



4/23/03

SLI (QC-02)

To: David McGaha / ED37

From: Mark Anderson / SLI Quality Manager

Subject: SLI Quality Requirements, Quality Sensitive

The following standard quality requirements will be used by SLI for Flight and Flight Associated hardware when specific instructions are not provided by MSFC. Acknowledgement of these requirements by the applicable Program Quality Engineer/Lead is required prior to fabrication:

### **Procurement/Quality Requirements**

#### **Metallic Raw Materials**

Metallic raw materials are procured in manner consistent with MWI-8040.4 "Application Guidance for Traceability".

Trace Level 4 – Requires one of the following: Vendor C of C / Mill Marking / verification by Optical Emission Spectrometer (OES) testing when ID not present.

Trace Level 3 – Vendor and Manufacturers C of C with typical Chemical and Physical reports. When C of C is not available and approved by the design organization, OES testing with hardness and conductivity, will be utilized to physically verify the temper/condition properties for aluminum alloys and hardness, to physically verify the heat treatment properties for steels.

Trace Level 2 – Vendor and Manufacturers C of C with actual Chemical and Physical reports.

Trace Level 1 - Vendor and Manufacturers C of C with actual Chemical and Physical reports. In-house Physical and Chemical Verification will also be performed after receipt in a manner chosen by applicable project.

**Non-Metallic Raw Materials:** Vendor C of C.

**External Fasteners meeting MSFC-STD-2594C:** Vendor and manufacturer C of C with manufacturer lot number identification. Physical, chemical, or mechanical test results and inspection reports (raw data). Fasteners will be procured from vendors and manufacturers listed on the MSFC Approved Fastener Manufacturers List (AFML).

**External Fasteners:** Vendor and manufacturer C of C with manufacturer lot number identification. Physical, chemical, or mechanical test results and inspection reports (raw data).



Internal Fasteners / Inserts: Vendor and Manufacturers C of C with manufacturer & lot number identification.

EEE Components / Wire, Etc.: Vendor & manufacturer C of C. with lot number identification.

Limited Shelf Life Items: Vendor & manufacturer C of C with shelf life data.

All other Purchased Items: Vendor C of C.

### **Customer Supplied Product**

Metallic Material: Requires MSFC IR tag or other means denoting acceptance by MSFC quality assurance and approved by project.

All other CSP: MSFC IR tag.

### **Receiving, In-Process and Final Verifications**

All receiving will be inspected and documented for conformance to the quality requirements as established above in accordance with SLI approved ISO9000 procedures.

All in-process and final inspections and verifications will be performed 100% and documented in accordance with SLI approved ISO9000 procedures.

### **Inspection Objective Evidence (Quality Records) Requirements**

Inspection objective evidence will be considered "quality records" as required by SLI approved ISO 9000 procedures. Any special objective evidence above these requirements must be relayed by the specific project. Each critical characteristic specified in design engineering documents will be recorded and verified by SLI quality inspection personnel as specified in SLI approved ISO 9000 procedures.

Questions concerning this list may be directed to the Mark Anderson at 4-2309.



4/23/03

SLI (QC-03)

To: David McGaha / ED37

From: Mark Anderson / SLI Quality

Subject: SLI Quality Requirements, Non-Quality Sensitive

The following standard quality requirements will be used by SLI for Non-Flight, Development, & Special Test Equipment hardware fabrication when no specific instructions are provided by MSFC. Acknowledgement of these requirements by the applicable Program is required prior to fabrication.

### **Procurement/Quality Requirements**

#### **Metallic Raw Materials**

Metallic raw materials are procured in manner consistent with MWI-8040.4 "Application Guidance for Traceability".

Trace Level 4 – Requires one of the following: Vendor C of C / Mill Marking / verification by Optical Emission Spectrometer (OES) testing when ID not present.

Trace Level 3 – Vendor and Manufacturers C of C with typical Chemical and Physical reports. When C of C is not available and approved by the design organization, OES testing with hardness and conductivity, will be utilized to physically verify the temper/condition properties for aluminum alloys and hardness, to physically verify the heat treatment properties for steels.

Trace Level 2 – Vendor and Manufacturers C of C with actual Chemical and Physical reports.

Trace Level 1 - Vendor and Manufacturers C of C with actual Chemical and Physical reports. In-house Physical and Chemical Verification will also be performed after receipt in a manner chosen by applicable project.

**Non-Metallic Raw Materials:** Vendor C of C.

**External Fasteners meeting MSFC-STD-2594C:** Vendor and manufacturer C of C with manufacturer lot number identification. Physical, chemical, or mechanical test results and inspection reports (raw data). Fasteners will be procured from vendors and manufacturers listed on the MSFC Approved Fastener Manufacturers List (AFML).

**External Fasteners:** Vendor C of C.

**Internal Fasteners / Inserts:** Vendor C of C.



EEE Components / Wire, Etc.: Vendor C of C. with lot number identification.

Limited Shelf Life Items: Vendor C of C with shelf life data.

All other Purchased Items: Vendor C of C.

### **Customer Supplied Product**

Requires MSFC identification.

### **Receiving, In-Process and Final Verifications**

All receiving will be inspected and documented for conformance to the quality requirements as established above in accordance with SLI approved ISO9000 procedures.

All in-process and final inspections and verifications will be performed 100% and documented in accordance with SLI approved ISO9000 procedures. Each critical characteristic specified in design engineering documents will be recorded and verified by SLI quality inspection personnel as specified in SLI approved ISO 9000 procedures.

### **Inspection Validation Requirements**

Inspection validations will be considered "quality records" as required by SLI approved ISO 9000 procedures. Any special validation above these requirements must be relayed by the specific project.

Questions concerning this list may be directed to Mark Anderson at 4-2309.