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CHANGE CONTROL SYSTEM

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CHANGE RECORD

ISSUE	DATE	PAGES CHANGED	COMMENTS
1	17 July 1998	All new	
2	29 April 1999	1 & 4	Addition of Review Board members in par 5.6
3	22 August 2002	3	Par 3, clarification of the CIDL. Paras 4.3 and 4.4 added
		7, 8, 9 &10	Blank forms added for reference.

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1. INTRODUCTION

Many projects within MSSL are required to operate a change control procedure. The purpose of this document is to define a standard procedure that should be suitable for most projects.

2. RESPONSIBILITY

The responsibility of operating a change control procedure for a project shall be delegated to one senior member of the project team. Usually it will be the person responsible for Product Assurance activities.

3. START OF CONFIGURATION CONTROL

The start point for configuration control will vary from project to project and whilst certain documents should be controlled from day one, others will be added as the project develops and becomes more clearly defined. It is the role of the project manager to ensure that the necessary documents to be controlled are clearly identified. One way to achieve this is to have a Configuration Item Definition List (CIDL). All documents listed on the CIDL must be under configuration control. This document will also act as a build status definition for both hardware and software.

4. TYPES OF CHANGES

4.1 Engineering Change Requests (ECR)

Changes to controlled drawings can be made via an ECR when it is a desirable change, it does not detract from the performance specification of the product and does not affect any external interfaces.

4.2 Non Conformance Reports (NCR)

A non conformance report (which can be classified as either Major or Minor), shall be raised against any configured document where the product deviates from its definition. A Major NCR relates to a failure to comply with the requirements as defined in a contractually accepted specification. Other NCRs are classified as Minor.

4.3 Request for Deviation (RFD)

For planned departures from requirements or design, a request for deviation shall be submitted to the contracting organisation for approval. It shall describe the extent to which the product will not fulfil the defined requirements.

4.4 Request for Waiver (RFW)

Request for waivers result from unplanned departures from design through manufacturing or software coding errors. This departure should initiate the generation of an NCR which in turn will cause the convening of a Material Review Board. When the disposition from this review board is to "use as is" or "repair"/"patchcode", then a request for waiver shall be generated which shall describe the departure from the design. This shall then be submitted to the contracting organisation for approval.

5. OPERATION for ECRs and NCRs

Each project shall generate a data base for logging and controlling the change notes that will be generated and a hard copy file shall be kept of all the masters of the ECRs and NCRs, together with the action copies, as described below.
The detailed operating procedure shall be as follows:

5.1 When ever a change is to be requested the appropriate form shall be filled in. Copies of both ECR and NCR forms are appended to this procedure, together with instructions for completing them.

5.2 On receipt of the submitted form, the change shall be entered into either the NCR, or ECR database and a reference number shall be allocated.

5.3 If all the data from the submitted change can be entered into the database (sketches and drawings are a problem), then print out a copy which will become the Master Copy (M/C) and staple the original behind it. Otherwise, file the originally submitted change form as the M/C, after recording the key details on the database.

5.4 Place the M/C in a "Yet to be reviewed" section of a hard copy file.

5.5 From the database, print a copy of the Query listing all received changes from the relevant database and place it at the front of the relevant section in the hard copy file (either NCR's or ECR's).

5.6 Convene a Review Board and agree the actions. Record on the M/C the members of the review board. Write the name of the person(s) actioned, together with the action(s), on the M/C. Typically a Review Board would consist of at least 3 members, the Project Manager, the Quality Engineer and the relevant Specialist Engineer.

5.7 Take a copy for each person actioned and make a highlighted (coloured) mark against the actioned person on each of these copies. Give these copies to the actioned person(s) and request their return once the action has been completed.

5.8 Once all the actions have been distributed, move the M/C to the relevant section in the hard copy file (i.e. NCR or ECR).

5.9 As the action copies are returned completed, initial and date them and file them with their M/C's in the relevant section of the file.
NB For software actions, reference to the version of code in which the action has been taken should be recorded on the action copy.

5.10 When all the completed action copies for a particular change have been received, sign off the M/C as closed and add 'closed' in the relevant database.

6. OPERATION for RFDs and RFWs

Each project shall generate a data base for logging and controlling the RFDs and RFWs that are generated and a hard copy file shall be kept of all the masters of these documents.
Once generated, these documents shall be forwarded to the relevant project authority for approval.
On approval, a signed copy of the document shall be stored in the relevant file and reference to the document must be included in the Acceptance Data Package for that project.

APPENDIX 1

MSSL ENGINEERING CHANGE REQUESTS

TO RAISE AND PROCESS AN ENGINEERING CHANGE REQUEST

1. Take a blank ECR form and fill in the fields down to and including "Proposed Change", with the exception of "MSSL-ECR". Should the proposed change involve a change in quantity and/or type of flight components, then a marked up copy of the Bill Of Materials should accompany the ECR.

2. Submit the form to the administrator, who will do the following:

    2.1 Record the ECR on the Project data base and allocate its reference number.

    2.2 Identify a master copy; this may be the originally submitted form or a printed copy from the data-base. This will be reviewed by the relevant Review Board which will agree a suitable disposition.

2.3 Record the disposition on the master copy and allocate specific actions to named individuals. Make a photocopy for each of the named people and file the master copy in the Project office.

2.4 Distribute the photocopies for action. The person who completes the action should sign and date the form and also ensure that the change has been checked by the appropriate authority (if applicable), who is also required to sign the form.

2.5 It is essential for PCBs that the Design Definition Document and any affected schematics, drill plots, assembly drawings, parts lists and bill of materials exist that reflect the status of configured PCBs at any time.

3. Return the completed form to the administrator.

4. The administrator to sign the Master Copy as "closed", when the agreed action(s) has been carried out.

APPENDIX 2

MSSL NON-CONFORMANCE REPORTING

TO RAISE AND PROCESS A NON-CONFORMANCE REPORT

1. Take a blank NCR form and fill in the fields down to and including "Proposed Disposition/Corrective Action", with the exception of "MSSL-NCR" and "Major/Minor". Should the proposed change involve a change in quantity and/or type of flight components, then a marked up copy of the Bill Of Materials should accompany the NCR.

2. Submit the form to the administrator, who will do the following:

   2.1 Record the NCR on the Project data base and allocate its reference number.

   2.2 Identify a master copy; this may be the originally submitted form or a printed copy from the data-base. This will be reviewed by the relevant Review Board which will agree a suitable disposition.

2.3 Record the disposition on the master copy and allocate specific actions to named individuals. Make a photocopy for each of the named people and file the master copy in the Project office.

2.4 Distribute the photocopies for action. The person who completes the action should sign and date the form and also ensure that the change has been checked by the appropriate authority (if applicable), who is also required to sign the form.

2.5 It is essential for PCBs that the Design Definition Document and any affected schematics, drill plots, assembly drawings, parts lists and bill of materials exist that reflect the status of configured PCBs at any time.

3. Return the completed form to the administrator.

4. The administrator to sign the Master Copy as "closed", when the agreed action(s) has been carried out.

MSSL PROJECT   Engineering Change Request

ECR: [   ]   **Item:** [   ]

Raised By: [   ]   **Drawing No:** [   ]

Date Raised: [   ]   **Item Serial No:** [   ]

Model: [   ]

Proposed Change (With Reason):

[   ]

Change Actions:

[   ]

Action Taken By: [   ]   **Checked By:** [   ]

Date Action Taken: [   ]   **Closed:** [   ]

Other Comments:

[   ]

MSSL PROJECT NON CONFORMANCE REPORT

NCR: [   ]   **Item:** [   ]

Raised By: [   ]   **Drawing No:** [   ]

Date Raised: [   ]   **Item Serial No:** [   ]

Non Conformance (likely cause/description/where and when seen):   **Model:** [   ]

[   ]
[   ]
[   ]
[   ]

Major: ☐   **Minor:** ☐

Proposed Disposition/Corrective Action:

[   ]
[   ]
[   ]
[   ]

Action Taken By: [   ]   **Checked By:** [   ]

Date Action Take [   ]   **Closed:** [   ]

Other Comments:

[   ]
[   ]

MSSL PROJECT REQUEST FOR DEVIATION

R F Deviation Serial No: [   ]   **Issue:** [   ]   **Date Raised:** [   ]

Raised By: [   ]   **Part Name:** [   ]

Project: [   ]   **Drawing No:** [   ]

Doc From Which Deviation is Requested: [   ]

Model: [   ]   **Applicable NCR:** [   ]

Details of Deviation and Reason for Application:

[   ]

Proposed Recovery Action:

[   ]

Approval Need Date: [   ]   **Point of Contact:** [   ]

Project Authorisation:: [   ]   **Date:** [   ]

MSSL PROJECT REQUEST FOR WAIVER

Waiver Serial Number: [   ]   **Date raised:** [   ]

Raised By: [   ]   **Part Number:** [   ]

Project: [   ]   **Drawing Number:** [   ]

Item Serial Number: [   ]   **Applicable NCR:** [   ]

Document From Which Waiver is Requested: [   ]

Effect on Cost, Schedule, Quantity, Interface, Performance:

[   ]

Description of Waiver:

[   ]

Justification/Reason:

[   ]

Major ☐   **Minor** ☐

Approval Need Date: [   ]   **Point of Contact:** [   ]

Authorised: [   ]   **Date:** [   ]