Contents

Title: Counterfeit Parts Detection and Avoidance Program

Purpose:

This policy delineates the Supply Chain Management program and procedure required for avoiding and detecting Counterfeit Parts used by Fairlead as required by *DFARS 252.246-7007 –* "*Contractor Counterfeit Electronic Part Detection and Avoidance System*". Fairlead's actions to ensure compliance with the twelve (12) applicable "System Criteria" found in section (c) of the DFARS clause and listed in the table "*DFARS 252.246-7007: Section (c) System Criteria Cross Reference*", will be referenced throughout this policy

Although the focus is primarily on Counterfeit Electronic Parts, the process and procedures apply to all Fairlead design, production and acquisition activities.

Applicability

This policy applies to Fairlead Integrated, and Fairlead Boatworks. The Vice President of Procurement is responsible for ensuring compliance with the policy.

Effectivity

The policy is effective upon issuance, superseding all prior intercompany policies and procedures.

Definitions:

Applicable definitions are included in the guiding documents listed below:

- Defense FAR Supplement clause DFARS 252.246-7007 – "*Contractor Counterfeit Electronic Part Detection and Avoidance System*"
- Defense FAR Supplement clause DFARS 252.246-7008 – "*Sources of Electronic Parts*"
- The SAE International's Aerospace Recommendation Practice ARP 6328 – "*Guideline for Development of Counterfeit Electronic Parts; Avoidance, Detection, Mitigation, and Disposition Systems*." [SAE ARP 6328]
- The Independent Distributors of Electronics Association Standard: IDEA-STD-1010-B– "*Acceptability of electronic Components Distributed in the Open Market*"

For the purpose of this policy the term VENDOR will be used to include all supply chain sources - vendors, suppliers and subcontractors. Fairlead's definition of each supply chain source follows:

- ***SUPPLIER:*** A supplier is defined as a business entity who is the original source of a product or service and is primarily engaged in a Business-To-Business(B2B) market. A supplier is typically a major source of inputs such as commodities, materials, assemblies, tools, and other items consumed in a value-added manufacturing process, and can be

depended upon as a delivery source for larger quantities.

- ***VENDOR:*** A Vendor is defined as a business entity which purchases products from manufacturers or distributors, and acting as a consolidator, sells them to both B2B or B2C (Business-To-Consumer) customers. Often their sales are to the ultimate customer or consumer.
- ***SUBCONTRACTORS*:** Subcontractors work for a prime contractor requiring the delivery of both products and services. Typically, the subcontractor's performance is guided by a formal Statement of Work (SOW)augmented with a technical or performance specification and approved or accepted by joint execution of a formal Certificate of Conformance. Although the subcontractor's activities are managed and monitored by the Prime Contractor / Buyer, the subcontractor's daily execution of its SOW is an independent activity not to be infringed upon by the Prime Contractor / Buyer, unless specifically called out for in the SOW. Subcontractors may engage their own vendors and subcontractors when satisfying their SOW obligations, and when doing so, must flow down to its supply sources, all required clauses from the buyer's contract.
- ***Original Equipment Manufacturer (OEM):*** a company that produces parts and equipment that may be marketed by another authorized supplier, distributor, or manufacturer.
- ***Original Component Manufacturer (OCM):*** company that produces electronic parts and equipment that may be marketed and supplied by another authorized supplier or distributor.

Throughout this policy the acronym OEM will be understood to refer to either an OEM or OCM.

Discussion:

This policy implements a program intended to minimize the risk of Counterfeit Parts provided to Fairlead through its supply chain partners. This policy's primary reference guide is SAE ARP-6328 , however, Fairlead's practices are to apply these baseline principles and practices to its acquisition, inspection and testing of all parts, assemblies, and products, as well as the actual disposition and reporting of suspect Counterfeit Parts.

Attachment 01 – "*Supply Source and Product & Application Risk Profile*" succinctly displays the changing risk profiles of various supply sources as compared to a similar risk profile for various products and applications.

Fairlead's preferred procurement approach is to acquire all electronic and other parts directly from the OEM or from their Authorized Suppliers. Because that action is not always possible, Fairlead is implementing steps to mitigate the risk of acquiring counterfeit parts at any level.

Design, Proposal, and Program Planning

The Counterfeit Parts mitigation efforts commence in the design, proposal and program planning stages for production and support of systems. During these critical stages, Fairlead's engineering

design, production planning, and purchasing teams will assess the long term availability of authentic parts and part sources. All availability risks must be addressed, and definitive actions taken to reduce the risk exposure by:

1. Planning for adequate procurement lead times;
2. Identifying alternate or multiple sources;
3. Initiating a lifetime or long term buy from OCM or their authorized suppliers;
4. Identifying and qualify substitute parts, assembly or products; and
5. Redesigning the system, subsystem, or component to eliminate the risk.

Obsolescence Management

Fairlead will mitigate the risk of acquiring counterfeit parts by proactively managing its product's life cycle through the use of a product specific Obsolescence Management Plan as outlined in section 3.1.2 of SAE ARP-6328. The following resources and standards, as applicable are referenced as guides for use in developing a product specific obsolescence management plan:

- SD-22: Department of Defense (DOD) Diminishing Manufacturing Sources and Material Shortages (DMSMS) Guidebook
- GEIA GEB1: Diminishing Manufacturing Sources and Material Shortages (DMSMS) Management Practices, Government Electronics and Information Technology Association
- EIA-STD-4899: Requirements for an Electronic Components Management Plan
- SAE STD-0016:Standard for Preparing a DMSMS Management Plan
- IEC 62402: Obsolescence Management - Application Guide
- MIL-STD-3018: Parts Management
- MoD JSP886: The Defense Logistics Supply Chain Manual Volume 7 - Integrated Logistics Support Part 8.13 Obsolescence Management
- EIA-933: Requirements for a COTS Assembly Management Plan

Fairlead's primary obsolescence activity will be the screening of GIDEP reports to identify parts that becoming obsolete and for which now exists, an elevated risk level for purchasing counterfeit electronic parts

Procurement Approach

Fairlead will acquire parts, assemblies, and product directly from the OEM or an OEM authorized supplier. The use of independent distributors shall be the exception and approved by a designated authority, but only after considering and vetting alternate parts, redesign, and schedule adjustments, as well as conducting a reasonable search for material from OEM franchised sources.

An OEM franchise agreement includes provisions that are intended to protect the user and ensure product integrity and supply chain traceability by:

1. Incorporating the original manufacturer warranty;
2. Stipulating proper handling, storage, and shipping procedures;
3. Detailing failure analysis and correction action support procedures; and
4. Providing certificates of conformance and ensuring supply chain traceability.

Independent distributors typically do not provide OEM based warranty terms or product support activities. Their used should be restricted because of the increased procurement risk associated with key limitations related to:

- Ensuring product integrity
- Guaranteeing supply chain traceability, and
- Maintaining quality assured inventories.

Vendor Approval and Source Selection

Fairlead's purchasing department will consider the following factors when approving a vendor's inclusion on the Approved Vendors List (AVL):

1. Fairlead's historical experience with the vendor;
2. Historical, relevant performance problems documented by external sources;
3. The vendor's:
   - Longevity as an active business,
   - Demonstrated adherence to higher-level quality standards such as:
     - AS 9100, AS 9003, AS 9120, AS 6081 and/or AS 6496
     - ISO 9001, ISO IEC 17025
4. Satisfactory completion of audits performed in accordance with SAE ARP 6328 Part 3.2.1.3;
5. Documented purchasing and product acceptance processes and practices for verifying all supplied parts' authenticity;
6. Use of laboratory testing either in house or outsource;
7. QA inspectors trained and qualified in counterfeit parts types, detection methods, and authentication practices; and
8. Determination of acceptability for vendor/supplier terms for warranty, return policy and product liability.

Finally, **all Vendors intended for use as electronic part supply source on all US Government Department of Defense (US DOD) contracts, MUST accept without modification, the flow down provisions of both DFARS clauses 252.246-7007 and 252.246-7008**.

Attachment 02 – "*Supplier Risk Assessment Pyramid"* provides a visual tool for assessing a vendor's risk profile. The more space within the pyramid that is filled in and or addressed, the less risk is associated with the vendor.

Purchasing Audits of Supply Chain Sources

When practical or deemed critical, Fairlead Purchasing will conduct a vendor audit to determine

that the vendor's quality management system incorporates adequate documented processes to prevent the purchase, acceptance, use, and delivery of counterfeit parts.

The audits are site specific, and should be performed before purchasing any product, and periodically thereafter. The audits should occur at intervals sufficient to determine that the vendor's quality management system incorporates a program compliant with ARP-6328 and DFARS 252.246-7007. Audits performed by other private sector or Government organizations are acceptable alternatives to second or third party auditing provided the auditing process, attributes, and auditor qualifications are evaluated and deemed adequate to assure compliance

A vendor's audit scope and frequency should be commensurate with their associated assessed risk. Based on the risk profile, an individual audit scope may range from merely completing a survey assessment of the source's documented processes and controls or a full onsite facility audit of these same processes.

Procedures:

Personnel Responsibilities and Training [*DFARS 252.246-7007: Section (c) 1*]:

Fairlead employees responsible for creating purchase requisitions and purchase orders, receiving, inspecting, testing and accepting electronic and other parts, as well as those responsible for troubleshooting and resolving technical issues prior to shipment, are responsible for compliance to this policy.

All procurement and material handling employees' actions are required to be compliant with the prevention and detection procedures outlined in this is policy, and are required to complete annual training in counterfeit electronic parts detection and avoidance .

Selecting Supply Sources [*DFARS 252.246-7007: Section (c)5, (c)9, and (c)11*]:

The DOP approves each vendor for inclusion on Fairlead's Approved Vendor List (AVL). This approval will be granted only after documenting, reviewing, and evaluating for acceptability, all eight (8) decision factors outlined in the *Vendor Approval and Source Selection* section of this policy to include the vendors acceptances of both DFARS clauses 252.246-7007 and 252.246-7008.

In order to minimize the risk of procuring counterfeit parts, Fairlead shall pursue procurements from supply sources in the following order of priority:

1. Original Equipment Manufacturers (OEM)
2. An OEM authorized Aftermarket Manufacturer
3. An OEM authorized Supplier / Distributor
4. Fairlead Approved Supply Source

Protection against acquiring and receiving counterfeit parts begins with strict adherence to actions and plans outlined in the following sections of this policy:

- *Procurement Approach:* Guides Fairlead's Supply Source selection process

- *Obsolescence Management*: Stipulates requirements for the Obsolescence Management Plan

Fairlead will diligently screen GIDEP reports and other credible counterfeiting information sources to identify and avoid the purchase or use of counterfeit electronic parts.

Acquiring from Supply Sources [*DFARS 252.246-7007: Section (c)3, (c)4 and (c)12*]:

The Director of Purchasing (DOP) is responsible for ensuring that the selection priorities listed above are applied to all procurements. Attachment 03 – "*Procurement Risk Mitigation Decision Path*" outlines the typical purchasing decision process that will be followed in order to mitigate risk associated with acquiring counterfeit parts of any type.

The use of a Fairlead Approved Supply Source (Procurement Priority Choice #4) is the rare deviation from Fairlead's preference for procuring exclusively from OEM sources. This choice may be required when in the rare event that an OEM or authorized supplier / distributor does not have available supply or cannot provide the required supply in a timeframe that supports a contractual project schedule.

The use of a Fairlead Approved Supply Source is authorized when the following criteria are met:

1. The supply source submits evidence of traceability to the OEM or authorized distributor with their quote;
    - The evidence of traceability to the OEM, authorized distributor or aftermarket manufacturer must include the name and location of all supply chain intermediaries
    - A fully documented risk assessment is required if the traceability information is not available for review
2. The traceability can be verified by the DOP or Purchasing Manager;
3. The Project Manager is notified and approves the exception in writing; and
4. The customer, if required by contract terms, is notified and approves the exception.
    - Customer notification is always required whenever Fairlead does not have design authority for product being produced.

Customer specified suppliers are used whenever an approved supplier list is stipulated in the contract or within the customer's Technical Data Package (TDP).

When searching for electronic parts sources, Fairlead purchasing personnel may access the Electronic Components Industry Association (ECIA) website (*www.eciaauthorized.com*) to identify an Authorized Supplier or an Authorized Aftermarket Manufacturer. Fairlead may also search the OEM's websites or contact them directly to identify Authorized Suppliers or an Authorized Aftermarket Manufacturers.

Receiving, Inspecting, Testing and Accepting Parts [*DFARS 252.246-7007: Section (c)2, (c)7 and (c)8*]:

Purchased parts, components and assemblies must be inspected and accepted prior to introducing

the items in to the production process. Attachment 04 – "*Inspection, Evaluation and Risk Assessment Criteria*" provides summary guidance for assessing the perceived risk of any received items presented to quality assurance for inspection, testing, and acceptance. OEM or Authorized Manufacturer's are required to provide Certificates of Conformance (CoC). Each CoC should include the following:

- Manufacturer name and address
- Manufacturer and/or buyer's full part number and part description.
- Batch identification for the item(s) such as date codes, lot codes, serializations, or other batch identifications.
- Signature or stamp with title of seller's authorized personnel signing the certificate

For all receipts, Fairlead will conduct inspections and tests as outlined in Attachment 05 – "*Inspection and Test Methodologies*" based on the application criteria listed therein. Items determined to be of questionable origin must be properly contained and reported.

Surplus Product

Excess inventory or surplus parts originally procured for use in a deliverable product should only be re-sold or dispositioned to external organizations with demonstrated adherence to higher level quality standards.

Identifying, Quarantining, and Reporting Actual or Suspect Counterfeit Parts [*DFARS 252.246-7007: Section (c)6 and (c)10*]:

Fairlead will search the Government Industry Data Exchange Program (GIDEP) database to (1) research and report obsolescence notification, and (2) identify or report counterfeit or Suspect Counterfeit Electronic Parts.

Demonstrative action is required in all cases in order to mitigate the risk of non-conforming items entering the production process or returning to the broader supply chain. Fairlead personnel will take the following actions when suspected non-conforming items are identified:

- Fairlead will immediately collect, tag, and physically separate all actual or suspect counterfeit parts to separate them from conforming materials, and to prevent their use in the assembly and integration of any deliverable product.
- Suspected counterfeit parts are treated as Nonconforming product as defined in Fairlead's Quality Manual - Att10.2-09.
    - After all legal considerations are completed, segregated suspect parts and supplies that are found to be nonconforming or otherwise unsuitable for use will be rendered unusable by physical destruction (e.g., grinding, breaking, or crushing) prior to disposal.
- All occurrences of counterfeit items are reported
    - Internally in accordance with Fairlead's Internal and External Communication Table

defined in Fairlead's Quality Manual – Att7.4-01;

- The U. S. Government Contracting Officer (as appropriate) or Customer Contractual Representative are notified via email, mailed memorandum or by telephone as appropriate; and
- Government and Industry organizations' reporting portals are updated (e.g., GIDEP, ERAI)

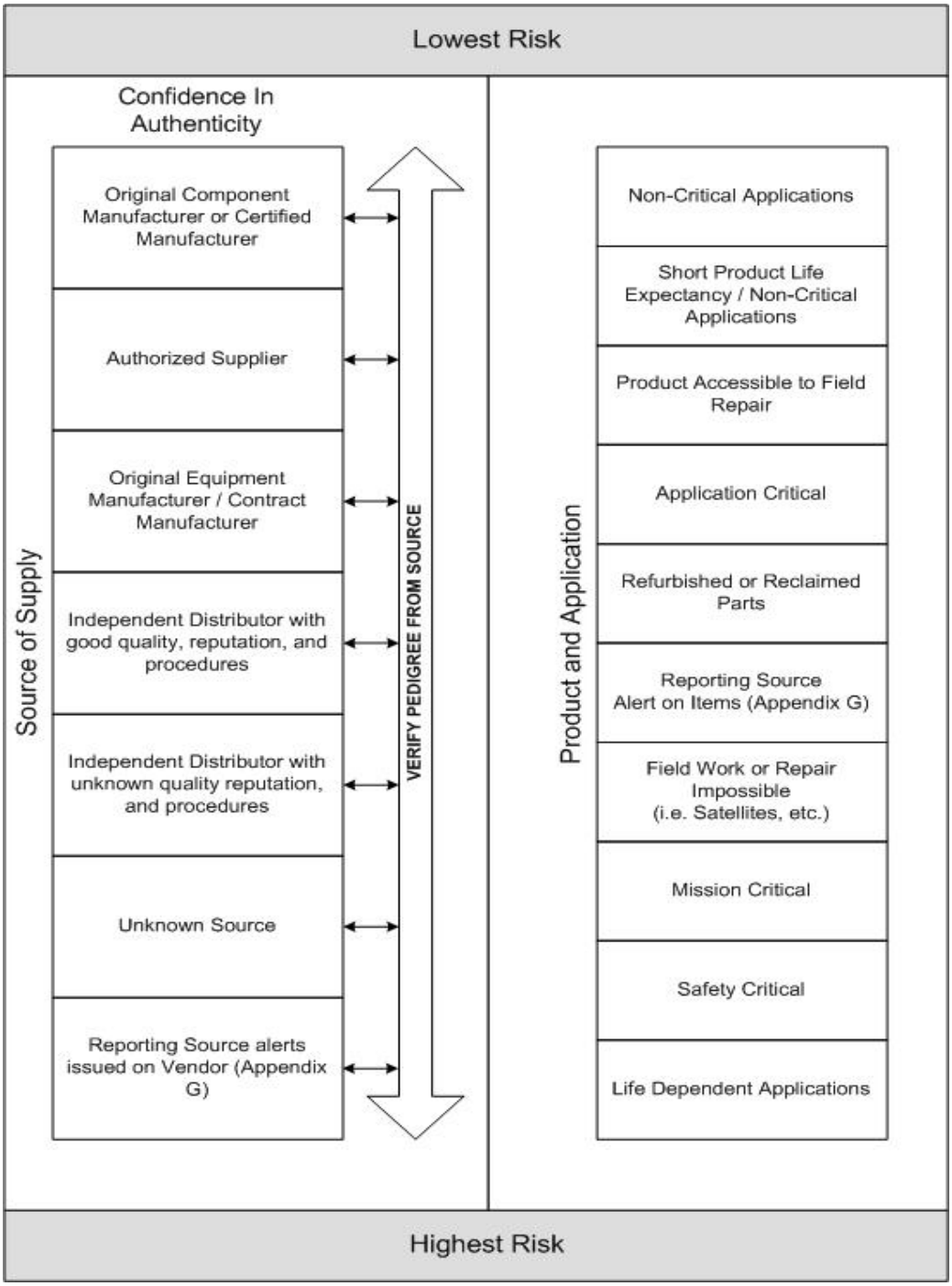
DFARS 252.246-7007: Section (c) System Criteria Cross Reference

A counterfeit electronic part detection and avoidance system shall include risk-based policies and procedures that address, at a minimum, the following areas:

Policy Section	DFARS Ref	Description
Personnel Responsibilities and Training	***Section (c) 1***	Personnel training
Receiving, Inspecting, Testing and Accepting Parts	***Section (c) 2***	Inspecting, testing electronic parts to include acceptance & rejection criteria ○ Tests and inspections shall be performed in accordance with accepted Government- and industry-recognized techniques. ○ Inspection and test selection based on risk minimization.
Acquiring from Supply Sources	***Section (c) 3***	Abolishing counterfeit parts proliferation processes.
Acquiring from Supply Sources	***Section (c) 4***	Maintaining electronic part traceability
Selecting Supply Sources	***Section (c) 5***	Sourcing from original manufacturer (OM), or ○ OM approved sources to include authorized aftermarket manufacturer or suppliers that obtain parts exclusively from one or more of these sources. ○ Suppliers that meet applicable counterfeit detection and avoidance system criteria only when OM sources are not available.
Identifying, Quarantining, and Reporting Actual or Suspect Counterfeit Parts	***Section (c) 6***	Reporting and quarantining actual or suspect counterfeit electronic parts to: ○ The applicable Contracting Officer and ○ The Government-Industry Data Exchange Program (GIDEP) *Quarantining initiated to ensure actual and*

Policy Section	DFARS Ref	Description
		suspect counterfeit electronic parts are not be returned to the source or otherwise allowed to return to the supply.
Receiving, Inspecting, Testing and Accepting Parts	***Section (c) 7***	Implementing means to identify and rapidly assess the authenticity of suspect counterfeit parts.
Receiving, Inspecting, Testing and Accepting Parts	***Section (c) 8***	Detecting and avoiding acquiring actual or suspect counterfeit electronic parts through an internal system designed, operated and maintained in accordance with current Government or industry-recognized standards.
Selecting Supply Sources	***Section (c) 9***	Ensuring all subcontracts incorporate all counterfeit detection and avoidance requirements to include all DFARS applicable system criteria.
Identifying, Quarantining, and Reporting Actual or Suspect Counterfeit Parts	***Section (c) 10***	Keeping aware of current counterfeiting information, trends, and techniques contained in appropriate industry standards, and using such information and techniques for continuously upgrading internal processes.
Selecting Supply Sources	***Section (c) 11***	Screening GIDEP reports and other credible counterfeiting information sources to avoid the purchase or use of counterfeit electronic parts.
Acquiring from Supply Sources	***Section (c) 12***	Managing obsolete electronic parts through a product's life cycle by maximizing the use of originally designed, authentic, available, and qualified electronic parts.

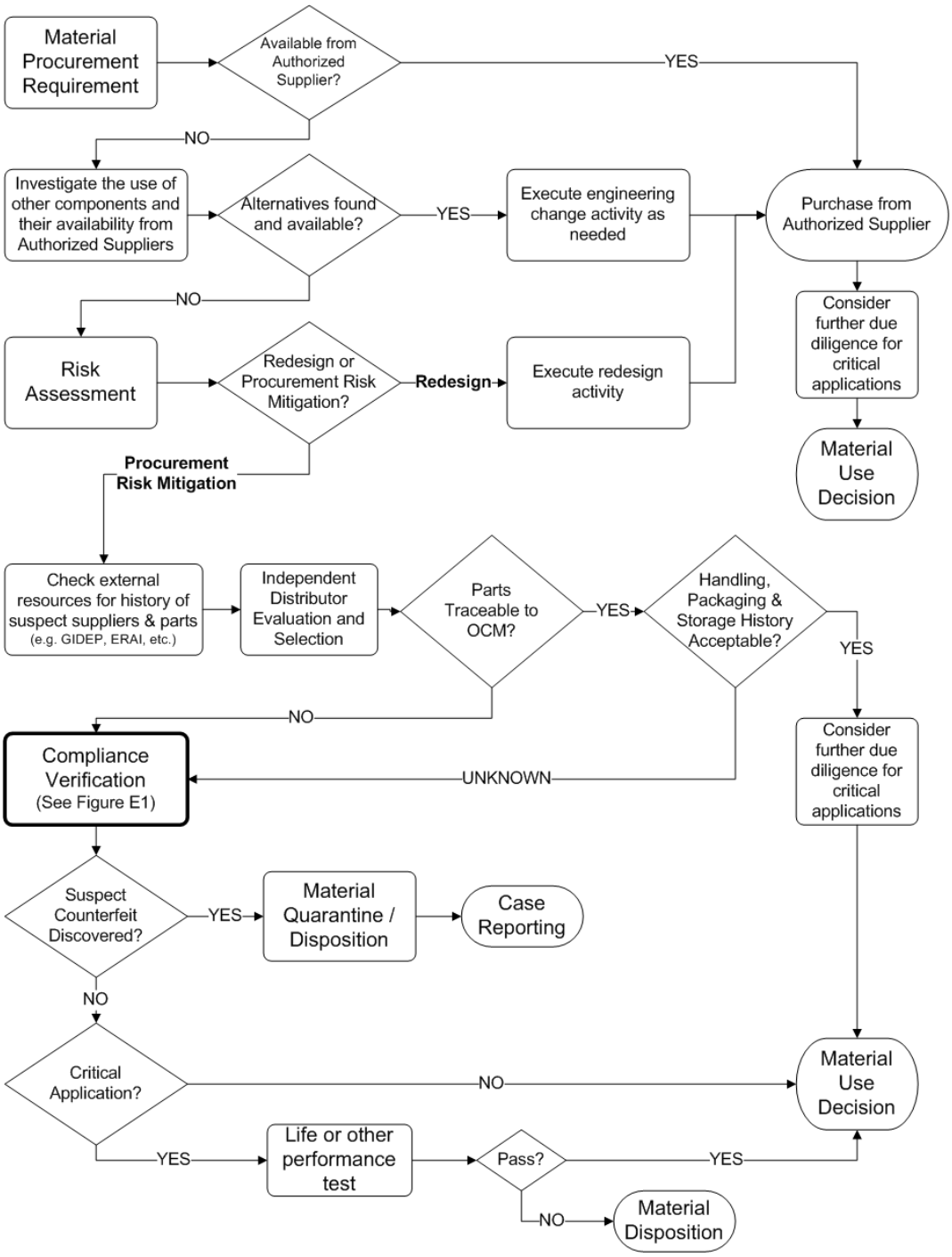
Attachment 01 - Supply Source Product & Application Risk Profile



Attachment 02 – Supplier Risk Assessment Pyramid

Attempt to fill in more area within the pyramid for less risk

Attachment 03 – Procurement Risk Mitigation Decision Path



Attachment 04 – Inspection, Evaluation and Risk Assessment Criteria

	OCM/OEM Test Data Available?	OCM/OEM CofC w/traceability Available?	Part Marking Condition (Visual)	Overall Part Condition (Visual)	Part Criticality for Human Safety	Part Availability
High Risk	No	No	Incorrect/ Not resistant to Solvent	Gross Degradation/ Evidence of Installation	High	Low
Medium Risk	No	No	Correct but faded/ suspect	Slight Degradation (e.g. Leads slightly bent)	Moderate	Moderate
Low Risk	Yes	Yes	Correct and Distinct	New(No degradation)	Low	High

Attachment 05 – Inspection and Test Methodologies

Inspection / Test	Test Difficulty	Destructive	Value	Application	Issue Indicators	Comments
Carrier Inspection	Low	No	Med	All items received	Errors in shipping manifest	Refer to IDEA-STD-1010B
Documentation Review	Low	No	High	All items received	Errors in spelling and grammar; data omissions; incorrect information	Refer to IDEA-STD-1010B
Visual Inspection	Low	No	High	All items received	Poor quality, obvious defects, inconsistent appearance or information provided;	Valid for detecting used, refurbished and remarked parts
Packaging/Carton Inspection	Low	No	Med	All items received	Damage, tampering, or inadequate quality	Refer to IDEA-STD-1010B
Mechanical Inspection	Med	No	Med	All items received	Damage, tampering, or inadequate quality	Refer to IDEA-STD-1010B
Bar Code Check	Low	No	Med	All items received	Variations from manufacturers specification for package dimensions	Refer to IDEA-STD-1010B
Marking Permanency	Low	No	High	Items received in plastic, ceramic, and metal packages	Ink/marking is easily removed with mineral spirits or alcohol	Refer to MIL-STD-883, Method 2015 solution (a)
Surface Finish Permanency (Acetone)	Low	Yes	High	Items received in plastic, ceramic, and metal packages	Signs of sanding, coating removed from part,	Refer to IDEA-STD-1010B: Aids in detecting blacktopped parts.

Inspection / Test	Test Difficulty	Destructive	Value	Application	Issue Indicators	Comments
Surface Finish Permanency (Heated Aggressive Solvent)	Med	Yes	High	Items received in plastic, ceramic, and metal packages	Signs of sanding, coating removed from part,	Refer to IDEA-STD-1010B: Aids in detecting blacktopped parts.
X-Ray Fluorescence (Radiological)	Med	No	High	Components requiring tin-lead plating terminations	Non-compliant finishes with part specification	Detects retinned or remarked parts.
X-Ray (Radiological)	Med	No	High	Components with a die, lead frame, or other internally identifiable component	Inconsistent die sizes or lead frame	Detects incorrect die or wrong parts
Scanning Acoustic Microscopy (SAM)	High	No	High	Plastic encapsulated components	Signs of thermal stress (delamination)	Detects signs of uncontrolled thermal stress damage or partially sanded part markings.
Die Verification	High	Yes	High	Components with a semiconductor	Inconsistent die markings, or questionable comparison to a known good part	Detects incorrect die or wrong parts