer and the Seller shall be liable for all costs relating to the removal and replacement of said parts. 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 ERIA or a GIDEP alert, indicating that such parts are counterfeit, shall be deemed definitive evidence that Seller's parts contain counterfeit parts.

24.0 WELDING PROCESSES

24.1 When welding processes (welding, spot welding, brazing, dip brazing, etc.) are required for fabrication of the product the Supplier shall complete AAI Form #M-689 "Supplier Welding Quality Requirements" and submit completed form to AAI buyer for review and approval. Approval shall be defined for specific welding process requirements.

Any work performed prior to AAI process approval is at Supplier risk and the Buyer reserves the right to not accept product produced prior to approval.

Subcontracting of welding processes by the Supplier is not permitted without prior written approval of the AAI buyer. All welding process requirements shall be flowed down to all sub-tier Suppliers as appropriate.

Contact AAI Buyer for guidance on form completion.

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

SECTION B – PASS THROUGH DISTRIBUTION FACILITY REQUIREMENTS

25.0 SUPPLIER'S QUALITY SYSTEM REQUIREMENTS

25.1 The Seller shall implement a quality management system which complies with ISO 9001:2000, AS9100, AS9120 or an equivalent system approved by AAI. The Seller should employ advanced quality techniques and tools which foster continuous improvement of the distribution processes.

25.2 Independent Distributors/Brokers of electronic components (See paragraph 38.0) shall comply with the requirements of JEDIC Standard JESD31C – General Requirements for Distributors of Commercial and Military Semiconductor Devices.

25.3 The Seller shall immediately notify the Buyer in writing of any change to the quality management system that may affect the inspection, conformity, or safety of the product or quality system status. (e.g., Seller converts to an ISO900-based system; or Seller is no longer registered to AS9100)

26.0 CORRECTIVE ACTION SYSTEM

26.1 The Supplier shall have a functioning system for closed loop corrective action. Seller agrees to provide to the Buyer corrective action using Buyer's Form M-803 (Supplier Corrective Action Request) within 30 days from issuance of a SCAR. Seller further agrees to:

- a) Conduct a thorough failure/root cause analysis identifying the cause(s) for the discrepancy (ies) noted.
- b) Determine and take the necessary corrective action(s) to prevent recurrence.
- c) Identify whether any previous shipments for the subject or similar parts contain the noted discrepancy.
- d) Identify the effectivity of the corrective action(s).

The failure/root cause analysis should be conducted using proven techniques such as 5-Why's, Cause and Effect/Fishbone diagrams, Fault Tree diagrams, etc.

27.0 RECORDS OF OBJECTIVE EVIDENCE/RECORD RETENTION

27.1 Suppliers shall maintain Quality records in accordance with ISO 9001:2000 or an equivalent AAI approved system. The records shall be retained for a period of not less than 10 years from the completion of the Purchase Order. The records shall include but not limited to:

- Verifiable objective evidence of manufacturer's inspection and tests performed as identified in Certificates of Conformance.
- Manufacturer's Raw material and Process certifications.

These records shall be provided to the Buyer upon request.

28.0 ELECTROSTATIC DISCHARGE (ESD) PROTECTION

28.1 Components and assemblies, which are susceptible to electrostatic discharge damage, shall be handled and packaged to prevent ESD damage utilizing MIL-STD-1686, ANSI/ESD S20.20, or EIA/JEDEC JESD625 as a guideline or equivalent system approved by AAI.

29.0 WORK INSTRUCTIONS

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

29.1 Suppliers shall maintain work instructions or equivalent control mechanism that directs procedures and processes appropriate for the control of quality and configuration through all stages of distribution.

30.0 NONCONFORMING MATERIAL CONTROL

30.1 Nonconforming material shall be identified, documented, evaluated, segregated and dispositioned to prevent its unintended use. Unless otherwise stated in the Purchase Order, the Seller is authorized to conduct limited Material Review and disposition of nonconforming products identified by the Seller using the following disposition alternatives:

- a. rework to applicable requirements,
- b. scrap, or
- c. RTV – return to (the Supplier's) sub-tier source for rework or replacement.

30.2 Nonconforming products are defined as any products that fail to meet the requirements of the AAI engineering drawing, specification, Purchase Order or other approved product description, including products (such as products under the Supplier's proprietary design control) which fail to meet requirements established and controlled by the Seller or the Seller's sub-tier sources.

30.3 The Seller may propose and formally request a "use-as-is" or repair (salvage) disposition from AAI by submitting form M-798, Supplier MRB Disposition Request, to the AAI Buyer. The Seller's Material Review and nonconforming product disposition records, as well as the Material Review records at the Supplier's sub-tier sources are subject to on-site verification by AAI to ensure that the Seller is in compliance with these requirements.

30.4 The Seller shall not ship to AAI any nonconforming products that have not been dispositioned by AAI MRB unless authorized by AAI in writing. When AAI MRB dispositioned products are delivered to AAI, the Seller shall reference on the packing list/shipper the MRB document which describes the AAI MRB disposition. When the Supplier's shipment includes products dispositioned by AAI MRB along with conforming products, the products dispositioned by AAI MRB shall be segregated and marked or tagged so as to permit easy identification upon receipt at AAI.

31.0 PRODUCT CHANGES

31.1 Seller shall not make any changes or substitutions in material(s), software, design, manufacturing source(s), process(es) and tooling, which potentially affects the fit, form, or function of the item for items on this PO without the prior notification and approval of the Buyer. Production parts fabricated in advance of Buyer approval shall be at the Seller's risk.

31.2 The Seller's change control system shall assure that the latest applicable drawings, specifications, technical requirements, Purchase Order information and changes thereto will be available at the time and place of acceptance of material and/or services.

31.3 Buyer reserves the right to test the changed hardware in its system or by using simulators to verify the compatibility of changed hardware prior to accepting said hardware or changes. This includes full re-qualification if necessary.

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

32.0 SUPPLIER CONTROL

32.1 The Seller, as the recipient of the Purchase Order, is responsible for meeting all Purchase Order specified technical and quality requirements, whether the Seller performs the work, or the work is performed by the Supplier's sub-tier sources. When the Supplier uses sub-tier sources for components or to perform work on products and/or services scheduled for delivery to AAI, the Seller shall flow-down all on Purchase Orders or Contracts, to his sub-tier sources, all of the applicable technical and quality requirements of the AAI Purchase Order, including when applicable the requirement to document and control 'key characteristics' and/or 'key processes', and to furnish certifications and test reports required by the applicable Purchase Order requirements.

33.0 INDUSTRY SPECIFICATIONS AND STANDARDS

32.1 For all Military, Federal, and Industry specifications and standards, the Supplier shall comply with the revision in affect at the time the AAI Purchase Order is issued. AAI reserves the right to request a different revision that would be specified on the Purchase Order.

34.0 ALTERING DATA ON DOCUMENTS

34.1 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. Upon receipt at AAI, products or services represented by documents that show evidence that they have been corrected or altered in an unauthorized manner are subject to return to the Supplier.

35.0 FOREIGN OBJECT DEBRIS/DAMAGE (FOD) CONTROL PROGRAM

35.1 The Supplier shall establish, document and maintain a program to control and eliminate FOD and/or contamination during the Supplier's distribution activities. When applicable, the Supplier's FOD control program shall include controls to preclude FOD or contamination at the Supplier's sub-tier sources.

35.2 The Supplier's FOD prevention program shall include the review of distribution processes to identify and eliminate foreign object entrapment areas and paths through which foreign objects can migrate. Supplier shall ensure work is accomplished in a manner preventing foreign objects or material in deliverable items.

35.3 The Supplier shall maintain clean and orderly distribution area to prevent contamination and foreign objects from entering the product. Operators should practice a "Clean As You Go" approach to every product being processed. Only the parts, tools and/or equipment necessary for performing the work shall be allowed on the work tables. All tools used during the distribution process, shall be accounted for upon completion of the process.

35.4 Distribution personnel shall ensure all parts are visually inspected for FOD prior to processing for shipment.

35.5 Supplier shall document and investigate each FOD incident and ensure elimination of the root cause, and implement corrective action of each such incident.

35.6 The Supplier's FOD program is subject to on-site review and approval by AAI.

35.7 Delivery of product shall be deemed as certification that items delivered are FOD free.

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

35.8 Definitions.

35.8.1 **Foreign Object Debris (FOD):** A substance, debris, or article alien to a vehicle or system which could potentially cause damage which downgrades or renders the system unusable or unsafe for operation. Other contaminants having the same potential as foreign objects include, improper or incomplete cleaning and deburring of machine parts, high concentration of oil and/or water vapor in pneumatic test facilities, food and beverage residue, grease, etc.

35.8.2 **Foreign Object Damage (FOD):** Any damage attributed to a foreign object that can be expressed in physical or economic terms which may or may not degrade the product's required safety and/or performance characteristics.

35.8.3 **Foreign Objects:** Any loose objects such as solder balls, electrical wire clippings, safety wire clippings, screws, washers, metal filings, RTV clods, machine shavings, detached burrs, staples, tools, etc

36.0 NOTIFICATION/ DISCLOSURES

36.1 The Supplier's system shall provide for timely reporting of nonconformities that may affect product already delivered, including any continuing airworthiness actions. Notification to the buyer shall include a clear description of the discrepancy, identification of all suspect parts (to include mfg. dates, serial numbers, 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. Modifications of a disclosure (additions or deletions of data) requiring subsequent issuances shall be revision controlled to provide definitive sequencing (i.e. Rev 'A', 'B' etc.).

37.0 EXCEPTION TO REJECTIONS

37.1

1 In the event a Supplier does not accept the responsibility for a discrepant condition, the Supplier may complete AAI Form M-816 to their buyer. The form can be accessed at http://aaicorp.com/contact_us/suppliers.html

38.0 COUNTERFEIT PARTS PREVENTION

Definitions

OCM – Original Component Manufacturer/OEM Original Component Manufacturer – The supply chain entity who designs and controls the manufacture of an item. The OCM/OEM warrants performance of the item to its published specifications.

Franchised/Authorized Distributor – A seller that has a contractual relationship with the OEM/OCM to buy, stock, re-package and sell its product lines. A Franchised/Authorized Distributor offers the OCM/OEM's full flow through warranty including failure analysis and corrective action support.

Independent distributor/broker – Any seller that does not have has a contractual relationship with the OEM/OCM to stock and sell its products.

AAI SUPPLIER QUALITY ASSURANCE REQUIREMENTS (SQAR)

38.1 Seller shall develop and implement a comprehensive counterfeit parts and assembly prevention control plan to prevent the introduction of counterfeit parts and assemblies into items delivered to AAI. The plan shall comply with the requirements of AS5553 Counterfeit Electronic Parts, Avoidance, Detection, Mitigation and Disposition. The program shall include a plan that describes methods to assure component parts and assemblies are procured only from the OCM/OEM or a franchised/authorized distributor. The plan shall include a process for assuring integrity of procurements made from sources such as independent distributors, brokers or after market sellers.

38.2 Incorporation of components or assemblies purchased from other than the OCM/OEM or a franchised/authorized distributor shall be submitted to the buyer for approval and must be accompanied by a plan to assure product integrity prior to delivery of the product.

38.3 Independent distributor/brokers shall:

- Furnish unbroken documentation of part traceability to the part/assembly OCM/OEM.
- Provide inspection, x-ray, Destructive Physical Analysis (DPA) and testing by a third party PRIOR to acceptance by the Buyer if traceability to the OCM/OEM is not available.
- Comply with the requirements of JEDIC Standard JESD31C – General Requirements for Distributors of Commercial and Military Semiconductor Devices.
- Require inspectors to be certified to IDEIA-ICE-3000 (IDEA 1010) Inspectors Certification Program.

38.4 All of the above counterfeit parts prevention requirements shall be flowed down to sub-tier suppliers

38.1 If suspect/counterfeit parts are furnished under this Purchase Order and are found in any of the goods delivered hereunder, such items will be impounded by Buyer. The Seller shall promptly replace such suspect/counterfeit parts with parts acceptable to the Buyer and the Seller shall be liable for all costs relating to the removal and replacement of said parts. 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 ERIA or a GIDEP alert, indicating that such parts are counterfeit, shall be deemed definitive evidence that Seller's parts contain counterfeit parts.

APPENDIX A Change History

Version	Date	Author	Description
A	6/9/06	Bill McCaffery	Corrected SCAR form number Added shelf life program requirement Removed "when requested" from Corrective Action paragraph Separated Design/Manufacturing Supplier requirements from Distributor requirements Expanded Changes Paragraph Added AS9120 to Section B Quality System Requirements
B	6/27/06	Bill McCaffery	Added First Article Requirement
C	5/14/09	Bill McCaffery	Added document number. Published on AAI's Internet Site for access by external Suppliers. Added Welding Requirements.
D	2/4/2010	Bill McCaffery	Added Supplier Instruction for FAI and dropped AS9102 as a guide. Added counterfeit parts prevention requirements. Added link to PO codes.