

REVISIONS

Letter	ECO No.	Description	Checked	Approved	Date
A	64-189	INITIAL RELEASE			

NAME	DATE	MASSACHUSETTS INSTITUTE OF TECHNOLOGY CENTER FOR SPACE RESEARCH			
Drawn: BRIAN KLATT	1/9/92	<h1 style="margin: 0;">CSR AUDIT SYSTEM</h1>			
Checked: W. F. MAYER	3/2/92				
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CSR AUDIT SYSTEM

1.0 SCOPE

This procedure establishes the frequency, documentation, and items subject to audit on MIT/CSR Projects.

2.0 APPLICABLE DOCUMENTS

None

3.0 GENERAL

3.1 RESPONSIBILITY

All audits will be performed under the auspices of the Performance Assurance Manager. Normally an Inspector, Quality Engineer, or the Performance Manager will perform the audits. This does not limit audits from being performed by persons outside of Performance Assurance. Suppliers of Standard and Qualified parts and materials are under the surveillance of the Department of Defense and thus will not be audited by MIT.

3.2 SCHEDULE CRITERIA

Audit frequency is dependent upon the criticality of the activity. Due to the nature of experimental research projects, i.e. usually one of a kind, volume production surveillance at suppliers is not warranted. Therefore, audits at suppliers will generally be limited to visits when pre-seal or source inspection is otherwise scheduled. An unscheduled audit may be performed if:

- a. The quality or reliability of the product changes
- b. Any organization fails to take corrective action
- c. The product is the subject of an Alert or Problem Advisory
- d. The sponsor requests an audit
- e. Fabrication facilities are moved
- f. Substantial Quality Assurance changes are implemented

3.3 PROCEDURE

- 3.3.1 The auditor randomly performs a detailed, step-by-step evaluation of the area, or product that has been selected for audit. In addition, he/she may audit compliance with specifications, processes, and/or procedures.

- 3.3.2 During an audit, the auditor evaluates conformity with, and effectiveness of, organizational procedures.
- 3.3.3 An audit report is generated for each audit performed, documenting the requirements and results.
- 3.3.4 Nonconformity found by the auditor is reported in writing to the responsible area supervisor on a corrective action report.
- 3.3.5 The audit report is entered in the audit report log and filed in the audit files. A complete history of all audits is maintained in the audit files.
- 3.3.6 Audit summaries are reported in the Performance Assurance section of the project monthly status report.

4.0 MIT INTERNAL AUDITS

4.1 CONFIGURATION MANAGEMENT SYSTEM

Items for audit may include, among others, the following:

- a. Required signatures on Engineering Change Orders (ECOs)
- b. Drawings and Specifications versus ECO
- c. Frequency: semiannually

4.2 PROCUREMENT SYSTEM

Items for audit may include, among others, the following:

- a. Parts and Materials List versus Purchase requisition
- b. Quality signature on each request for flight hardware
- c. Three required stamps on each purchase order
- d. Frequency: semiannually

4.3 FABRICATION AREA

Items for audit may include, among others, the following:

- a. Cleanliness, food, smoking, traffic, etc.
- b. Calibration of tools and test equipment
- c. Certification of Technicians and Inspectors
 - 1. soldering
 - 2. wiring and harnessing
 - 3. crimping and wirewrap

- 4. conformal coating and staking
- d. Electrostatic Discharge (ESD) protection procedures and equipment
- e. Check that materials with a limited shelf life have not exceeded expiration date.
- f. Check grade and type on chemicals, solvents, and gasses
- g. Frequency: quarterly during the build process

4.4 FABRICATION DOCUMENTATION

Items for audit may include, among others, the following:

- a. Assembly Work Order (AWO)
 - 1. completeness
 - 2. correct revision on drawings, specifications, and procedures used for fabrication
- b. Assembly Fault Log
- c. Kit Tag
- d. Potting Log
- e. Configuration Traceability List
- f. Technician signatures and dates
- g. Inspectors signatures or stamps and dates
- h. Frequency: quarterly during the build process

4.5 INSPECTION DOCUMENTATION

Items for audit may include, among others, the following:

- a. Incoming Inspection
 - 1. inspection report
 - 2. status tag
 - 3. shelf life tag
 - 4. reject tag
- b. Inprocess Inspection
 - 1. AWO inspection points
 - 2. AWO GSI MIPs
- c. Frequency: quarterly during the build process

4.6 SOFTWARE

Items for audit may include, among others, the following:

- a. Compliance with the Software Standards for CSR
- b. Software configuration control
- c. Nonconformance reporting
- d. Corrective action
- e. Compliance with the Test Plan for CSR Software
- f. Frequency: semiannually

5.0 SUPPLIERS AND SUBCONTRACTORS

5.1 SUPPLIERS OF QUALIFIED ITEMS

The United States Department of Defense provides on-site surveillance of suppliers of parts, materials and hardware which is DOD qualified and NASA standards. As such, MIT will not audit these suppliers.

5.2 SUPPLIERS OF NONQUALIFIED OFF-THE-SHELF ITEMS

Items for audit may include, among others, the following:

- a. Test equipment calibration
- b. Configuration control
- c. Inspection documentation
- d. Fabrication documentation
- e. Purchase order compliance
- f. Fabrication area (see 4.3 above)
- g. Frequency: MIT will audit this category of supplier during regularly scheduled visits for pre-seal or source inspection.

5.3 SUBCONTRACTORS

Items for audit may include, among others, the following:

- a. Same as 5.2 above
- b. Frequency: semiannually during the period of performance

6.0 AUDIT RECORDS

All audit records are maintained by Performance Assurance. The audit log is a notebook listing audits performed. Audit reports are filed chronologically.

7.0 FORMS

- a. Audit report
- b. Audit log
- c. Corrective Action Request (internal)
- d. Supplier Corrective Action Request
- e. Corrective Action Request Log

Massachusetts Institute of Technology
Center for Space Research
 Cambridge, Massachusetts 02139

AUDIT REPORT

Audit Area/ Supplier:				
Audit Area Supervisor/Contact:				
Audit Type				
Process _____		Test _____	Procedure _____	
Product _____	Area _____	Other _____		
AUDIT ITEM	REQUIREMENT	RESULTS	confor- mance	noncon- formance
Audit Performed by:			Date	
SUMMARY				
Acceptable _____ Not Acceptable _____		Corrective Action Required? Yes _____ No _____		

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CORRECTIVE ACTION REQUEST

TO:	Request Date _____ Audit dated _____		
Area, Process, Drawing, Operation, or Part Affected:			
Name	Number	Serial Number	
DESCRIPTION OF CONDITION:			
ORIGINATOR	DATE	PERFORMANCE ASSURANCE MANAGER	DATE
<p style="text-align: center;"><u>RECIPIENT COMPLETE THIS SECTION</u></p> Explanation of cause of discrepancy and corrective action taken to prevent recurrence			
Effectivity	SIGNATURE		DATE

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SUPPLIER CORRECTIVE ACTION REQUEST

SUPPLIER:	Purchase Order Number _____.
	Part Number _____.
	Nomenclature _____.
	Audit dated _____.

THE MATERIAL RECEIVED OR AUDIT REFERENCED ON THIS REPORT WAS FOUND TO CONTAIN THE DISCREPANCY LISTED BELOW. IT IS REQUESTED THAT POSITIVE CORRECTIVE ACTION BE TAKEN AND A REPORT OF YOUR FINDINGS AND INTENTIONS BE MADE TO THE MANAGER OF PERFORMANCE ASSURANCE WITHIN TWO WEEKS AFTER RECEIPT OF THIS REQUEST.

DISCREPANCY:

ORIGINATOR	DATE
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SUPPLIER COMPLETE THIS SECTION

Explanation of cause of discrepancy and corrective action taken to prevent recurrence

Effectivity		
AUTHORIZED SIGNATURE	TITLE	DATE