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**Massachusetts Institute of Technology
 Kavli Institute for Astrophysics and Space
 Research (MKI)**

**Nonconforming Material and Nonconforming
 Material Reports**

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Preface

This document was taken from LSE Specification QAP-F-601 dated 09/28/90.

Revision A was the Initial Release written by Brian Klatt.

Revision B issued a General Review on 03/09/06.

Revision C issued a Corrected format and clerical errors on 09/17/13.

Revision D issues an updated format and general editorial update on 07/16/14.

Revision E Issued to define major and minor non-conformances.

1.0 Scope

This document describes the procedure used in determining the disposition of nonconforming items associated with MKI parts, materials, processes, or equipment. The documentation required on nonconforming flight material and hardware is defined, as identified by the sponsored project.

2.0 Applicable Documents

Not identified.

3.0 Failure Reporting

The reporting of failures, although closely related, is not a subject of this procedure.

4.0 Material Review Board

The MKI Material Review Board (MRB) consists of the Performance Assurance Manager, the appropriate Design or Test Engineer, and the System Engineer, as a minimum. This board may be augmented with knowledgeable individuals who are intimately involved with a specific discrepancy. The GSE Engineer, Government Representative, Project Engineer, Project Manager, and Manufacturing Manager are examples of such augmentation.

5.0 Material Disposition

5.1 Initial Disposition

Initial material disposition will be performed by Quality Assurance and discrepant items will be segregated. MRB will review all non-conformances and assign one of the following dispositions:

- **Rework to specification:** Nonconforming material that can be reworked without adverse effect on safety, performance, interchangeability, reliability, or quality may be dispositioned for rework. Material that has been satisfactorily reworked is returned to the normal flow of material.
- **Return to the Vendor (RTV):** Purchased nonconforming material may be dispositioned "Return to Vendor". This is done when the discrepancy is clearly the suppliers responsibility and MIT rework, scrap, or MRB action are not recommended.
- **Scrap:** Nonconforming material is scrapped when the item is unusable on flight projects and the dollar value is low. Scrap metal is identified and segregated from all other material.
- **Material Review Board (MRB):** Nonconforming material not recommended for disposition as "rework to specification", "RTV", or "scrap" is referred to the Material Review Board. If there is a question or disagreement regarding disposition of any material, it is referred to the MRB.

Rework to specifications, return to vendor, and scrap are considered minor nonconformances. Repair and use as-is are defined as major nonconformances.

5.2 Final Disposition

The MRB will make the final disposition of non-conforming material submitted to the board. The decisions of the MRB shall be unanimous or the matter will be referred to the sponsoring Project Office for adjudication. The MRB may disposition hardware as above, or may additionally specify the repair of the hardware, or determine it to be suitable for “use-as-is”.

6.0 Documentation

A Nonconforming Material Report (Figure 7-1) will be completed for all nonconformances of flight hardware. The decisions of the Material Review Board shall be supported by records of all cases submitted for action, as documented in the nonconforming material report. Figure 6-1 details the distribution of nonconformance reports. The “official records” of all nonconformance reports are the QA File/MRB File, maintained by Mission Assurance.

6.1 Figure 6-1

Disposition	To Vendor	QA File/MRB File <u>1</u> /	With AWO	With Bonded Stock <u>2</u> /
RTV	X	X		
Scrap		X		
Rework		X	X	X
To Spec.				
Repair		X	X	X
Use As Is		X	X	X

- 1/ The Quality Assurance files of nonconformance reports include the reports of the Material Review board.
- 2/ Nonconformance reports for incoming material (other than scrap and RTV) are kept with the item in bonded stores. When the item is kitted, the nonconformance report is kept with the Assembly Work Order (AWO).

7.0 Nonconforming Material Report

7.1 Instructions

7.1.1 Entries

- A. Incoming/Receiving personnel will make entries in blocks 1 through 4 and 6 and 8 through 18 when purchased material is found to depart from specification.
- B. Fabrication, Quality Assurance, or Engineering personnel will make entries in the blocks 1 through 7 and 16 through 18 when work in process or final assemblies are found to depart from specification.
NOTE: Block 20 should be completed as soon as the information becomes available.
- C. The fabrication supervisor shall complete Block 24 to describe the necessary rework operations. Block 23 must be signed by Engineering to approve the rework plan.
- D. Members of the Material Review Board (MRB) shall complete blocks 21 and 22 for any items submitted to MRB for disposition.

7.1.2 Detailed Instructions

The following details the entries for blocks 1 through 27 on the Nonconforming Material Report, Figure 7-1.

Block 1	<u>Part Description</u>	Enter the name of the part or assembly for which the nonconformance is being written
Block 2	<u>Part No. Rev.</u>	Enter the complete number and revision of the part, subassembly, or assembly.
Block 3	<u>Originated by & Date</u>	The name of the initiator of the nonconformance report and the date.
Block 4	<u>Serial/Lot No.</u>	Enter the serial number of the part, subassembly, or assembly. In cases of unsterilized items, the lot or batch number may be used. If neither are applicable, enter N/A.
Block 5	<u>Operation Number</u>	Enter the operation number from the Assembly Work Order (AWO) wherein the discrepancy was discovered, if applicable.
Block 6	<u>Project Name</u>	Enter the name of the project from the AWO or purchase order account number.
Block 7	<u>Quality Assurance & Date</u>	The QA individual will review the form and signify his/her approval of the necessary contents by signature and entering the date.
Block 8	<u>Suppliers Name/ Location</u>	Enter the manufacturer's name and location, if known, as it appears on the purchase order or packing list.
Block 9	<u>Quantity Received</u>	Enter the quantity received as identified on the packing list or from the actual receiving count.
Block 10	<u>Sample Size</u>	Enter the size of the sample taken if applicable.
Block 11	<u>100%</u>	Check this block if 100% test or inspection was performed.
Block 12	<u>P.O. Number</u>	Enter the purchase order number.
Block 13	<u>Requisitioner</u>	Enter the requisitioner's last name.
Block 14	<u>Quantity Accepted</u>	To be filled in upon completion of inspection of the lot.
Block 15	<u>Quantity Rejected</u>	To be filled in upon completion of inspection of the lot.
Block 16	<u>Item</u>	Designate an item number for each discrepancy.
Block 17	<u>Quantity</u>	Enter the number of parts, subassemblies, or assemblies applicable to each discrepancy.
Block 18	<u>Discrepancy</u>	Enter the description of the nonconformance. Be brief but be specific. Show the tolerance or specification limit. Identify drawing or specification requirement.
Block 19	<u>Disposition</u>	To be used by authorized individuals making dispositions for discrepancies reported in block 18.
Block 20	<u>Corrective Action Statement</u>	Identify cause of discrepancy(s) and action(s) taken to prevent recurrence. The statement should be provided by individual deemed responsible for discrepancy(s) reported.
Block 21	<u>MRB Approval</u>	Sign-off by appropriate Material Review Board Members.
Block 22	<u>Material Review Disposition</u>	Indicate disposition of material referred to MRB by item per disposition.
Block 23	<u>Preliminary Review/Action</u>	The Engineer initially making signs and dates in this block. (Approval of Instructions in Block 24).

Block 24	<u>Operation Instruction</u>	All routing and detailed rework or repair instructions should be recorded here. Instructions normally provide for re-inspection or follow-up review by MRB.
Block 25	<u>Operator</u>	Name of the individual performing the task and the date.
Block 26	<u>Inspection</u>	Signature or stamp of QA Inspector approving work performed on each individual item.
Block 27	<u>QA Close Out</u>	Signature or stamp of QA Inspector performing inspection and/or review of documentation verifying that all specified reprocessing is complete.
Block 28	<u>N M R Serial Number</u>	Enter the sequential serial number, which is obtained from the nonconforming material report log book when the NMR is initiated.

Figure 7-1 Nonconforming Material Report

NONCONFORMING MATERIAL REPORT

MASSACHUSETTS INSTITUTE OF TECHNOLOGY						N M R		
Kavli Institute for Astrophysics and Space Research						SERIAL NUMBER 28		
PART DESCRIPTION <i>1</i>			PART NO. REV. <i>2</i>		ORIGINATED BY <i>3</i>		DATE	
SERIAL/LOT NO <i>4</i>		OPERATION NO <i>5</i>	PROJECT NAME <i>6</i>		QUALITY ASSURANCE <i>7</i>		DATE	
SUPPLIER NAME/LOCATION <i>8</i>					QTY REC'D <i>9</i>	SAMPLE SIZE <i>10</i>	100%	
							<i>11</i>	
P.O. NUMBER <i>12</i>			REQUISITIONER <i>13</i>		LOT DISPOSITION		QTY ACCEPT <i>14</i>	
							<i>15</i>	
ITEM	QTY	DISCREPANCY (BRIEF BUT SPECIFIC; INCLUDE TOL. OR SPEC. LIMIT)				DISPOSITION		
<i>16</i>	<i>17</i>	<i>18</i>				<i>19</i>		
CAUSE/DIAGNOSIS & CORRECTIVE ACTION (ITEMIZE):								
<i>20</i>								
<i>22</i>								
MRB APPROVAL <i>21</i>				MATERIAL REVIEW DISPOSITION				
ENGINEERING		DATE		RTV	ITEM	RWK TO SPEC	ITEM	
QUALITY ASSURANCE		DATE		USE AS IS	ITEM	REPAIR	ITEM	
GOVERNMENT REPRESENTATIVE		DATE		NO REJ.	ITEM	*INVALID OR NOT RELEVANT TO ITEM		
PRELIMINARY REVIEW/ACTION (SIGNATURE & DATE): <i>23</i>								
QTY	OPERATION INSTRUCTION					OPER	DATE	INSP
	<i>24</i>					<i>25</i>		<i>26</i>
Q A CLOSE OUT AND DATE <i>27</i>								

Nonconforming Material Report Log

REPORT SERIAL NUMBER	DATE OPENED	PART, SUBASSEMBLY, OR ASSEMBLY NAME	PART NUMBER OR DRAWING NUMBER	DATE CLOSED
001				
002				
003				
004				
005				
006				
007				
008				
009				
010				
011				
012				
013				
014				
015				
016				
017				
018				
019				
020				
021				
022				
023				
024				

Massachusetts Institute of Technology
Kavli Institute for Astrophysics and Space Research
(MKI)

SUPPLIER CORRECTIVE ACTION REQUEST

CAR Number _____ Page _____ of _____

TO:	MIT PO Number Shipper Number Part Number Nomenclature MIT NMR Number	
The materials or parts referenced on this report were found to contain the discrepancies listed below. It is requested that you investigate and report your findings within two weeks. Positive corrective action is requested. yes ___ no ___		
Discrepancies:		
Originator Date	Quality Engineer Date	
<p align="center"><u>Supplier Complete this Section</u></p> Explanation of cause of discrepancies and corrective action taken to prevent recurrence.		
Authorized Signature	Title	Date