JSP 886
THE DEFENCE LOGISTICS SUPPORT CHAIN MANUAL

VOLUME 5
TECHNICAL SUPPORT MANAGEMENT

PART 2A
CONFIGURATION MANAGEMENT
LAND MODIFICATIONS

MINISTRY OF DEFENCE

THE MASTER VERSION OF JSP 886 IS PUBLISHED ON THE DEFENCE INTRANET.

FOR TECHNICAL REASONS, EXTERNAL LINKS ON THIS INTERNET VERSION HAVE BEEN REMOVED.

VERSION RECORD		
Version Number	**Version Date**	**Description**
1.0	12 Nov 07	Initial Issue.
1.0a	23 Apr 08	Contact details amended.
1.1	2 Sep 09	Correction to Chap 7 Para 5d. Contact details updated.
1.2	16 Dec 09	Addition of Post Design Services content.
1.3	25 Jan 10	Changes to Ownership and Points of Contact

Contents

Contents 2
Figures 3

CHAPTER 1: GENERAL 4
INTRODUCTION 4
Configuration Management (CM) 4
Configuration Change Management (CCM) 5
Configuration Change Board (CCB) 6
Configuration Change Committee (CCC) 6
Local Technical Committees (LTC) 6
DESIGN NOMENCLATURE 6
PROVENANCE AND AUTHORITY 7
Sponsor 7
Authority 7
Applicability 7
Document Provenance 7
Points of Contact 7

CHAPTER 2: CONCEPT AND PROPOSAL 9
INTRODUCTION 9
IDEAS FOR MODIFICATIONS 9
URGENT OPERATIONAL REQUIREMENTS (UOR) 10
PROPOSALS 10
PROPOSAL DECISION 10
POST MEETING ACTION 11
POST DESIGN SERVICES 11
Post Design Services Definition 11
PDS Functions 11
ANNEX A: MODIFICATION PROPOSAL FORM (MPF) 13
Completion Guide for the Modification Proposal Form 13

CHAPTER 3: ASSESSMENT 20
AFTER PROPOSAL APPROVAL 20
MODIFICATION COMMITTEE MEETING - INITIAL APPROVAL 20
Attendance 21
Meeting Type 21
Agenda 22
Multiple Related Modifications 24
CATEGORISATION OF MODIFICATIONS 24
Production Classification 24
Special Order Only (SOO) 25
In-Service Classification 25
EFFECT OF MODIFICATION ON SPARES 26
SOFTWARE COMMITTEES 26
MODIFICATION BRIEF SHEET 27

CHAPTER 4: DEMONSTRATION 28
DESIGN DEVELOPMENT 28
DEMONSTRATION 28
Trial Installation (TI) 28
Proof Installation (PI) 29

CHAPTER 5: MANUFACTURE 31
GENERAL 31
MODIFICATION COMMITTEE MEETING - FINAL APPROVAL 31
MODIFICATION DESIGN 32
Modification Kits 32
Modification Embodiment 32
MODIFICATION LEAFLET 33
Introduction 33
Promulgation 33
General Instructions 34
Drawings 34

Security Marking....34
Service Modification Leaflet....35
TECHNICAL DOCUMENTATION....35
ANNEX A: MODIFICATION LEAFLET....36
Completion Guide....36

CHAPTER 6: IN-SERVICE....43
Amendments to a Modification Leaflet....43
Post Implementation Assessment....43
Retention of Records....43
Removal of Designer Modification....43
Embodiment Review....44
Fault Reporting....44

CHAPTER 7: LAND IN-SERVICE LOCAL MODIFICATION....45
Introduction....45
Applicability....45
Limitations....45
Safety Considerations....46
Responsibilities....47
Procedure....48
Land In-Service Local Modification Leaflet....48
Embodiment of Land In-Service Local Modification....48
Modification Removal....49
Cancellation....49
Formal Incorporation of Modification....50
Recording of Land In-Service Local Modifications....50
Funding and Financial Approval....50

CHAPTER 8: SUPPLY AND FITTING OF MODIFICATIONS....51
Introduction....51
Priority....51
Fitting of Modification Kits....51
Supply of Modification Kits....51
Control of Modification Kits....52
Transfer or Disposal of an Equipment....52
Accounting for Modification Kits....52

Figures

Figure 1: Modification Proposal Form (MPF)....13
Figure 2: Guidance notes for completing the MPF....14
Figure 3: Specimen Modification Committee Agenda....22
Figure 4: Modification Brief Sheet....27
Figure 5: Trial or Proof Installation Report....29
Figure 7: Standard Layout - Modification and Information Leaflets....38
Figure 8: Land In-Service Local Modification Proposal Form....46
Figure 9: Land In-Service Local Modification Flowchart....49

CHAPTER 1: GENERAL

INTRODUCTION

1. The Project Team (PT) is responsible for managing the Configuration Change Management (CCM) for items of their concern. The PTL is to establish:

a. Configuration Change Board (CCB) to give direction on Configuration Management and CCM within the PT.

b. Configuration Change Committee (CCC), commonly know as a Modification Committee (MC), to consider change proposals, the effects on the Safety Case, initial and final approvals, and the embodiment of the changes to an equipment.

2. The PT is to ensure that finance is in place for the development and should refer to local financial guidance for the production and embodiment of modifications.

3. The purpose of this document is to describe the configuration management procedures and processes that lead to formal approval, embodiment and recording of a configuration change within the Land environment.

Configuration Management (CM)

4. Configuration Management (CM) provides a key discipline in the through-life management of defence materiel. It is the cornerstone of equipment safety, ensuring that the various parts of a complete equipment, including spares, test equipment, tools, ancillaries, software and support documentation, are and remain compatible.

5. All equipment[1] that is owned or operated by the UK MOD is to be procured and delivered to a known Configuration and recorded in the Configuration Status Record (CSR), alternatively known as the Master Record Index (MRI). Details of the contractual CM requirements are contained in DEFSTAN 05-57.

6. Routinely changes are made to the Configuration Status of equipments to improve safety, operational efficiency, capability, reliability, maintainability, ease of production or to overcome obsolescence. All equipments may change and the CSR is to be formally amended to show these changes. These changes to the equipment configuration must be actively managed to ensure that the operators of the equipment are aware when a change has occurred. There are two aspects to this:

a. **Effecting the change**. This involves identifying the required change, designing the changes, producing the items and documentation to effect the change, implementing the change on the equipment(s) and monitoring the effect of the change on the equipment. This process is formally known as Configuration Change Management; colloquially known in-service as Modification or Amendments & Alterations Process. It is this process that is recorded in this document.

b. **Recording the change**. The details and approval of the modification and embodiment of the modification on the equipment(s) need to be recorded:

(1) **Recording Modification Approval.** The details of the modification, category, applicability and approval details are to be recorded on the CSR.

[1] Equipment is an inclusive term that covers platform, system and component.

Normally the details will be maintained on the CSR by the Design Authority (DA). The CSR is not normally used to record the embodiment, or removal, of the modification on individual equipments.

(2) **Recording Modification Embodiment.** The recording of embodiment, and removal, of the modification is on an equipment by equipment basis and is normally recorded on individual equipment documents and equipment Modification Record Plates, colloquially known as Mod Strike Plates.

Configuration Change Management (CCM)

7. **Modification**. A modification is an approved configuration change to an equipment that arises after the production drawings have been sealed. The development and adoption processes for a modification are iterative and the sequence of events within the process may be varied to suit requirements. The recognised types of modification are:

a. **Designer Modification (DM)**. A modification that provides a permanent change to the build standard of materiel. Changes are incorporated into technical publications and the modification is fully supported with spares and special tools, etc. The change is formally incorporated in the Configuration Status Record. Designer Modifications are routinely known as 'Modifications'.

b. **Land In-Service Local Modification (LISLM)**. A modification that is normally proposed by a unit but needs to be endorsed by the Project Team (PT) before it can be incorporated into an equipment. The change is not formally incorporated in the CSR but details may be notified to the Design Authority (DA) at the discretion of the Modification Committee. The PT retains responsibility for the modification unless it is superseded by a Designer Cover Modification. A LISLM is a modification that can be produced and embodied, within the resources available at the embodying unit, on Land environment equipment. LISLM are not to be raised for:

(1) Equipment supplied and / or maintained by agencies outside the MOD.

(2) Specialist signal equipment or line replaceable unit (LRU) forming part of any radio, radar or navigation system.

c. **Designer Cover Modification**. A Designer Cover Modification is used to change a LISLM into a permanent change, to update publications and to ensure long term provisioning of spares. A Designer Cover Modification incorporates details of the LISLM in the equipment CSR.

(1) Where the LISLM satisfies the design standards that the DA is contracted to maintain, the DA may adopt the LISLM design and produce a Designer Modification which 'incorporates' the modification.

(2) Where the LISLM does not satisfy the contracted design standards, the DA will produce a Designer Modification which fulfils the required outcome of the superseded LISLM. This will be at a cost to the PT.

8. **Embodiment**. Once modification kits are available, expeditious modification embodiment is of prime importance to achieve maximum operational capability, reliability and maintainability. Modification embodiment is to be actively managed by the PT.

9. **Mark Number**. A substantial change of design, which materially affects the operation or function of an equipment, or the interchangeability of assemblies, may be treated as the introduction of a new equipment mark number and / or part number for equipment, and is authorised by the appropriate modification committee.

10. **Safety**. Safety implications of the modification are to be discussed, assessed and recorded at the initial and subsequent CCB. Where there are concerns about the safety aspects of a modification a Risk Assessment is to be prepared. The Risk Assessment is to be assessed against, and integrated into, the whole equipment Safety Case. Where appropriate JSP 815: *Defence Environment and Safety Management* and JSP 454: *MOD System Safety and Environmental Assurance for Land Systems* should be consulted.

Configuration Change Board (CCB)

11. A Configuration Change Board (CCB) is responsible to the PTL for supervising Configuration Management (CM) and generic modification policy across the range of equipment and equipment groups managed by the PT. The procedures for a particular PT CCB, and its relationship with its subordinate Configuration Change Committee(s) (CCC) and Local Technical Committee (LTC), will be defined by the PTL. The CCB will agree the original and amendments to equipment or equipment group Configuration Management Plan (CMP). Further information on CCBs can be found in DEFSTAN 05-57.

Configuration Change Committee (CCC)

12. A Configuration Change Committee (CCC) should be established by a PT during the early development stage of an equipment project, and will probably last the life of the equipment. CCCs are responsible for reviewing change proposals to equipment specification or design which could significantly affect performance, reliability, sustainability, cost or timescales. CCC decides which change proposals will be developed and of these, which will be adopted and embodied. Change proposals that are adopted and embodied are normally referred to as modifications. CCCs are routinely referred to as Modification Committees (MC).

Local Technical Committees (LTC)

13. The purpose of a Local Technical Committee (LTC) is to provide a forum, primarily between the PT and DA, for dealing with technical and associated matters, to take decisions and, where the decision exceeds the delegated powers, make recommendations to the MOD PTL or a Configuration Control Committee (CCC), as appropriate.

14. Preliminary studies of in-service-proposed modifications are normally made by a LTC or the Designer or Design Authority. Technically approved proposals are then forwarded to the relevant PT for consideration.

DESIGN NOMENCLATURE

15. JSP 886 distinguishes between the Designer, Design Authority and Design Organisation as follows:

a. **The Designer** is the original design contractor for the equipment. The Designer is responsible for issuing the original Certificate of Design for the equipment and delivering the equipment drawing set, associated analytical work and test results to the Design Authority.

b. **The Design Authority (DA)** is the agency appointed by the MOD PTL to be responsible for controlling the design of equipment. The Design Authority is often the original designer for the equipment. The Design Authority is responsible for re-issuing the Certificate of Design for the equipment and usually maintains the equipment drawing set, associated analytical work and test results. The Design Authority has staff with appropriate skills that are well versed in the design details of the equipment and have access to maintain the Configuration Status Record (CSR).

c. **The Design Organisation** is the organisation appointed by the PT to be responsible for the design of a specific modification and for signing the Certificate of Design for that specific element. The Design Organisation is not necessarily the Designer or the Design Authority.

PROVENANCE AND AUTHORITY

Sponsor

16. Chief of Defence Materiel (CDM) is the process owner for Defence Logistics. JSP 886 is sponsored by Director Joint Supply Chain (D JSC). The sponsor for this document is DE&S, D S&E, Land Systems (DES SE Land).

Authority

17. The authority for acceptance of a design and any change to that design remains with the MOD PTL (DEFSTAN 05-57). PTs are to follow these procedures to ensure that the design, safety and finance approval processes have been followed and to maintain an audit trail.

Applicability

18. It is MOD policy that the procedures and processes within this document are applied to all equipment that is owned and / or operated in the Land Environment.

Document Provenance

19. This document has been based on the Military Air Environment (MAE) document JAP100A-01 Chapter 10 *Modifications*, which is itself based on DEFSTAN 05-57. It has been amended to incorporate the Land Environment details and references. As such it is an amplification of the guidance given in DEFSTAN 05-57.

OWNERSHIP AND POINTS OF CONTACT

20. The policy, processes and procedures described in the Defence Logistics Support Chain Manual (JSP 886) are owned by Director Joint Support Chain (D-JSC). Head Supply Chain Management (SCM-Hd) is responsible for the management of JSC policy on behalf of D JSC.

21. This instruction is sponsored by DES SE Land EP who should be approached in case of technical enquiries about the content:

DES SE Land-EP-EC1
Spur 12, Dyrham, MOD Ensleigh, Granville Road, Lansdown, Bath, BA1 5AB
Tel: Civ: 01225 467732 Mil: 9355 67732,
Email: DESSELand-EP-EC1@mod.uk

22. Enquiries concerning the accessibility and presentation of this instruction should be addressed to:

DES SCM-PolComp-JSP886 Editorial Team
Cedar 2b, #3246, MOD Abbey Wood, BRISTOL, BS 34 8JH
Tel: Mil: 9679 80953. Civ: 03067 980953
Email: DESSCM-PolComp-JSP886@mod.uk

CHAPTER 2: CONCEPT AND PROPOSAL

INTRODUCTION

1. Ideas for modifications are received from a wide variety of sources within, and occasionally outside, the Industry and MOD community with particular interest in the specific equipment. These ideas are proposed to improve performance, reduce costs, change manufacturing techniques, change equipment capability, etc.

2. The purpose of this chapter is to describe the generation and capture of these ideas and the creation of a formal modifications Proposal. This is the key stage in deciding the type of modification that is going to be embodied.

IDEAS FOR MODIFICATIONS

3. Ideas for modifications mainly originate from the Commands, the Equipment Capability Customer area, Contractors and the PT. There are a variety of causes, including MOD Staff Requirement, Design improvement, Faults in Service, Obsolescence of Items or Equipment, Recording Requirement or Financial Saving.

4. **Capability**. The equipment will have been originally procured against a User Requirement to provide a specific element of Defence capability. Once the equipment is In-Service the Equipment Capability (EC) area will routinely review the defence and equipment capabilities and explore changes in the equipment which would allow the equipment to meet increased defence capability requirements. The EC area may sponsor investigations as part of the Defence Research programme to identify and evaluate possible changes to the equipment. The EC area will routinely involve the PT and DA in defining the configuration changes. The incorporation of these configuration changes in the equipment will be run as a formal Designer Modification managed by the PT. The size of the change package will influence the finance and project management aspects.

5. **Performance**. Industry is normally able to identify performance improvements as part of their continuing commercial development of the components and whole equipments related to the MOD equipment. These 'improvements' are normally offered to the MOD as part of the Post Design Services (PDS) arrangements.

6. **Maintenance**. Equipment Failure Reporting (EFR) and GEMS (The Defence Ideas Scheme) provide a methodology for equipment users to advise the PT of design, use, maintenance and repair problems with equipments. Subsequent investigation can identify design and procedural topics that could be addressed by modification.

7. **Obsolescence**. The management of item obsolescence is a major PT task. Guidance is available from DES JSC TLS-Obsolescence Management (OM). The majority of obsolescence problems are resolved by the adoption of a different item design incorporating a different materiel, process or technology.

8. **Technology**. The consideration of the application of new or advanced technology to the existing equipment is a task placed on the PT by the Defence Technology Management policy. The identification of relevant technology can come from within the PT, other PTs, the Defence Corporate Research Programme, Industry

(both the DA and unsolicited from technology developers) and other interested sources.

9. It is the responsibility of the PT to marshal these ideas for change and present them to the CCC (Modification Committee) for formal consideration. There may be a requirement for the PT to develop the idea so that it can be considered as modification proposal of sufficient maturity for the CCC to evaluate.

URGENT OPERATIONAL REQUIREMENTS (UOR)

10. A proportion of all Urgent Operational Requirements (UORs) are modifications to existing equipment. The PT is follow the extant UOR procedures but is also to ensure that where appropriate the Designer Modification (DM) route is used to formalise the embodiment and support of UORs. UORs are normally staffed through the MOD Equipment Capabilities Customer area in conjunction with the PT. The DM procedure will generally be followed, albeit in a compressed timescale, to ensure that effects on safety and supportability are addressed.

PROPOSALS

11. A formal proposal may only be drafted and submitted, on the agreed Modification Proposal Form (MPF), normally by the PT responsible for the Configuration Item concerned. A generic MPF is at Annex A; only compulsory fields on the MPF need to be completed for the initial meeting. The form can be tailored to meet the specific requirements of the product life cycle. The agreed format and information required is to be configured and identified in the Configuration Management Plan (CMP).

12. Once drafted the MPF will be submitted to the members of the modification committee in sufficient time to allow formal consideration at the next suitable meeting.

PROPOSAL DECISION

13. The Modification Committee will consider the proposals, coming to one of the following decisions:

a. **Proposal Approved**. The proposal is accepted and will now be developed into a full modification proposal. The approval may require the developing full proposal to be reviewed by the Modification Committee at waypoints defined in the INITIAL APPROVAL decision. A PT sponsor for the modification will be nominated.

b. **Proposal Approved - Land In-Service Local Modification**. The proposal is accepted and will be developed as LISLM using the procedures at Chapter 7. A PT sponsor for the modification will be nominated.

c. **Proposal Deferred**. The proposal is not to be formally developed into a full modification. There may be further clarification of the initial proposal and the proposal may be resubmitted to the Modification Committee; the DEFERRED decision should detail the circumstances when the proposal can be resubmitted.

d. **Proposal Rejected**. The proposal will not be considered further. The REJECTED decision should indicate why the proposal was rejected.

POST MEETING ACTION

14. The PT is to allocate a sponsor and an identifying task number to all approved proposals. A record of the decisions is to be produced and distributed to the Modification Committee members and to the originators of the proposals.

15. If the proposal affects Configuration Items for which the originating Design Authority (DA) is not responsible the proposal shall be copied to all other PTs and DAs affected. In parallel with the drafting of the proposal the DA shall, unless the change is covered by any existing Post Design Services (PDS) contract, submit a firm price quotation for the work to the relevant PT.

POST DESIGN SERVICES (PDS)

PDS Definition

16. PDS are the elements that are formally contracted for that enable the Configuration Management (CM) and Configuration Change Management (CCM) aspects of an equipment to be managed. The elements can include:

a. The creation and management of the technical aspects of individual items comprising the equipment, their history and their relationship. This would normally be a paper or electronic record of the drawings including superseded drawings.

b. The maintenance of a reference equipment; the reference equipment may be provided by industry or the MOD.

c. An enabling contract to allow the creation of discrete technical tasks. These tasks allow the investigation of individual modification suggestions to inform the Configuration Change Committee (CCC) and the development of modifications that have been adopted by the CCC for further development.

PDS Functions

17. **General.** JSP 886 procedures are used to control design changes from early development through to the equipment becoming obsolete. Design changes may arise as a result of service experience, manufacturing and material problems, new legislation, or be initiated to achieve economies in the cost of in-service support. PDS is also used to enable the DS to authorise technical studies by the DA contractor into in-service defects, including the preparation of technical solutions and estimates of their cost. Any proposals stemming from such studies must take account of all other aspects of the equipment as a complete system, the interface with other projects, safety and suitability for service use, the improvement likely to be achieved and the method, timescale, cost and priority of introduction. The proposals will be evaluated by technical and CM committees on which all interested parties are represented and will be subject to financial scrutiny by the Budget Manager.

18. **Configuration Management.** CM is the main function of PDS and is the responsibility of the DS. Control is normally exercised through a series of committees dependent on the complexity of the equipment. If the full committee structure is not used, the basic principles of recording and accountability for all changes must be adhered to.

19. **Quality Assurance.** A Statement of Quality Assurance Requirements (SQAR) must be included in all contracts. QA officers should prepare the QA input for DA/PDS and

modification kit contracts and act as agents of PT in monitoring the work of contractors on all aspects of performance. The SQAR should include all aspects of the Health and Safety at Work Act and take into account all safety precautions and warnings or instructions relating to the equipment.

20. **Finance.** PTs are responsible for ensuring adequate financial provision for PDS and modifications.

21. **Contracts.** The PT is responsible for specifying the contractual requirements. The two main types of contract, which arise in respect of PDS, are those for DA/PDS requirements and Modification Kit procurement. These should be treated like any other contract and whenever practicable subject to competitive tender action. Commercial branch is responsible for the contract negotiations, preparation and placement of contracts on behalf of PTs.

22. **Installation of Specialised Equipment.** The installation of specialised equipment generally involves modification of the host equipment. Any modifications arising must be controlled and recorded using the CM procedures specified in JSP 886. In general the project sponsor for the equipment to be installed should pay for all work involved in developing and proving the installation, including the effects on any other installed equipment. It may also be necessary to agree a `Lead' DS for approval of the overall system.

23. **Modifications.** Modifications are made to implement design changes, which have been authorised by the DA and approved by the DS. A modification may be proposed by any agency involved with the project, but each proposal must include an estimate of the cost in whole-life terms for formal presentation to the Configuration Control Committee (CCC). When a design change has been authorised by the DA, the CCC allocates an Implementation Classification, which indicates the priority to be given, and the method by which the change is to be made. The modification is then approved by the DS and passed to the Service Modification Committee (SMC) for implementation action. Procedures for the development and progressing of modifications are in JSP 886. Further information on retrospective modification of equipment in service is in JSP 886.

24. **In-Service Configuration Management (or Build Standard Management).** The modification state of equipments is held on a register maintained locally by holding units. The Asset Code register is held on MERLIN.

ANNEX A: MODIFICATION PROPOSAL FORM (MPF)

Introduced at Paragraph 11

Completion Guide for the Modification Proposal Form

1. The Modification Proposal Form (MPF) has been designed to provide a generic means of proposing modifications when applying the requirements of this Standard. The form can be tailored to meet the specific requirements of the product life cycle. The agreed format and information required is to be configured and identified in the CMP. The following information is given to assist in completing the MPF (reference is made to each box of the Modification proposal Form). Where it is inappropriate to complete a box, a diagonal line is to be inserted.

Figure 1: Modification Proposal Form (MPF)

<table>
<tr><td>1. CONTRACTOR / DESIGN AUTHORITY</td><td>2. MAIN EQUIPMENT SPECIFICATION №</td><td>3. MODIFICATION № ISSUE №</td></tr>
<tr><td>4. ORIGIN</td><td>5. AUTHORITY PT</td><td>6. EQUIPMENT GROUP CODE</td></tr>
<tr><td colspan="3">7. TITLES
DescrPTion Title</td></tr>
<tr><td>8. EFFECT ON: PROJECT MODIFICATIONS
a. Before & concurrent changes.
b. Benefits to customer (MOD)</td><td colspan="2">9. EFFECT ON: OTHER CONTRACTORS</td></tr>
<tr><td>10. ESTIMATED DATE OF EMBODIMENT
a. Trial Installation / Proof Installation
b. Production
c. Repair & reconditioning</td><td colspan="2">11. DELAY IN PRODUCTION CONVERSION</td></tr>
<tr><td colspan="3">12. DELIVERY OF MODIFICATION KITS: Date and Rate</td></tr>
<tr><td colspan="3">13. MAN HOURS FOR SERVICE EMBODIMENT
a. Access
b. Strip
c. Embody
d. Reassembly
e. Test
f. Total</td></tr>
<tr><td colspan="3">14. CONTRACTORS RECOMMENDATION
Preparation, Trial Installation 0r Production work can not commence on the basis of recommendation.
Contractor / Designer Authority Signature</td></tr>
<tr><td colspan="2">15. PROJECT TEAM (PT)
Meeting Number
Item
Date
Previous Item</td><td>16. APPLICABLE CONTRACTS
Preparation & trial Installation
Manufacture of Modification Kits
Design Incorporation
Embodiment by Contractors Working Party(CWP)</td></tr>
<tr><td colspan="3">17. IS THERE AN EFFECT ON:

17.01 INTERCHANGEABILITY (ICY)
a. Functional
b. Physical
c. ICY LRU Major Assembly
d. ICY Detailed Parts
17.02 INTEGRATED LOGISTIC SUPPORT
a. Reliability
b. Maintainability
c. Spares
d. MSPL Schedule
e. Storage
f. Training
g. Support Equipment
h. Packaging
17.13 LINE TEST
1st Software Hardware
2nd Software Hardware
3rd Software Hardware
4th Software Hardware
17.14 NUCLEAR HARDENING
17.15 DOCUMENTATION
a. Specification
b. Certificate of Design
c. Trials Documentation
d. Approvals Submission
e. EOD Procedures
f. Release to Service
g. Repair Procedures</td></tr>
</table>

i. Technical Documentation j. NATO Stock Number (NSN) 17.03 INTERFACES 17.04 COMPATIBILITY a. Materiel b. Explosive c. Chemical d. Electromagnetic e. Other / Nuclear f. External 17.05 a. Mass b. Moment 17.06 SAFETY CASE a. Airworthiness b. Structural Integrity c. Hull Integrity d. Nuclear e. Vehicle Weapon Safety f. Nuclear Weapon System Safety 17.07 HANDLING / PERFORMANCE & OPERATIONAL 17.08 ELECTRICAL a. Electromagnetic Pulse b. Fuses & Circuit Breakers c. Electrical Power Requirements 17.09 HUMAN FACTORS INTERFACE (HFI) 17.10 EMBODIMENT ISSUE ITEMS 17.11 ITEM OF SUPPLY 17.12 BOUGHT OUT ITEMS	h. Minimum Standard Modification List (MSML) 17.16 STRIKE NUMBER 17.17 TEMPEST CLEARANCE 17.18 PERFORMANCE 17.19 ENVIRONMENTAL CONTROL SYSTEM 17.20 VULNERABILITY 17.21 LIFE 17.22 QUALITY ASSURANCE 17.23 TRIALS 17.24 DISCRIMINATION 17.25 PRODUCTION 17.26 DEPOT / SITE CAPABILITIES 17.27 TEST, MOCK UP, TRIAL AND PROOF INSTALLATIONS 17.28 TEST EQUIPMENT a. Specifications b. Automatic Test c. Special to Type d. Software 17.29 TOOLING 17.30 MAGNETIC SIGNATURE 17.31 ACOUSTIC SIGNATURE 17.32 AVAILABILITY 17.33 PORTABILITY (Software) a. Adaptability b. Ease of Installation c. Conformance and ease of Replacement 17.34 REFERENCE EQUIPMENT 17.35 PLATFORM 17.36 SIMULATORS
18. MODIFICATION PROPOSAL PRICE / COSTS a. DESIGN PREPARATION and DEVELOPMENT TRIALS Preparation Bench Tests Trial Installation (PCA) Static Trials Mobile Trials TOTAL NB Preparation / Trials costs may be authorised prior to classification of modification b. EMBODIMENT / MANUFACTURE In Production Evaluation (GW) Retrospective Before delivery Production	Repair & reconditioning Return to Works Scrap Tools for Service - Embodiment Inspection Media Test Equipment Production Equipment Modification Kit Manufacturing Tooling Packaging TOTAL c. DESIGN INCORPORATION Update Configuration Documentation Update Configuration Status Record Technical Documentation Amendments Modification Leaflet TOTAL
19. ADDITIONAL INFORMATION (As required)	
20. AUTHORITY PT DECISION This decision is the authority to proceed with work subject to classification and approval by the 'Authorised Signatories' (Block 21)	21. MODIFICATION APPROVAL PT Authority / Signature / Date Contractor DA / Signature / Date
22. SUPPORTING EVIDENCE (What, why and how)	

2. The following provides guidance on completing the elements of the MPF.

Figure 2: Guidance notes for completing the MPF

BOX 1: The name and address of the Design Authority (DA) or Contractor (if not the DA) should specified. In the latter case the name and address of the DA should also be provided.
BOX 2: The name of the main equipment (including project) should be specified eg Challenger, Nimrod,

Astute, etc. The type or mark or model number, if applicable, and the part number and NATO stock number should also be given including the 'platform' specification.
BOX 3: A modification number (Notes 1) should be entered. For certain equipment the Authority may allocate a separate modification number and this should be inserted in the upper half of the box and the DA's modification number in the lower half, in brackets. In the case of a resubmission, the issue number of the MPF should be inserted below the modification number. Notes: Modification numbers should be used in a numerical sequence from a batch provided by the Authority or the Authority may accept Contractors designated numbers. The allocated modification numbers should be used in relevant correspondence. The Contractor should maintain a list of all modification numbers within the CSR.
BOX 4: The origin of the modification should be taken from the list provided below (paragraph 2). If a specification for the modification has been prepared its identity should be given and it would require an explanation with respect to the 'origin'.
BOX 5: The name of the Authority and the user Service(s) concerned should be given**.**
BOX 6: The modification group type (A/AB/B), if appropriate, into which the modification meets should be entered and explanation given. The modification groups are: GROUP A MODIFICATIONS - do not affect the interchangeability of the item with the equipment and do not require any embodiment on the main equipment by the Service unless annotated 'on replacement'. GROUP B MODIFICATIONS – are such that they justify a change of mark or type number of the equipment due to the change affecting the Physical Interchangeability or a Functional change warrants it. The main equipment would require modification action. GROUP AB MODIFICATIONS s when the equipment do not affect the physical interchangeability, but the functional change, although not warranting a change of type or mark number, gives an improvement such that early replacement by the Service(s) is justified, and it is essential to be able to identify the modified item by modification plate action or allocation of a new part number.
BOX 7: The name of the major assembly affected by the modification should be inserted, together with its part number and NATO stock number. The quantities of such assemblies in the main equipment defined in Box 2 should be stated. The name of the CI (if not the major assembly) which is to be modified should be entered, giving brief details of the modification, eg "Initiator (Part No 74863), plating of switch contacts". The number and identification of such items per major assembly where applicable should be stated. If a new item is to be introduced, state whether it is instead of or by conversion of an existing item. If an existing item is to be altered, the pre-modification and post-modification part numbers should be stated and NATO stock number given; if not known at the time of submission a space should be left for their insertion. When a submission is made to cover a Service, the service modification number should be included, in brackets, at the end of the title and descrPTion.
BOX 8: This box should contain the number(s) of any other modifications(s) that are to be embodied beforehand or at the same time in the same or associated equipment and without which the modification could not be embodied or would not function correctly. If it is economical or convenient to embody other modifications concurrently, this should be stated in Box 19 "Additional Information", together with details of the estimated man-hours/cost saving. Also, the advantages or benefits to the customer should be stated in Box 19.
BOX 9: The names and locations of all other contractors to be affected by the modification, and also the title of the other materiel (items) affected (when known) should be given (see also Box 18). Insert "None" if there are no other contractors affected.
BOX 10: Give an estimate of the earliest embodiment point (ie date and/or item or batch or equipment number) when the modification can be embodied in the normal manufacturing sequence without delaying output. For repair, reconditioning and/or conversion date only is required. When a modification cannot be embodied in any item of the production line enter "NIP" (not in production). If it is possible to embody the modification earlier than quoted embodiment point, then the delay in production and/or extra costs should be detailed in Box 19 "Additional Information". For modifications that recommend C and D classifications, the date of embodiment is only acceptable, except when retrospective embodiment by the Service(s) is required.
BOX 11: It should be stated if an embodiment is likely to cause any delay in delivery off the production line or a major conversion program.
BOX 12: State the earliest date and the rate of delivery of modification sets by the DA. Normally the Services would supply all items that have a Service reference number and those which are common supply items. Details of such items should be given (see Box 17) for Services provisioning purposes to ensure that such items are available at the same time as the modification set. It also gives the Services the opportunity of requesting the DA to include such items in the modification set to be supplied. Note: Where appropriate, a time allowance should be made for the satisfactory completion of a proof installation.
BOX 13: The estimated man hours for Service embodiment should normally be given as five separate times and a total; when it is not practicable to separate these times an overall time only should be given. Normally it should be assumed that the times would be the same for Service embodiment as for

Contractor embodiment but if, due to special circumstances, these times are likely to vary widely attention should be called to this fact by quoting both sets of times.
BOX 14: The Contractor should recommend the cost-effective method of implementation by using the 'classification' categories
BOX 15: The PT affected should insert the relevant data in which the MPF was reviewed /authorised.
BOX 16: Should be completed by the PT Authority.
BOX 17: A "yes" or "no" answer is required to the "features affected". When the answer is "yes" the relevant detail information should be available to demonstrate the affects on each feature when requested by the PT for his consideration. The features being affected may have implications on the product/equipment. The relevant information is to be supplied to the PT on each modification(s) - attached with the appropriate MPF information such as, test results, reports, certification, proofs, requirements, approvals, data, records, procedures, methods, minutes, conditions, etc.
BOX 17.01: State whether the modification affects physical or functional interchangeability. The physical interchangeability is considered to be affected when the item cannot be installed in the next higher assembly without a modification to the attached structure/fittings and the related MPF should stated the particular equipment/part and a new identification (part) number given. However, to avoid the expense of producing new drawings for small content design changes, Contractors/DAs may suffix the existing part number, which would be followed by the allocation of a new Service reference number.
BOX 17.02: Reliability & Maintainability: State whether the modification affects the reliability of the equipment/assembly to which it is to be fitted. Spares: State whether detailed parts listed as service spares for the item in question are made non- interchangeable by the modification. This aspect should not be confused with the effect of the modification on the interchangeability of the item in question that is covered in box 17.01. MSML Schedule: State if the modification affects the spare schedule. Storage: State if storage requirements are affected by the modification. Training: State if there is a requirement for new training for the modification implementation and subsequent support activities. Support equipment: State if the modification affects support equipment except that needed to support prime equipment software. Packaging: State if there is any change to the packaging requirements. Technical publications: State if the Service(s) technical publications are affected by the modification. If there is an impact on the extant NSNs with respect to this modification, then the item would need to be given a new NSN. This codification process is conducted by UKNCB. This activity should be in concert with Box 02.d.
BOX 17.03: State if any of the equipment interfaces are affected by this modification.
BOX 17.04: State the category of compatibility affected by material, explosives, chemicals, electromagnetic, nuclear, etc. State if the modification would require additional EMC testing prior to implementation. Also, state if the modification affects interfacing external compatibility, eg aircraft, main equipment. The name and location of the Contractor/DA affected should be entered in box 9.
BOX 17.05: The change in mass should be stated for equipment and installed equipment unless there is a significant moment change any mass change less than 0.5 kg should be shown as "no". The change in C of G or moment should be entered where applicable, eg where the change of mass or a change in physical location due to the modification has an effect on the equipment moment or the CofG of a guided missile.
BOX 17.06: State if the airworthiness is affected. State if structural integrity is affected. Structural and hull integrity are affected by any modification which directly or indirectly alters the static strength, fatigue life or corrosion resistance of the primary structure. If the answer is "yes" a copy of the modification proposal is to be referred by the PT to the appropriate Structural/hull integrity Meeting. State if the modification to the vehicle installed or associated equipment, affects the safety of any of the vehicle's nuclear systems. A full explanation is to be provided in box 19 "Additional Information". State if the modification to the vehicle installed or associated equipment, affects the safety of any of the vehicle's weapons systems. A full explanation is to be provided in box 19 "Additional Information". State if the modification affects any nuclear weapon control system, Nuclear weapon suspension and release, Vibration characteristics and airflow around the weapon. When a modification affects the nuclear weapon system, it should be referred to PT for approval of the safety aspects. The "features affected" box is to be marked "Yes" and the PT approval reference is to be included in box 19 "Additional Information".
BOX 17.07: State if the modification affects handling/performance or operational requirements. A "yes" answer would lead to consideration by the PT of the need for testing to assess the Safety case implications.
BOX 17.08: State if the electrical pulse characteristics are affected by the modification. State whether the modification affects the Fuse and Circuit Breaker Chart carried in the vehicle. State whether the modification results in changes to the electrical power requirements for the equipment being modified.
BOX 17.09: State whether the modification affects the HMI equipment integration.
BOX 17.10: State those items that are to be supplied to the Contractor from Authority sources for inclusion in the modification set.
BOX 17.11: State those items that are be supplied from the Service in addition to the modification sets

supplied from the Contractor OR the items to be supplied by the Service for a 'No Contractor Parts' (NCP) modification.
BOX 17.12: The creation of a list of material for NCP modification. To be compiled in Box 19.
BOX 17.13: State if Service held first to fourth line software test gear programs or hardware is affected.
BOX 17.14: State if nuclear hardening is affected by the modification**.**
BOX 17.15: State if any required documentation is affected by the modification, such as, Specification(s) - state if any of the products specifications are impacted by this modification; Certificate of Design - state if a new certificate of design is required as a result of the modification (if "yes" record details in Box 19 "Additional Information"); Trials Documentation - state if any of the products trial documentation may be affected by this modification; Approval submission documentation; EOD Procedures; Release to Service - state if the current release to service documentation is affected by this change (if yes, this may result in further clearance work for the product); Repair procedures - state if the standard on repair procedures is affected by the modification and Minimum Standard Modification List (MSML) - state if the MSML is affected by this modification. The recommended modification classification should address any products that are being utilised for clearance trials
BOX 17.16: State the strike number to be recorded on the modification plate, if applicable.
BOX 17.17: State whether Tempest clearance is required. (If unsure, insert "Not known").
BOX 17.18: State if the modification affects the performance of the product.
BOX 17.19: State if the modification affects the Environment control System of the product.
BOX 17.20: State if the modification affects the Vulnerability of the product
BOX 17.21: State if the modification affects the life of the product.
BOX 17.22: State if the modification affects the Quality Assurance requirements of the product.
BOX 17.23: State if any further trials are required to qualify/re-qualify the product prior to modification implementation. Specify in Box 18
BOX 17.24: State if there is an affect on the ability to discriminate between objects or actions.
BOX 17.25: State if there is any impact on the production line. This would be further addressed in the pricing data Box 18.
BOX 17.26: State if there is any impact on current Depot/Site capabilities/facilities in respect to modification implementation.
BOX 17.27: State if there is a requirement for the modification to be subjected to test or/and mock-up or/and Trial Installation/ Proof Installation activities. These require defining.
BOX 17.28: State if any of the test equipment requirements in respect to specification, automatic test, special to type, software are affected by this modification. These should be described within box 19.
BOX 17.29: State the effect on all tooling that is used for development/testing/production/support. Prices for modifying should be provide in box 18 Price.
BOX 17.30: State if the modification has an affect on the Magnetic Signature of the product.
BOX 17.31: State if the modification has an affect on the Acoustic Signature of the product
BOX 17.32: State if the modification has an affect on the availability of the product.
BOX 17.33: State if the modification has an affect on the Portability of the product.
BOX 17.34: State if the special reference equipment would be affected in respect to calibration etc.
BOX 17.35: State if the parent platform would be affected by this modification.
BOX 17.36: State whether any simulators are affected by the modification.
BOX 18: The basis of the price quoted should be stated. When the basis for the price varies at different stages of a modification, the variation should be shown against the price to which it relates. The prices should include all cost elements including profit but excluding Value Added Tax.
BOX 18a: This records the price of each stage of a modification proposal, which is dealt with by the appropriate committee. If any stage is not required the words "not required" are to be inserted. The MPF would only be accepted as a contractual document when the relevant contract number is shown. Multiple contracts should be covered using sequential MPF's eg PDS for "modification preparation" resulting in a "special task" contract for design continuation, the contract number should to be quoted for the appropriate stage of the proposed submission. Details of any costs incurred in preparing the MPF for submission should be shown under "Preparation" and identified as having already been incurred. Where a Trial Installation (TI) is carried out by a Contractor's Working Party (CWP), the cost of travel, accommodation, etc. should not be included. When preparation or trial installation has been authorised and a subsequent MPF is being submitted, "Authorised £-----", should be shown against the stages concerned. Where test trials are required the number of hours/miles usage should be stated in Box 19 "Additional Information". Structural tests should be included in this box under ground/bench tests.
BOX 18 b & c: The price in production/embodiment is the difference in price between producing the unmodified item and the modified item. If the modification causes fewer rejects and other savings these should be reflected in the price. It should be stated whether the figures shown are an increase or decrease, and whether they are per item or product or equipment set. When a modification affects a part

of an assembly, both the part and assembly are provisioned as spares, then the price for both embodiment should be given separately. The Retrospective Before Delivery Production is the price of introducing the modification into the products that have already been completed or partly manufactured but has not yet been delivered. The estimate should include the price of rework including stripping and re-testing.
It should not include the price of re-testing sub-assemblies not affected by the modification and which have already passed final test prior to the retrospective work on the other assemblies. The price quoted should be the sum of these individual prices excluding the price of modification sets. The numbers of equipment involved should also be state. The Repair and Reconditioning is the labour price necessary to embody the modification, if so classified, into each product returned for repair or reconditioning. When estimating is difficult, the price, exclusive of any stripping and reassemble, should be stated, and so annotated.
The price of embodying Class A and B modifications should include the price of additional stripping. The price of embodying Class C modifications should be for embodiment only. Where items are to be modified by return to the DA's works, the price quoted for each equipment should include Labour (actual work on the items detailed for return (including stripping, re-assembly, testing and additional items) enabling the return to the Service of the modified items);
Tooling (the price of new tools and special tools/equipment including production test equipment and quality assurance measuring or checking equipment, new equipment); and/or modifications to existing tools required for production of the modification parts or modification set or to facilitate embodiment of the modification by the DA in production or retrospectively, should be shown separately under this heading);
Scrap (Scrap prices incurred on items being purchased from another DA that has its own modification committee should not be quoted as this would be covered by that DA's companion modification, only the estimated price of any tooling and / or special factory test equipment that becomes redundant as a result of the modification, nor scrap arising from spares and maintenance);
In-Production (the in production scrap prices quoted should be the total price of scrap arising on new production only and includes all parts manufactured or partially manufactured plus materials/items procured for incorporation in new production, that are rendered surplus by the modification in relation to the stated embodiment point) and Retrospective Before Delivery (RBD) (the RBD redundancies price quoted should be the total price of all parts manufactured and rendered redundant by retrospective embodiment of the modification); Maximum scrap price (this is an alternative to scrap (RBD) and scrap in production when required by the modification committee. It is the estimated price of any materials that become redundant plus the price of any work that has been done on such materials as a result of embodying the modification at a stated embodiment point. The maximum scrap estimate should not be exceeded without prior sanction of the appropriate modification committee).
Special Tools For Service Embodiment is the price of special tools for Service embodiment which is to be kept separate from the price of the modification set, as such tools would be supplied on a different scaling. A list of such tools, including nomenclature and part numbers, should be given in Box 19 "Additional Information".
Modification Set is the price of the modification set excluding embodiment loan items.
Design Incorporation is the price of design incorporation excluding technical publication prices.
Modification Leaflet is the individual total prices of the modification leaflet (ML) and should be inserted.
Technical Publications is the price of the technical publications. A breakdown of the price showing each publication affected, the associated price and respective publication authority should be included in Box 19 "Additional Information".

BOX 19: Any additional information pertinent to the modification in particular, where relevant is to be provided, including supplementary information called for in Boxes 8 and 9 and listing called for in Box 17 requirements as required. Where the DA is not the main equipment DA and a modification affects the 'safety case' (Box 06) (eg when changes alter primary structural strength or services such as controls, electrical, hydraulic or other systems) the main equipment DA should be consulted. State that the modification has been referred to the main equipment DA and the approval reference**.**

BOX 20: Should be completed by the relevant PT. The following standard statements may be included, as appropriate. Recommendation - Production work cannot proceed on a "recommendation". Decision - "This is the authority for work to proceed on this modification (subject to the agreement of a fair and reasonable price by both parties - the price must be agreed first) in accordance with the following decision". Note 1: the Decision would include the modification classification. Note 2: the recommendation may include a recommended modification classification.

BOX 21: The MPF should be signed by the Authority or delegated signatory (PTL) and the Contractor/DA. The DA signature is to confirm agreement with the contents including any changes agreed by the PT. Note: The MPF is initially approved by the Authority or delegated signatory (PTL) with the agreement of the commercial branch to proceed subject to contract amendment.

BOX 22: Give a brief statement of why the modification is necessary and how it achieves its purpose if this

is not apparent from the "title and descrPTion" box. Details of known failures (Service or civilian) should be given, including the incidence of faults or defects. If the modification proposal is being resubmitted record the issue number of the MPF and state the reason for the re-submission. Where a modification is introduced either as a result of a change in specification or as a result of a new specification requirement, this should be stated and the specification identity and issue quoted. When the design of a trial installation for another modification is proceeding concurrently and there is a possibility of duplication of effort, this should be made known in the evidence as early as possible. Reference should not be made to correspondence or documentation that is not available to the PT unless extracts from this correspondence or documentation are also given.

3. The following is a standard list of origins for modifications. Each Modification Proposal Form should include a heading from Column 1, followed by one or more from Column 2 or as appropriate.

COLUMN 1	**COLUMN 2**
MOD User Requirement.	Subsequent to specification
Service Customers' Requirement	Brought about by Service use
MOD Requirement	Consequent upon role change
Design Improvement	Promulgated by User Requirement Form
Design Change	Promulgated by Service Radio Installation
Design Fault	Modification requirement
Failure To Meet Design Requirements	To save weight
Failure To Meet Design Specification Requirements	Resulting from manufacturing experience
Financial Saving	Resulting from civil operator's experience
Commercial Telecommunication Requirements	Brought about by DA trials
Production Improvement	Bought about by experimental trials
Production Easement	Due to non-availability of component
Quality Improvement	To ease servicing
Recording Requirement	To extend life of item
Improved Reliability	To meet a Joint Requirement
Incompatibility	Consequent upon a change to another item
Legal Requirements	To cover design change in embodiment loan equipment
Safety	Consequent upon circuit or system change.
	Consequent upon a change of material
	Resulting in/from a foul
	Resulting in/from a fire hazard
	Bought to light by strength tests
	Bought to light by fatigue tests
	Bought to light by environmental tests
	To eliminate radiation hazard
	To introduce frequency change in previous modification

CHAPTER 3: ASSESSMENT

AFTER PROPOSAL APPROVAL

1. After Proposal Approval the PT will manage the modification's development, using the most appropriate procedures. Control and scrutiny of the process are afforded by the use of the Configuration Change Board (CCB) and the Configuration Change Committee (CCC), chaired by the PT.

2. The PT sponsor of the modification proposal, with appropriate support, is to develop the proposal and to seek SME advice from Front Line Command (FLC), operational and engineering staffs, Industry and interested PT(s). They are to consider all aspects of the proposal to ensure that the requirement is well defined and all operational, engineering, financial and safety implications are understood. The proposal should also detail the impact of not accepting the proposal.

MODIFICATION COMMITTEE MEETING - INITIAL APPROVAL

3. The PT modification sponsor is to reach consensus on the following matters and is to present them to the Modification Committee for ratification. The list is not exhaustive and each modification will have particular requirements so the PT will need to be proactive in the management of proposals:

a. An understanding of the requirements by the stakeholders.

b. Suitability, viability and benefits of the proposed solution. Do any proposals being considered, including by other PTs, impinge on this proposal? Confirm the route ie DM, LISLM, or Cover DM.

c. Allocate appropriate Category, Classification and Rider. See below.

d. Estimate and refine the cost. Through-life support and costs.

e. Potential hazards and likely implications for the Safety Case. Monitor progress and advise timeline. Does the proposal, Safety and Support Questionnaire (SSQ) and draft Modification Leaflet reveal any serious safety implications?

f. Consider armament / electrical systems and Electro Magnetic Compatibility (EMC).

g. Need for a Trial Installation or Mock Up?

h. Final Approval.

i. Production and supply of Modification Kits.

j. Need for a Proof Installation?

k. Develop embodiment strategy and plan.

4. The PT is responsible for ensuring that a complete auditable history including appropriate references to relevant preceding engineering instructions is maintained.

Attendance

1. The following is a suggested list of likely stakeholders / contributors in the configuration change process. The list is not exhaustive and PTs should keep all stakeholders involved in the process even if they only attend some Modification Committee meetings. Possible stakeholders include:

a. PTs. (Lead and peripheral PTs)

b. Representatives from the Design Authority.

c. Designer / Design Organisation.

d. Publication Authority.

e. Trial Installation (TI) unit and, if applicable, the associated FLC.

f. Proof Installation (PI) unit and associated FLC.

g. Equipment Capability Customer.

h. Front Line Commands, engineering and operational representatives.

i. Munitions PT.

j. Simulators and Synthetic Trainers PT.

k. Testing organisations, contractors and external agencies.

l. Occupational Health.

m. Representatives from the proposing unit.

Meeting Type

2. For any specific modification the Modification Committee meeting should be one of the following types:

a. **Initial Approval**. This meeting considers a modification proposal and if appropriate, grants Initial Approval for the proposal to be developed into a full modification. This implies that the physical modification and associated draft documentation will be developed. A mock up or Trial Installation (TI) may be required to demonstrate the modification.

b. **Routine**. This meeting monitors the progress of the modification and considers corrective action if required.

c. **Review**. This meeting reconsiders the need for the development of a modification. This may be due to changing priorities, development problems or policy

d. **Final Approval or Clearance**. This meeting considers the developed modification and if appropriate, grants Final Approval for the manufacture of the modification kits, confirms the modification category and priority, printing of the documentation and confirms the embodiment policy. This may be a significant financial commitment.

e. **Post Implementation Review**. This meeting reviews the development, embodiment and effectiveness of the modification to ensure the modification has delivered the projected benefits and to identify any lessons.

Agenda

3. A specimen agenda for a Modification Committee meeting is below.

Figure 3: Specimen Modification Committee Agenda

Item	Discussion and Decision
Outstanding Actions	Review the outstanding actions, but their discussion may be included under subsequent agenda items if appropriate
1. Design	Consider the design in detail, with particular reference to the outline design, Safety and Support Questionnaire (SSQ), supporting drawings and equipment mock-up wherever possible. Record any changes from the initial proposed design as reservations on the initiation certificate. Record any other peripheral design considerations in the minutes.
2. Safety Case	The Designer is to advise the meeting on safety aspects and changes in weight and balance. If the Modification is likely to interact with any safety-critical system, the PT is to task a suitable organisation to provide specialist advice during Modification development and to carry out any testing.
3. Category	When a modification is authorised by the appropriate Modifications Committee (MC), it will be given a category in accordance with the agreed coding system to indicate the urgency of embodiment and who is authorised to embody it.
4. Finance	Advise the Modification Committee on authorised, actual and predicted spend. Initial Approval: Authorise expenditure or undertaking preparatory design work and, if required, a trial installation of prototype modifications. Final Approval: Authorise expenditure for procurement of Modification Kits, Modification Leaflets and Embodiment. If the DA proposes to implement the modification at zero cost to the MOD, the PT/Design Sponsor may agree implementation of the change(s) without prior Modification Committee consideration.
5. Certificates of Design	Confirm that Certificates of Design are available, or are being raised, for equipment introduced by the Modification. Whenever a new derivative, mark, model or variant is introduced, a revised Certificate of Design will be required. The PT will therefore indicate which system is to apply and how it is to be controlled and operated. Allocate responsibilities to the appropriate Defence Procurement Agency specialist branch or, in the case of Service-designed and manufactured equipment, to the relevant Service sponsor. Certificates of Design, plus supporting documents, will need to be submitted to the PT for consideration and agreement of any limitations and exceptions.
6. Electrical system and EMC	With the assistance of specialists, assess the need for electrical system and EMC testing and task specialist organisations as appropriate.
7. Explosive Safety	An appropriate specialist organisation is to make a statement about the likely effect of the modification on equipment that contain or carry explosive devices. The PT is to initiate any necessary tasking for provision of specialist advice during modification development and for carrying out any subsequent testing.
8. TEMPEST clearance	Assess the need for TEMPEST clearance and make arrangements for testing the TI equipment as required.
9. Portability	Assess whether the Modification is likely to affect the cargo-carrying or load handling facilities of the equipment. If the equipment is air portable, consider if the modification may affect this capability. The PT is to notify the Joint Air Transport Evaluation Unit of any relevant factors.
10. Documentation	The Modification documentation is to be produced in accordance with JSP 543.
11. User Manual	If required, PT to arrange amendment of User Manual. If the modification is extensive consideration should be given to User briefing and / or training.
12. Provisional servicing information	There may be a need to make engineering information on the modification installation available to user units in advance of formal publication amendments. The PT is responsible for arranging promulgation of this information to user units.

Item	Discussion and Decision
13. Equipment approval	Request equipment PTs to act as approving authority for any items of equipment required for the Modification, which are as yet unapproved for the particular application concerned. If a PT is unable to accept this responsibility, nominate one to act as approving officer for the equipment and make the necessary submissions. When the Modification introduces newly developed equipment, the PT is to approve its use, initially for limited applicability as part of the Modification installation. A further full approval will be made on satisfactory completion of user trials.
14. Equipment clearance	The PT is to seek safety equipment clearance for the use of unapproved parts. This requirement may be waived if the part has no effect on the Safety Case and the PT is willing to accept full responsibility for its intended use. Equipment safety clearance is required for a part if: - Its design or use is new to the MOD. - It is, or is derived from, an existing approved part, but is to be used in an application different from that for which the part was originally approved.
15. Proof of Concept	A Proof of Concept is a mock up of what is intended. It is only done at the early stage of the development of a modification and is equally useful to the designer and the PT.
16. Proof Installation	A Proof Installation (PI) will normally apply to Designer Modifications, but may also be necessary for Service Modifications. A PI is used to satisfy the PT that the modification can be embodied, and if necessary tested, without undue difficulty using service effort, using the modification set and the leaflet intended for issue. To confirm this, the PT may require the Designer to conduct a PI of the modification. The PT is to liaise with the FLC and the designated Unit, stating any specific requirements, including the nature of any reports required. A PI is not normally required if the modification is being embodied by CWP.
17. Trial Installation	If a TI is required, it will normally carried out on a reference equipment held by industry. Exceptionally the TI may be carried out on an in-service equipment; in this case the PT needs to agree with the FLC and unit the details including the reporting requirements. The aim of the Trial Installation (TI) is to prove the practicality of the Modification, identify parts and any additional trade skills or training requirements, and provide the detailed information necessary to prepare the final modification instructions. The TI unit is to conduct a TI in accordance with the Draft Modification Leaflet, appending any comments and observations and producing a draft parts list as appropriate. After the TI, the Design Organisation is to update the documentation and pass the completed leaflet to the PT. Unless specified otherwise by the PT, the TI is to be undertaken on one equipment only. Additionally, in authorising the TI, the PT is to issue instructions on whether the TI is to remain embodied until further notice or is to be removed on trial completion. Where a modification is a one-off requirement, eg for a single equipment, it may be appropriate to combine the TI with the embodiment.
18. Installation testing	Stipulate the procedures to be used for testing the Modification TI. The testing, which will also be applicable to the PI, is to be based on the advice given by the Designer responsible for the equipment being installed.
19. Resources	Consider the resource requirements for each stage of the modification process.
20. Environmental Trials	Decide requirement and agree provisional dates for environmental trials to take place. Additional trials to assess the operational performance of the modification installation may be required and arrangements for these need to be agreed with the FLC.
21. Supply support	Consider the need to examine the implications of Modification embodiment on factors such as spares, test equipment, maintenance facilities, servicing schedules, personnel health / safety.
22. Provisioning	Note any items for which special provisioning action may be required, but only in exceptional circumstances would it be appropriate to initiate provisioning action in advance of Financial Approval.
23. Embodiment	Record how the modification will be embodied; user, Contractor's Working Party (CWP), etc. Record the target date for commencing embodiment and details of the planned embodiment programme.

Item	Discussion and Decision
24. Designer cover modification	Designer Cover Modifications are used to convert Service Modifications and some Technical Instructions to Designer Modifications. Record the Service Modifications and Technical Instruction details.
25. Endorsement	This meeting will endorse the modification solution and approve an initial fit at a suitable unit to verify all aspects of the implementation.
26. Recording	The decision of the meeting is to be recorded on the Modification Proposal Form (MPF) or Modification Meeting minutes.
27. Removal instructions	Confirm whether or not Modification removal instructions are needed.
28. Any other business	Any factors relevant to the modification not covered above.

Multiple Related Modifications

4. When proposals for more than one modification are being considered concurrently, the Contractor may find it necessary to integrate the design of the modification in such a way that they can only be embodied concurrently; in which case, this should be stated on the proposal. In other cases, it may be desirable to arrange for correlation in the design of separate modifications in the interest of weight saving, cost reduction, reduction in total man-hours for embodiment, or other desirable features. Details of such correlation shall be included in the proposal in order that all concerned may be aware of the consequences of cancelling the implementation of a modification, which has already been agreed.

CATEGORISATION OF MODIFICATIONS

5. When a modification is authorised by the appropriate Modifications Committee (MC), it will be given a category and rider in accordance with the agreed coding system to indicate the urgency of embodiment and who is authorised to embody it. The category may also carry a qualifying statement or rider giving additional information.

6. Modifications to be carried out by a contractor are indicated by letter and those to be embodied by the Services are shown by number. Where a modification may be embodied by either they will be given both a letter and number eg B/2, additionally each modification may be given a rider or amplified by notes. Further information, on modification categories is at DEFSTAN 05-57 Annex E.

Production Classification

7. An alphabetical classification shall apply to materiel in production as follows:

a. **Class AA**. Modifications whose incorporation are essential for the initial approval of new equipment, and shall be embodied in all equipment prior to delivery.

b. **Class A**. Modifications that are essential. Non-embodiment will involve safety, non-availability or impose severe operational limitations. They shall be embodied irrespective of any delay in delivery or scrap involved.

c. **Class B**. Modifications that are high priority. Non-embodiment will involve serious operational limitations or reduced maintenance efficiency. To be embodied and parts made available as soon as practicable. Scrap and delay in delivery are permissible when authorised by the MC.

d. **Class C**. Modifications that are important improvements for technical or operational reasons. They shall be embodied in production as soon as parts can be made available provided there is no delay in delivery.

e. **Class D**. Modifications that are less important improvements than Category C. They shall be embodied in new production provided no scrap or delay in delivery is involved.

Special Order Only (SOO)

8. Special Order Only (SOO) applies to modifications which are necessary to satisfy a limited operational need. Examples are:

a. Specific operational requirements which can be satisfied on a scale of less than one per aircraft or missile or equipment eg drop tanks, tropical and arctic equipment.

b. Those introducing special to type Service support equipment, tools or test equipment.

c. Those used to evaluate a modification. Modifications which are necessary for a limited quantity of equipment only. Examples are those to meet a limited operational requirements or introducing special to type support equipment.

In-Service Classification

9. A numerical classification shall apply to In-Service materiel that is held by FLCs, in store and by industry (On contract loan or reference equipments). The Modification Committee will allocate the classification to determine the priority for the development and embodiment of the modification by the PT. The numerical classifications are:

a. **Class 1**. Essential Modifications. Absence of the change would adversely affect safety or impose severe operational limitations. They shall be embodied immediately and are compulsory. Spares shall also be modified or scrapped as agreed by the MC.

b. **Class 2**. Modifications that are high priority. When the absence of the change would impose serious performance or other operational limitations including the reduction of maintenance efficiency. They shall be embodied and are compulsory, the extent and the timing to be decided by the MC.

c. **Class 3**. Modifications that are important for the improvement of operational efficiency, reliability, economy, servicing or maintainability to be gained, is judged by the MC to outweigh the cost and effort of retrospective embodiment.

d. **Class 4**. Modifications that are Non-retrospective. Items are not to be modified on equipments but MC may decide to withdraw and modify or scrap existing spares. If required, they shall be embodied during repairs or reconditioning but only Stores to the Latest Pattern (SLP) are to be produced and used hereafter.

e. **Class 5**. Modifications that are Non-retrospective and which have no effect on the interchangeability of spares. If required, shall be embodied during repairs or reconditioning or when stocks exhausted (WSE) of unmodified spares.

f. **Class 0**. Modifications that have no In-service implications.

EFFECT OF MODIFICATION ON SPARES

10. Modifications may affect spares either already made or yet to be produced. Spares affected by Class AA or Class 1 modifications are to be modified or replaced by modified items before use. When it is necessary to retain both modified and unmodified equipment in service, the PT is responsible for provisioning and supplying any necessary spares. The MC may add riders to notify the extent to which a modification is to be applied. These riders or qualifications are to be included in all references to the modification. Examples of such riders and qualifications are:

a. **SMP or CWP**. Embodiment to be carried out by either Service Modification Parties (SMP) or Contractors' Working parties (CWP).

b. **On Removal of Unmodified Item**. The modification should be embodied on the first occasion that the named item or the associated part is removed, subject to the modification kit being available.

c. **On Replacement of Unmodified Item**. The modification should be embodied on the first occasion that the named item becomes unserviceable, subject to a modified item being available.

d. **WOTSAC (When Old Type Spares Are Consumed)**. This is used to indicate that interchangeability is not affected and that the modification will be embodied when old type spares are consumed.

e. **SLP / WSE (Stores to the Latest Pattern / When Stocks Exhausted)**. As for WOTSAC.

f. **NOROR (Not On Repair or Reconditioning)**. This means that the modification will not be embodied on repair or reconditioning.

g. **Satisfied by …** . Indicates that the modification is satisfied by the quoted modification or special instruction (technical) because they are identical or there are no significant differences between them.

h. **Superseding …** .Indicates that the modification replaces the quoted modification or special instructions because there are significant differences.

i. **Embodiment on R&R (Repair and Recondition)**. This means that the modification will be embodied on repair or reconditioning.

SOFTWARE COMMITTEES

11. The management and control of software can be problematic. There are two possible management option:

a. Modifications which are predominantly to software are normally managed by Software Configuration Control Boards, either locally or at the Software Configuration Management Board, mirroring the LTC and MC functions.

b. Where the relationship of the software and hardware is symbiotic it is often beneficial to consider both aspects in the same committee. In these cases it is normal to treat the software changes in a similar fashion as hardware changes.

MODIFICATION BRIEF SHEET

12. As the modification develops, brief and cost sheets should be used to keep the Modification Committee informed of progress and financial decisions.

Figure 4: Modification Brief Sheet

Modification Number ……	Equipment Brief
1. Have you assessed, in conjunction with the relevant Engineering Authority (EA) and Designer the spares implication of this modification by considering: a. Cost of the modification sets and labour for spares held in Service and on order? b. Who should modify the spares? c. Cost of MOD supplied items for modification sets if no surplus assets are available? d. Can any of the modification set components be supplied from available Service assets? Has this been discussed at PR level?	
2. If major spares cannot be modified, have you assessed: a. The costs of new post-modification spares to support the modified fleet? b. The cost of spares made redundant after the modification programme? c. Financial liability resulting from cancellation of pre-modification spares orders?	
3. Taking account of the embodiment backlog, priorities, opportunities, resources and the contractor's forecast delivery dates: a. When will embodiment start? b. When will embodiment be complete? c. What is the planned programme?	
4. How many modifications kits will be required for: a. Equipment fit? b. Government Furnished Assets (GFA)? c. Simulators? d. Training rigs? e. Test equipment?	
5. If Service embodiment, and special tools are required, state: a. Number of tools required. b. Allocation of tools.	
6. How many of following are needed: a. Modification Leaflet b. Information Leaflet c. Embodiment Leaflet - Contractors Working Party (CWP)	
7. What amendments to Technical Documentation are required?	
8. Reserved	
9. Do you agree with the proposed modification set delivery dates and places?	
10. What modification classification is required?	
11. Will the modification be adopted by another PT? If so, how are costs to be shared?	
12. Will this modification affect any other embodiment programme? If so, what are the effects and consequent programme changes required?	
Total Sponsorship Cost:	
Specialist officer: Name, Rank, Appointment	
Sponsor: Name, Rank, Appointment	

CHAPTER 4: DEMONSTRATION

DESIGN DEVELOPMENT

1. The PT must identify a Design Organisation (DO) to develop the modification. In selecting a DO the PT is to have confidence that the proposed DO has the competency and ability to undertake the intended scope of work. The DO may be the originator but could also be:

a. The Designer.

b. The Design Authority.

c. Another Designer.

DEMONSTRATION

2. As part of the initiation meeting a demonstration can be required to give the PT and interested parties the chance to further evaluate the proposal. The demonstration may take the form of any or a selection of the following:

a. **Proof of Concept**. A mock up of what is intended, by no means the finished product. It is only done at the early stage of the development of a modification and is useful to the designer and the PT to visualise the challenges of the proposed design.

b. **Trial Installation**. The aim of the Trial Installation (TI) is to prove the practicality of the modification, identify parts and any additional trade skills or training requirements, and provide the detailed information necessary to prepare the final modification instructions.

c. **Proof Installation**. The aim of a Proof Installation (PI) is to demonstrate that final approved version of the modification can be fitted using the production modification kit and modification leaflet using in-service resources. A PI is not normally required for modifications being fitted by specialist teams; ie Contractors Working Party (CWP) or PT directed in-service teams.

3. In addition demonstrations allow the PT, and other interested parties, the opportunity to evaluate how the modification affects equipment safety.

Trial Installation (TI)

4. The aim of the TI is to prove the practicality of the modification, identify parts and any additional trade skills or training requirements, and provide the detailed information necessary to prepare the final modification instructions. There are two normal methods of conducting a TI:

a. **Industry**. Where a reference equipment is held by Industry it is normal for the TI to be conducted on that equipment. It is normal for the fitting of the TI, evaluation and, where required, removal to be carried out by the contractor developing the modification.

b. **In-Service**. Where there is no suitable equipment held by Industry the TI will need to be carried out on an In-Service equipment. This can be carried out at a Service Unit, such as a trials unit or by the transfer of an equipment to Industry. It is

normal for the fitting of the TI, evaluation and, where required, removal to be carried out by the contractor developing the modification.

5. The TI will use a prototype modification but it should be developed to such a stage that its physical shape and function are representative of the final modification. The TI is to be conducted in accordance with the draft Modification Leaflet. The contractor is to amend the modification and draft instructions based on the result of the TI.

6. Exceptionally TIs can be repeated. Unless specified otherwise by the PT, the TI is to be undertaken on one equipment only and the prototype modification is to be removed after the TI.

7. Where a modification is a one-off requirement, eg for a single equipment, it may be appropriate to combine the TI with the embodiment.

8. The PT is to state the reporting requirement and format after embodiment of the TI. A suggested format is at Figure 5.

Proof Installation (PI)

9. The designer of a modification may have to satisfy the PT that the modification can be embodied, and if necessary, tested without undue difficulty using Service effort, using the modification set and leaflet intended for issue. To confirm this, the PT may require the designer to conduct a proof installation (PI) of the modification.

Figure 5: Trial or Proof Installation Report

Report of Trial or Proof Installation of Modification ……. on *[Equipment Type]*
The Trial / Proof Installation of the above modification has been carried out and functionally tested as required on Equipment (Serial No) …… and the following observations are submitted: 1. Completeness of: 1.1 Modification kit 1.2 Unit Supply items 1.3 Special tools 2. Completeness of drawings 3. Accuracy of draft Modification Leaflet 4. Difficulties with embodiment 5. Recommended amendments to Modification Leaflet (including on handling and operational aspects) 6. Other remarks: 7. The Trial / Proof Installation is considered: Satisfactory*/ Satisfactory as amended* / Unsatisfactory* * delete as appropriate Authority level K (Competent Technical Authority) Signature: Date:

10. If a Proof Installation is to be carried out at a Service Unit the PT is responsible for:

a. Determining the type and mark of equipment required and, if relevant, the modification state required. The PT is to liaise with the FLC to agree a unit to carry out the PI.

b. Deciding whether the PI will be embodied by a CWP or by Service personnel.

c. Arranging for provision of the draft instructions.

d. Arranging for provision of the modification kit.

e. Stating the reporting requirement and format after embodiment of the PI. A suggested format is at Figure 5.

11. It is normal for a successful PI to remain embodied unless otherwise ordered by the PT. If the PI identifies any unsatisfactory features, the PT is to instruct on any precautions or special measures that are to apply.

12. Recording of the PI in equipment and work documents is to be as for an approved modification, except that entries are to include the bracketed annotation (PI). Service Modifications to Land Environment are to be recorded in the F/MT 1004 as detailed in JSP 341, Chapter 11.

CHAPTER 5: MANUFACTURE

GENERAL

1. The development stage should result in the definition of the following deliverables.

   a. Modification Design

   b. Modification Kit

   c. Modification Leaflet

   d. Modification Embodiment

   e. Technical Documentation

MODIFICATION COMMITTEE MEETING - FINAL APPROVAL

2. Final Approval for the modification will be given a Modification Committee Meeting convened and chaired by the PT. The meeting will be the final approval for the modification and will approve the embodiment plan. The options for implementation and any fleet wide embodiment shall also be agreed.

3. A suggested attendance and agenda for all Modification Committees is at Chapter 2. The PT is responsible for ensuring that a complete auditable history including appropriate references to relevant preceding engineering instructions is maintained.

4. A major element of Final Approval is confirmation that financial approval is in place to procure the modification kits, produce the modification documentation, to cover any contractor led embodiment plan and supply support aspects.

5. PTs will need to confirm financial approval for modifications or conduct a business appraisal and seek financial approval in accordance with local guidance. They will also need to identify funding for appropriate stages of the modification process.

6. When modification has been approved the PT is to ensure the following:

   a. The Design Authority incorporate the modification details in the CSR, master design documents and relevant support publications for which he is responsible. The Approval Reference quoted on the changed masters shall be the approved MPF reference. The PT may also consider informing the DA of any proposed Land In-Service Local Modification (LISLM), recommending the inclusion of a temporary notation to the CSR and associated drawings.

   b. Place a contract for the agreed quantity of Modification Kits.

   c. Arrange for the production of the Modification Leaflet and / or Modification Information Leaflets. The latter can be used in lieu of Modification Leaflets when the user only needs details of the modification rather than the detailed instructions on how to embody it; and example could be a CWP embodied modification.

   d. Ensure that necessary amendments to support documentation; such as User Manuals, Illustrated Parts Lists and Repair Instructions; are prepared.

e. New or updated design documents for information are provided as required.

f. Necessary codification action is taken.

g. That the MPF is completed and distributed.

h. Allocate a Modification Reference Number. The reference number is to be made up of the correct Army Equipment Support Publication (AESP) identifier and a unique modification serial number. Serial numbers are to run consecutively, with separate series for each AESP identifier and type of instruction.

MODIFICATION DESIGN

7. The designer is to prove to the PT's satisfaction that the modification complies with the original proposal, delivers the required change and can be embodied. Where appropriate 'before' and 'after' trials can be used to quantify the performance change.

Modification Kits

8. Modification Kits are normally produced by Industry and comprise the collection of parts required to embody the modification. Occasionally the units are required to demand the piece part items, this normally occurs when the modification comprises of only one or two items.

9. The Modification Leaflet lists the items required to embody the modification:

a. Details of the parts supplied with the modification kit.

b. Details of the items which should be reused.

c. Details of items that should be discarded or returned for rework.

d. Details of 'expense' items that are required, such as common fasteners.

e. Details of 'as required' and 'lifed' items, such as adhesives and lubricants.

f. Details of special tools and / or techniques required to embody the modification.

10. Modification Kits which are to be delivered to MOD or are to be demanded and supplied using the Base Inventory System (BIS) are to be codified and allocated a Domestic Management Code (DMC) applicable to the main equipment. When the BIS is being used the PT is to ensure that Contract Dues In are created and accidental disposal of the kits is prevented[2].

Modification Embodiment

11. The PT is responsible for producing the embodiment plan, which is to be agreed at a Modification Meeting. Embodiment will be dependent upon the availability and location of equipment; repairable components will generally be modified during repair or reconditioning. Fleet wide modifications will be embodied by a programme using PT staff or Contractors Working Party (CWP); exceptions to this need to be formally agreed with the FLCs and recorded in the appropriate Modification Committee minutes. Modifications

[2] On Stores System 3 (SS3) the Disposal Restriction Code (DRC) is to be set to K - *All surplus arising at units to be returned regardless of constraint*.

to individual equipments, due to the equipment missing a programme or specialist role requirements (Such as changing a vehicle from Control to Command status) will normally be carried out as arranged by FLCs.

12. The PT may approve the use of Contractor Working Parties (CWP), including in an operational theatre in accordance with JSP 567 CONDO, to embody modifications if the PT and FLC agree.

13. Responsibility for embodiment of modifications needs to be considered on a case by case basis and is a key element of any modification business case. As such, responsibility should be agreed before any significant investment takes place. Below are questions for the PT and FLC to address to enable them to decide the responsibility for embodiment.

a. How practical is it for the modification to be fitted by a contractor, eg are equipments in accessible locations? Can the modifications be fitted as part of a repair or overhaul programme.

b. How urgent is embodiment?

c. What is the cost of contractor embodiment?

d. What is the technical complexity of embodiment of the modification?

e. What is the potential training value for the FLC?

f. How long does embodiment take? The 'yardstick' time for LAND embodiment is 2 hours or less. This is negotiable depending on the number of equipments to be modified and other factors

14. The PT is responsible for arranging the modification of equipment in storage. Depending on circumstances, equipment will be modified either during storage or immediately prior to issue. Detail is contained in AESP 0200-A-400-013 the Technical Instruction for Storage of Equipment under Controlled Humidity Environment (CHE).

MODIFICATION LEAFLET

Introduction

15. This chapter details the layout of the modification leaflet. The detail has been extracted from JSP 543 *Defence Technical Documentation - Policy and Requirements* and AESP 0100-P-005-010 *Specification for Army Equipment Support Publications*. It is intended to inform the Service(s) what it has to do, supply or know and this should be the guiding principle in preparing a Modification Leaflet or Information Leaflet.

Promulgation

16. Modification approval may be promulgated by advance copies of leaflets and by modification lists / leaflets published in the appropriate technical publications and / or Modification Register of the platform or equipment, and / or are to be recorded in the appropriate logistic information system, where required. Draft Modification Leaflets are to be copied to the JAMES Team.

17. An Information Leaflet is issued when users are not required to embody the modification but need to be aware of its effects. They may also include the information required to enable units to accept, inspect or approve the work done by CWPs.

General Instructions

18. The standard layout and completion instructions shall be followed unless otherwise directed by the modification committee. Specimen headings for a Modification Leaflet are at Annex A. Where it is a Service(s) department(s) responsibility to complete or insert information, this is stated. The layout is to accord with JSP 543, unless otherwise directed by the PTL.

19. Main paragraph and sub-paragraph numbers, except for abridged leaflets, shall be included, and the text inserted as appropriate. Inappropriate paragraphs and sub-paragraphs shall be indicated by a 'NONE' or 'Not applicable' entry. Inappropriate alternative sub-paragraphs shall be omitted. When an abridged leaflet is issued paragraph numbers are not to be left blank but are to be closed up.

Drawings

20. Draft Modification Leaflets may be illustrated by drawings specifically prepared for and supplied with the draft ML, and/or by the use of design drawings listed in the draft ML. The use of actual Design drawings in the leaflet should be avoided because:

a. Large drawings are awkward to handle under Service conditions.

b. Many operations can be more easily understood if illustrated by simple perspective sketches.

c. A manufacturing drawing will merely show the part before or after it has been modified whereas a specifically prepared sketch can show the scope of the modification more clearly, particularly when the part is complex.

d. Embodiment of the modification will be delayed until the design drawings are obtained.

21. Where a modification may affect armament safety, the electrical wiring diagrams necessary for its embodiment shall give full routeing details.

22. Sketches, drawings or tracings which are intended to form part of a leaflet shall be prepared in a form suitable for retention by the contractor as a master original and for the embodiment of subsequent changes, (except where these are major and as such require the original to be re-drawn).

23. Duplicates of master drawings, copies of which are to appear in the draft ML shall be sent to MOD PTL with the draft ML or amendment. Duplicate masters shall be suitable for same size reproduction or, if reduction is unavoidable, suitable for 2 to 1 reduction.

Security Marking

24. Security marking of classified draft Modification Leaflet shall follow the requirements of JSP 543 *Specification for Technical Publications for the Services* - requirements for classified publications.

Service Modification Leaflet

25. The modification leaflet is intended to inform the Service(s) what it has to do, supply or know and this should be the guiding principle in preparing a Service Modification Leaflet.

TECHNICAL DOCUMENTATION

26. The PT is to ensure that necessary amendments to support documentation; such as User Manuals, Illustrated Parts Lists and Repair Instructions; are prepared and issued.

ANNEX A: MODIFICATION LEAFLET

Introduced at paragraph 18

Completion Guide

1. The following completion notes relate to the standard layout of a draft Modification Leaflet (ML) shown at **Error! Not a valid bookmark self-reference.**.

a. Where the technical documentation reference (BR, AESP, AP) is not yet known, the task reference for the modification is to be entered, followed by 'in preparation'.

b. The MOD PT will enter the leaflet number.

c. Heading required only for leaflets security graded secret and above.

d. The MOD PTL will enter the month, year and amendment number.

e. To be inserted by the MOD PTL. Leave space for two lines. Where a UK modification to an American equipment is identical with the American modification the Engineering Change Proposal (ECP) number shall be inserted under the short title.

f. Insert name and mark of equipment. Enter Service applicability including UK supported foreign eg RN, Army, RAF, Royal Netherlands Navy etc.

g. Enter the modification number and classification given on the MPF.

h. The MOD PTL will insert the file reference.

i. Enter the title given on the MPF.

j. Insert a statement as to why the modification is introduced and how it achieves the desired results. The statement should be positive eg 'To extend fatigue life' etc.; phrases such as 'MOD requirement', 'to comply with the Final Conference Report', etc. should be avoided.

k. State one of the alternatives. Omit inapplicable words.

l. Include this sub-para if applicable, omit inapplicable words and insert modification number and title.

m. Include this sub-para if applicable, omit inapplicable words and insert modification number and title.

n. Include this sub-para if applicable and insert modification number and title.

o. Include this sub-para if applicable, delete inapplicable words and insert modification number and title.

p. Use this entry for complementary modifications or state one of the alternatives. Insert location where proof installation carried out and type, mark and serial number of equipment used.

q. Required for modifications embodied by the Service(s) or CWP.

r. Whenever possible, and always when the total man-hours exceeds 10, give the time required for strip etc.

In general, drawings should be incorporated into leaflets and be of the simple line diagram or sketch type, to engineering drawing standard. Drawings or sketches submitted with a proposal should be suitable for reproduction on an A4 page. Line diagrams or sketches to be used as working drawings are to have all detail large enough to be easily interpreted. Photographs should only be used to complement drawings.

s. List the parts and any special tools required.

t. The spares referred to are those assemblies or components which themselves need to be modified consequent upon the introduction of the modification. Should a spare, having other uses, be modified in such a way as to make it unsuitable for these other uses, it will have to be re-referenced for the particular application under consideration; it would therefore become a new part. Include all known stores reference and NATO stock numbers.

u. List the parts required to modify each spare, immediately below each spare listed.

v. Insert at end of list. Leave a space of five lines for Service department entry.

w. Insert after Para 6 main title, if applicable.

x. The list of parts, of which the reference, part or assembly numbers are changed shall include the spares affected as listed in Para 6. Include all known stores reference and NATO stock numbers. This paragraph refers only to those parts which are physically reworked to the new standard and not to replacement parts.

y. Omit new nomenclature if same as old.

z. The sequence of operations shall be in logical order. Parts to be manufactured by Service units shall be detailed first, followed by removal, dismantling, embodiment, re-numbering, re-assembly and re-fitting, and the necessary routine testing by reference to appropriate Service publications. Where work to be done by the Service(s), such as dismantling, fitting and testing is already described in other current Service instructions refer to the relevant publication reference.

When the work involved in the embodiment of the modification has to be done by the contractor (usually by return of components), and other work has to be done on the equipment, enter only the work to be done by the Service. Although changes of reference, part and assembly numbers are listed in Para 7, the physical action required to effect such changes and also to record embodiment of the modification on the modification plate, shall be included in the sequence of operations.

When quoting both manufacturer's part number (MPN) and DMC / NSN the MPN shall come first:

Coupling, Part No DTD900/4516 (33C / 8060-99-224-3421)

aa. Insert WARNING 1 in all modification leaflets. Enter the name of the main equipment concerned eg missile, simulator etc.

bb. Insert WARNING 2 in modification leaflets dealing with modifications to weapon carrying equipment.

cc. Each operation is to be separately paragraphed.

dd. Detail any Operating Instructions / Procedures applicable to the installed modification and/or refer to any existing instructions.

ee. List special tests. Documents not available to the Service(s) are not to be referenced.

ff. If entries are required in records add 'Enter embodiment of modification in the appropriate records'; if a modification plate or label is fitted to the item also record the 'strike off' or 'stamp on' number.

gg. Explicit instructions are to be given regarding the entries to be made in the appropriate records and any further documentation that might be needed for particular requirements. Instructions shall also address physical marking of the equipment, and endorsement of equipment cards for not in use (NIU) items.

hh. List and state the disposal action for redundant parts.

ii. The words 'plus' and 'minus' shall be used; the signs '+' and '-' shall not be used. Changes are not to be described as 'negligible' or 'less than … '. The units used will be the same as used in the technical publication for the item concerned.

jj. Insert 'EQUIPMENT (INCLUDING INSTALLED EQUIPMENT)", "GUIDED MISSILE" or "EQUIPMENT" as appropriate.

kk. Insert: effect on normal operating and handling procedure; effect on emergency operating and handling procedure; and, effect on limitations and performance. When a modification to an equipment has an effect on the management, operation or handling of the equipment which requires a change in the User Manual, full details of the effect shall be given. It is important that the information should agree with that which is being prepared by the contractor for inclusion in the User Manual.

ll. If applicable enter and complete the statement:

mm. Enter name of compiling contractor.

Figure 6: Standard Layout - Modification and Information Leaflets

System, main assembly LRU/component title	Equipment Document Reference (see completion note a)
Mod Leaflet No	(see completion note b)
Copy No	(see completion note c)
Date Mth/Yr . . . . (Amdt …. .)	(see completion note d)
Short title	(see completion note e)
MAIN EQUIPMENT (Equipment Type & Mark)	(see completion note f)
Mod No . . . . (Class . . . . .)	(see completion note g)
File ref	(see completion note h)

Title of modification (see completion note i)

1. INTRODUCTION (see completion note j)

Insert here a brief statement of why the modification is introduced, what it is and how it achieves the requirement.

a. This modification supersedes/partially supersedes/is satisfied by the work called for by Mod No . . . /Service Modification No . . . /Technical Instruction . . .or, if appropriate. (see completion note k)

b. This modification does not supersede, partially supersede or satisfy the work called for by any other modification, Service Modification, or Technical Instruction.

c. This modification is the cover/complementary modification to component Mod No . . . . .
or, in the case of component modifications. (see completion note l)

d. The cover/complementary modification to this modification is Mod No . . . .(see completion note m)

e. This modification is essentially connected with Mod No . . . . . ;if that work is not already embodied it must be effected concurrently. (see completion note n)

f. This modification is applicable only if Mod No . . . . is / is not already embodied. (see completion note o)

2. PROOF INSTALLATION

Proof installation satisfactorily carried out on this draft ML . . .at . . . on . .(see completion note p)
or
Proof installation originally required but subsequently cancelled at MOD PTL request.
or
Proof installation not required for this modification.

3. EMBODIMENT

State the extent of application of the modification to the type of equipment concerned and include any special embodiment instructions issued by the MOD PTL.

Approximate Time Required for Embodiment. (see completion note q)

The work will take approximately . . . . . man-hours (. . . To strip; . . . To embody; . . . To reassemble; . . . To test) (see completion note r)

4. DRAWINGS REQUIRED (see completion note s)

State drawing/figure numbers incorporated in this leaflet and/or list the drawing number(s) and title(s) of drawing(s) to be demanded.
State Drawing / Figure Numbers incorporated in this leaflet and / or list the drawing number and titles of drawings that are to be demanded. Provide details of how and where to demand drawings as applicable. Note: in general, drawings should be incorporated in leaflets and be of the simple line diagram or sketch type, to engineering drawing standard. Drawings or sketches submitted with a proposal should be suitable for reproduction at standard A4 or below. Line diagrams or sketches to be used as working drawings are to have all detail large enough to be easily interpreted. Photographs are only be used to complement drawings.

Drawing No	Title
- - - - - - - - - - -	- - - - - - - - -
- - - - - - - - - - -	- - - - - - - - -

or
No drawings are required for the embodiment of this modification.

5. PARTS AND SPECIAL TOOLS REQUIRED (see completion note t)

List the parts and any special tools required by Management code / Stock No, Nomenclature and Quantity. The quantity of parts is to be that number required to embody the modification on one equipment. Describe any special arrangements for supplying the parts and tools listed. Detail all hazardous substances used during embodiment, referring to JSP 515; list under following headings: Reference No, Part No and Nomenclature. State the details of any Special Tools and Test Equipment required. Parts and materials

Ref No	Part No	Nomenclature	Qty	Class of equipment
------	------	----------	---	----------
------	------	----------	---	----------

The following hazardous substances are used during embodiment of this modification:
(refer to JSP 515)

Ref No	Part No	Nomenclature	Qty	Class of equipment
------	------	----------	---	----------
------	------	----------	---	----------

or the following statement as appropriate
No parts or materials are required for the embodiment of this modification.

State the details of any special tools and/or test equipment required.

6. MODIFICATION OF SPARES (see completion note u)
The following list shows the spares affected by this modification and the parts required to modify them:

Ref No	Part No	Nomenclature	Qty	Class of equipment
------	------	----------	---	----------
------	------	----------	---	----------

Part(s) required: (see completion note u)
Spares will be modified by . . . . . (see completion note u)
No spares are affected by this modification (see completion note x)

7. CHANGE OF REFERENCE, PART AND ASSEMBLY NUMBERS (see completion note y)
The embodiment of this modification changes reference, part and assembly numbers as follows:

OLD			NEW		(see completion note z)
Ref No	Part/Assy No	Nomenclature	Ref No	Part/Assy No	Nomenclature
-----	----------	----------	-----	----------	----------
-----	----------	----------	-----	----------	----------

or, if appropriate
There are no changes of reference, part or assembly numbers as a result of this modification.

8. SEQUENCE OF OPERATIONS (see completion note aa)
The following is the sequence of operations:

WARNINGS

a. BEFORE ANY ELECTRICAL CIRCUIT IS DISTURBED OR DISCONNECTED, ALL ELECTRICAL POWER SUPPLIES IN, TO OR FROM THE . . . .*. . . . ARE TO BE DISCONNECTED. POWER SUPPLIES ARE TO BE RECONNECTED ONLY WHEN THE PERSON RESPONSIBLE FOR EMBODYING OR INSPECTING THE MODIFICATION IS SATISFIED THAT ALL ACTION HAS BEEN TAKEN TO MAKE THE . . . .*. . . . SAFE FOR RECONNECTION (see completion note bb)

b. THIS MODIFICATION IS TO BE EMBODIED AS DIRECTED WITHOUT ANY DEVIATION AND THE PRESCRIBED ROUTEING OF ELECTRICAL CABLES IS TO BE STRICTLY FOLLOWED (see completion note cc)

c. Safety Precautions
Specify the safety precautions that are to be taken. The leaflet is to contain a specific statement detailing the Health and Safety requirements (including COSHH).

d. Installation
Detail the sequence of operations, which should be practically proven if possible, required to complete the installation. List any changes to fuse and circuit breaker indexes. Include full instructions for, physically marking the equipment where this is a requirement, and recording the embodiment. (see completion note dd)

e. REMOVAL. Detail the sequence of operations required, which should be practically proven if

possible, to remove the modification. Each individual operation is to be separately paragraphed..

9. SPECIAL TESTS AFTER EMBODIMENT (see completion note ee)
a. When the modification has been embodied and inspected do the following special tests: (see completion note ff) and/or, if appropriate

b. When this modification has been embodied and inspected do functional tests of all systems which have been disturbed for the purpose of embodying this modification, in accordance with current testing instructions. and/or, if appropriate

c. As the embodiment of this modification involves disturbance of the …*…. system, an independent check of the system is to be made post embodiment (see completion note gg) and, if appropriate

d. A flight trial is/is not required to prove satisfactory embodiment of this modification, or, if appropriate

e. No special testing is required after the embodiment of this modification but any other appropriate and associated testing is to be done.

10. RECORDING ACTION (see completion note hh)
When this modification has been embodied and inspected in accordance with current authorised procedures the following recording action is to be taken:
When this modification has been embodied and inspected in accordance with current authorised procedures, the relevant entries are to be made in the appropriate equipment records.
State any other recording action necessary.
Permanent recording of the modification – by entry in nominated engineering record cards and, if appropriate, by physical marking of the equipment.
Notifying the user
Completing information system recording requirements, for modification configuration management.
Any other recording requirements.

11. DISPOSAL OF REDUNDANT PARTS
List and state the disposal action of all the parts removed and not reinstalled as a result of the modification under the following headings: (see completion note kk)

Ref No	Part No	Nomenclature	Qty	Class of equipment
------	------	----------	---	----------
------	------	----------	---	----------

12. EFFECT ON MASS AND MOMENT (see completion note ll)
This modification causes a mass change of . . .*. . . lb/kg and a change of moment of plus/minus . . .*. . . lb in/kg cm. (use appropriate units)
or
This modification causes a change in mass and moment as follows:

Mass Change	Longitudinal Axis	Lateral Axis	Vertical Axis
----------	----------	----------	----------

or
This modification has no effect on mass or moment.

13. EFFECT ON OPERATION AND HANDLING (see completion notes mm and nn)
. . . .
or, if appropriate state “None”.

14. CHANGES IN POWER SUPPLY REQUIREMENTS (see completion note oo)
This modification alters the electrical loading of the primary power supplies as follows:
The AC/DC load is increased/decreased by . . . . . Amps at. . . . . .Volts

15. EFFECT ON SERVICING AND GROUND SUPPORT EQUIPMENT
Enter particulars of the effect on servicing and on ground support equipment including test equipment and simulators or state “None”.

16. EMC AND TEMPEST CLEARANCE
EMC clearance has been given / is awaited

If the equipment has secure systems, insert:
Embodiment of this modification invalidates the TEMPEST clearance until formal clearance has been received. An appropriate entry is to be made in the documentation for TEMPEST cleared equipment.
or
TEMPEST clearance has been given for all equipment.
or
TEMPEST clearance is not required.

17. NIGHT VISION GOGGLES (NVG) COMPATIBILITY
Detail any effect on the NVG compatibility of the equipment or state “None”.

Technically approved for . . . . . by. . . . . date . . . . . .
(see completion note pp)

CHAPTER 6: IN-SERVICE

Amendments to a Modification Leaflet

1. PTs may authorise changes to a modification leaflet for textual errors, or to matters that do not affect the work content of the leaflet and do not require retrospective action to be taken on the equipment. In such instances, the PT is to cancel the previous leaflet and issue a new leaflet in accordance with AESP instructions.

Post Implementation Assessment

2. **General**. PTs are, normally through the Modifications Committee, to monitor and review modification embodiment to identify and resolve any problems in the embodiment programme, incorporate lessons learnt to improve future modification programmes and assess the modification's effectiveness in meeting the requirement. Reviews of the modification embodiment programme should:

a. Assess whether an individual programme requires:

(1) Cancelling.

(2) Recovery action to meet the agreed timescale.

(3) A revision of the delivery plan and timescales.

(4) Quantify the actual costs and benefits of the modification.

(5) Identify the lessons learned.

(6) Assess the operational effectiveness of the modification.

3. **Frequency of reviews**. PTs are to conduct reviews of procured but not fully embodied modifications:

a. At least annually; all outstanding modifications.

b. Whenever a new modification proposal has an impact on an outstanding modification programme.

c. On completion of a modification embodiment programme.

Retention of Records

4. All records of Modifications are to be retained by the relevant PT, whether formally incorporated or not, so that:

a. Any future proposals for similar requirements can be processed quickly.

b. A body of evidence exists should any safety issues become apparent later.

Removal of Designer Modification

5. In normal circumstances the Designer Modification will not be removed but it may be superseded by a subsequent modification. When a modification is superseded it will be referenced in the superseding modification's leaflet.

6. Exceptionally if it is necessary to remove a DM a new modification proposal will be submitted and progressed as appropriate. The PT should not assume that the original items removed during the embodiment of the original DM will be available.

Embodiment Review

7. During the embodiment the PT is to review the success of embodying the modification, using JAMES where appropriate. The PT is to actively investigate instances where the JAMES record indicates that the modification has not been embodied. After majority embodiment the PT is to investigate whether the implementation of the modification is producing the expected results.

Fault Reporting

8. Any in-service faults with the embodied installation are to be reported to the PT using AF G8267A/B Equipment Failure Report (EFR) Form either electronically using Unit Level EFR Entry Facility (ULEEF) or JAMES, by email to *ES(Land)Tech3a-FailureRep* or by post to FRACAS, BFPO 794.

CHAPTER 7: LAND IN-SERVICE LOCAL MODIFICATION

Introduction

1. The Land In-Service Local Modification (LISLM) procedure is to be used to embody modifications when the Designer Modification (DM) procedure will not meet the required timeframe, or where a PT believes that it is more cost-effective to introduce and support an LISLM. Every LISLM is to be supported by a Risk Assessment. This assessment is to be considered against, and integrated into, the whole Equipment Safety Case.

2. The LISLM procedure may be occasionally used for evaluation or for trials purposes. It should only be incorporated into a limited number of equipments for a specified period, then removed, inhibited or superseded by a DM.

3. LISLM are developed at unit level using items available from the Defence Inventory and limited local purchase. The LISLM procedure is intended to notify and give approval to unit developed modifications from the Equipment Support chain of command (supporting ES (LAD or Workshop), Divisional ES, LAND G4 Equipment Division and the equipment PT). This scrutiny process is intended to regularise local modifications, identify engineering and safety aspects, spread good practice and take formal modification action if appropriate. LISLMs are suitable for equipment cages on vehicles and similar low technology alterations. LISLMs are not noted on the Configuration Status Record (CSR) and Supply Support action (amendments to technical document and identification of facilities, spares and tools) is not undertaken. LISLMs are to be removed from equipments being returned to base depots. The retention of LISLMs is to be mutually agreed for inter unit transfers.

Applicability

4. This procedure can apply to all Land Environment equipment, where the proposed modification can be embodied within the resources available at the proposing unit, other than those detailed below:

   a. Equipment supplied and / or maintained by agencies outside the MOD.

   b. A line replaceable unit forming part of any radio, radar or navigation system.

   c. Specialist signal equipment.

Limitations

5. Any LISLM Proposal must satisfy the following conditions:

   a. The modification must not adversely affect the safety or functionality of the equipment, in normal, alternative or emergency modes of operation.

   b. The modification must be essential for operational reasons and not merely desirable.

   c. The parts used are to be NATO referenced, or, for equipment of non UK origin, identified by material manufacturers part number.

   d. Work necessary for the manufacture of parts should normally be accomplished using 1st or 2nd Line facilities. Where manufacture is beyond this capability, units

are to arrange for the parts to be manufactured by other resources on the authority of the Divisional HQ ES Branch.

e. The time required for the embodiment of the modification on a single equipment, excluding the manufacture of parts, is not normally to exceed 30 man hours.

Figure 7: Land In-Service Local Modification Proposal Form

LAND IN-SERVICE LOCAL MODIFICATION PROPOSAL FORM						
PART 1 - ORIGINATING UNIT AND EQUIPMENT DETAILS					Unit Ref No	
Originating Unit					UIN	
Owner / Holder					UIN	
Equipment	DescrPTion		ERM / NSN / EAC		NSN / Part No	
End Item						
Multi Assy ID						
Assy						
Sub Assy						
Component						
PART 2 - DETAILS OF REQUIREMENT (continue on a separate sheet if necessary)						
Proposed by		Grade / Rank		Post		
Endorsed by Technical Officer		Grade / Rank		Post		
Endorsing Signature		Date		Contact details		
PART 3 - CHAIN OF COMMAND ENDORSEMENT (Operational need and reversal options)						
Endorsed?	YES	NO	If NO state reason and return to unit			
Required implementation date			Anticipated duration of modification			
Already fitted?			Number of equipment to be modified			
Endorsed by			Grade / Rank		Post	
Endorsing Signature			Date		Contact details	
PART 4 - ASSESSMENT BY PT (continue on separate sheet if necessary)						
Endorsed?	YES	NO	If NO state reason and return to unit			
PT to tick applicable boxes and provide further explanation where appropriate		☐ Known to PT		☐ PT to progress as UOR		☐ PT to raise formal Mod
		☐ Considered unsafe *		☐ Referred to DA		☐ Beyond unit capabilities
		☐ PT to raise formal leaflet		☐ Implementation agreed		☐
Endorsed by			Grade / Rank		Post	
Endorsing Signature			Date		Contact details	
* If the proposal is considered unsafe the PT is contact Unit and Chain of Command immediately to explain, stop implementation (if appropriate) and advise, if known, of any mitigation. The process is iterative and all participants that have contributed to the proposal are to be kept informed of progress.						

Safety Considerations

6. The responsibility for safety management of an equipment resides with the relevant PT. It is therefore imperative that:

a. Equipment should not be modified by the proposing unit without the written authority of the PT. Any attempt to embody a proposed modification prior to this

authority being granted will transfer the liability for the effect of the changes on to the person or persons embodying the changes. It is therefore essential that a documented Risk Assessment be conducted to identify any potential hazards prior to any proposed changes and that this is then endorsed at unit level. Otherwise individuals may find themselves personally liable under the Health & Safety at Work Act (1974) or subject to disciplinary procedures, or both, JSP 375 refers.

b. In this procedure it is only necessary for the proposing unit to identify what the requirement is in terms of changes to the operation or specification of the equipment. It is not a requirement for the proposing unit to detail a physical change although they may suggest a potential solution.

c. The safety aspects of any changes to the equipment resides with the relevant PT and the procedures to be followed in assessing any safety implications will be detailed in the PT's Safety Management System. Any subsequent changes to the equipment will be detailed in the relevant Safety Case.

Responsibilities

7. The responsibilities of the various organisations involved in a proposal for modification covered by this procedure are:

a. **Proposing Unit**. A unit proposing a LISLM for engineering or operational reasons is to complete Parts 1 and 2 of the LISLM Proposal Form (Figure 7) as follows:

(1) Part 1 to contain details of the proposing unit and the equipment which is the subject of the proposal.

(2) Part 2 details the requirement. It is only necessary to define the changes required to the equipment performance. There is no requirement to propose an engineering solution as this will be developed by the equipment PT. If a solution has been locally developed, full details including drawings, photographs etc, should be supplied. Part 2 shall be signed by the proposal initiator and endorsed by the unit Technical Representative, for example OC LAD or BEME.

b. **Chain of Command**. The unit's Chain of Command shall assess the proposal giving due consideration to the operational need and the criteria for reversal of the modification. They should then complete Part 3 of the LISLM Proposal Form (Figure 7) with the Comd ES signing the endorsement.

(1) If the proposal is not agreed the form should be suitably endorsed and returned to the proposing unit with the reason stated.

(2) If the proposal is endorsed it should be forwarded to the PT and the following information should be supplied:

(a) The number of equipments to be modified.

(b) The required date by which all equipment should be modified.

(c) The anticipated duration of the modification requirement.

c. **Equipment PT** – the relevant PT shall decide if the modification proposal is technically and practically feasible by:

(1) Conducting an initial assessment of the proposal at Part 4 and returning a completed copy to the Chain of Command.

(2) The proposed solution to the requirement, following either a PT or Design Authority (DA) investigation, shall be supplied to the Chain of Command.

(3) An Initial Land Service Modification Approval Meeting shall be convened and chaired by the PT. It shall include as its members representatives of the proposing unit, LAND G4 Equipment Division and the DA. This meeting will endorse the modification solution and approve an initial fit at the proposing unit to verify all aspects of the implementation. The decision of this meeting will be recorded on the Service Modification Approval Form and a copy shall be returned to Chain of Command.

(4) A Clearance Meeting shall be convened and chaired by the PT. It shall include as its members representatives of the proposing unit, LAND G4 Equipment Division and the DA. The meeting will be the final approval for the modification and will approve the implementation and removal plan. The options for implementation and any fleet wide embodiment shall also be agreed. It will also consider if a modification instruction should be produced and consider whether the modification should be adopted on a wider or fleet basis.

Procedure

8. The procedure for submitting a modification proposal and the stages of approval are shown in the flowchart at **Error! Reference source not found.**. All proposals should be submitted using the LISLM Proposal Form at Figure 7.

Land In-Service Local Modification Leaflet

9. The production of the LISLM leaflet will be arranged by the PT. The format of the leaflet will conform to the standard modification leaflet layout. The LISLM leaflet is to be located in Category 8.3 Service Engineered Modifications of Army Equipment Support Publications (AESP) of the relevant equipment. The guidance in Chapter 8 of AESP 0100-P-005-010 *Specification of Army Equipment Support Publications*. The LISLMs are to uniquely numbered.

Embodiment of Land In-Service Local Modification

10. **General**. The LISLM embodiment programme is to be arranged between the Unit and FLCs.

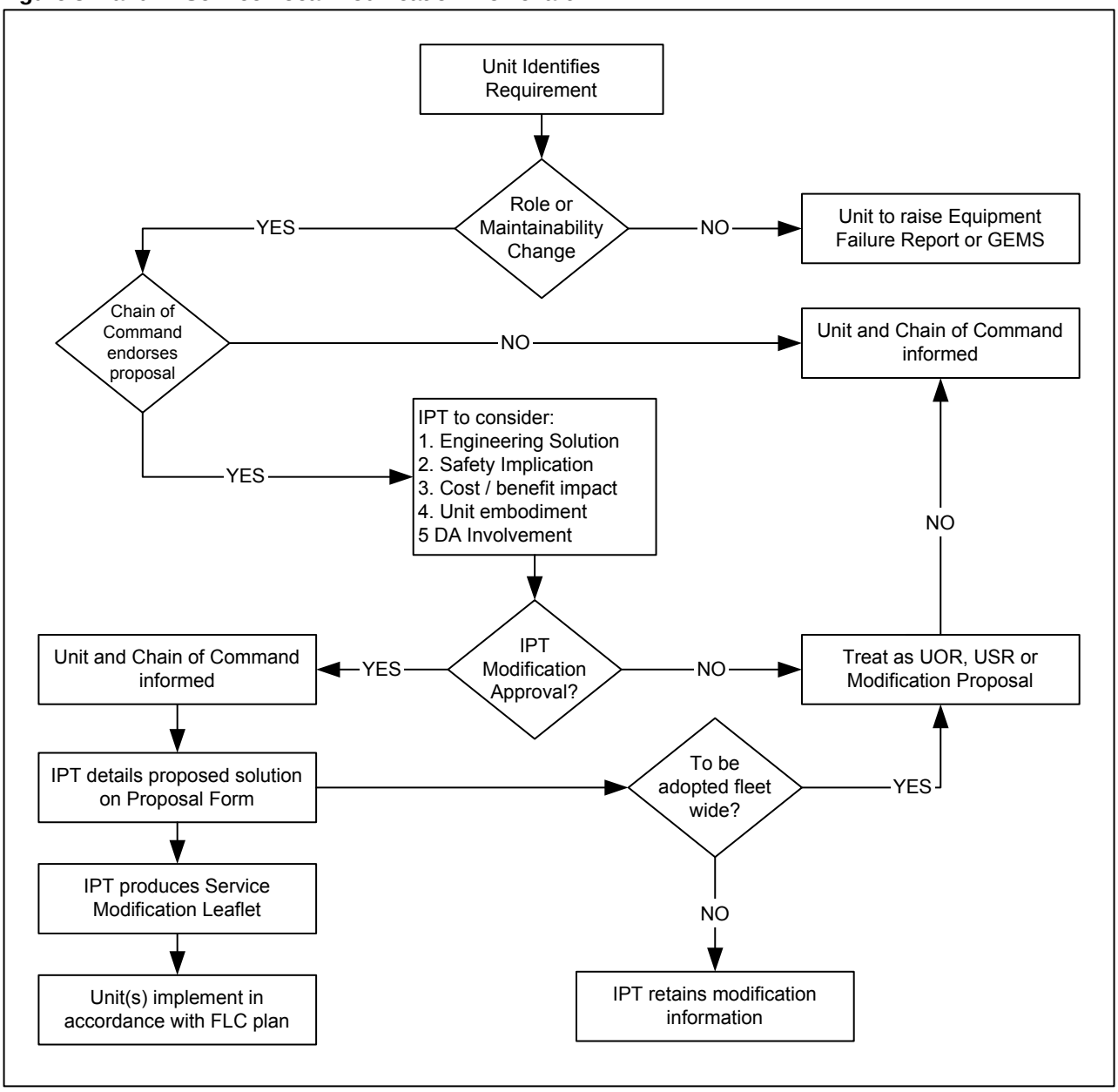
11. **Embodiment outside user units**. Where a LISLM is required to be embodied on an equipment outside FLC control, the PT is responsible for deciding upon and making any necessary arrangements, additional to those in this publication, for the safe and correct embodiment of the LISLM.

12. **Post-embodiment fault reporting**. Any in-service faults with the embodied LISLM installation are to be reported to the PT using AF G8267A/B *Equipment Failure Report* (EFR) *Form*.

Modification Removal

13. In normal circumstances the LISLM will be removed on transfer of equipment unless mutually agreed between units, or at the agreed removal date and in line with the removal plan. If the unit requires retention of the modification beyond this date it should seek approval from the PT.

Figure 8: Land In-Service Local Modification Flowchart



Cancellation

14. A LISLM may be cancelled whenever its purpose is fulfilled, it is superseded, or the original requirement no longer exists. If a cancelled LISLM is to be removed and the removal are not self evident and instructions were not provided with the original LISLM Leaflet, the PT is to generate a new LISLM Leaflet giving removal instructions.

Formal Incorporation of Modification

15. If, in the opinion of the PT, the benefits of the LISLM warrants a wider adoption then a Designer Modification should be developed.

Recording of Land In-Service Local Modifications

16. The PTs are to maintain a proposal file to register and retain all records of LISLM proposals, whether formally incorporated or not, so that:

a. Any future proposals for similar requirements can be processed quickly.

b. A body of evidence exists should any safety issues become apparent after the agreed removal date of the modification.

c. Any proposal adopted as a LISLM should have a separate project file raised.

d. Embodiment of LISLM are to be recorded in equipment documentation.

Funding and Financial Approval

17. Normally LISLM will be constructed from items already in the inventory. Exceptionally PTs may provide financial or procurement support for items that are not available or are not available in sufficient depth in the Defence Inventory.

CHAPTER 8: SUPPLY AND FITTING OF MODIFICATIONS

Introduction

1. This chapter deals with the supply and fitting of Land Environment modification kits for in-service equipments. Modification Leaflets are issued either as an Army Equipment Support Publication (AESP) Category 8 or an Electrical and Mechanical Engineering Regulation (EMER) relevant to the equipment.

2. The provisioning of modification kits is normally limited to the number of in-service equipments. Spare kits are only available in special circumstances. Modification kits received by units are to be incorporated without delay, in accordance with the modification priority, into the equipment to be modified. Spare parts, to maintain the post modification standard, will be evaluated and provisioned by the PT.

Priority

3. Modifications to in-service equipment are to be embodied at the priority noted in the Embodiment Plan decided by the Modification Committee. The Embodiment Plan, and the usually the Modification Leaflet, will state whether the modification will be embodied by PT or Unit resources; normally the former for fleet wide modification programmes.

4. Units are responsible for ensuring that modifications that are a shown as a Unit responsibility in the Embodiment Plan or to equipments that have missed the PT fitting programme are completed.

Fitting of Modification Kits

5. Units with the appropriate tradesmen (Attached tradesmen, Light Aid Detachment (LAD) or workshop) are to fit modifications designated in the Modification Leaflet to be undertaken at unit level. The required modification kits for the equipment entitlement are to be demanded by the unit.

6. Units without appropriate tradesmen are to request their supporting workshop to fit the modification using an AF G1045 *Job Indent.* The required modification kits are to be demanded by the workshop stores section or troop.

Supply of Modification Kits

7. The Modification Leaflet will state whether the parts required are to be issued as a Modification Kit or, in the case of a simple modification, demanded as individual parts.

8. Units are to demand the Modification Kits and /or individual items using the Standard Priority Code (SPC) appropriate to the planned embodiment and Reason for Demand (RFD) code J *Spares in support of non-recurring repair / modification / test programme*. The Modification Reference is to be entered in the Special Instruction box. Units are not to demand for modifications being fitted by PT resources unless instructed to do so by the PT and / or Chain of Command.

9. Normally not more than 2 months requirement of modification kits are to be demanded, and units are not to retain unused kits indefinitely. Units are to request disposal instructions, using AF G8621 *Request for Disposal Instructions*, for any kits not incorporated 6 months after receipt or left on hand when the associated repair programmes are complete.

Control of Modification Kits

10. In certain circumstances the issue of Modifications Kits will be directly controlled by the PT. In these cases the PT will organise the issue of Modification Kits by Issue Order. The PT may require the unit to notify the equipment registration or serial number that was modified. Units are to inform the PT when a modification kit, demanded or issued for a specific equipment by registration mark or serial number, is used to modify a different equipment.

11. PTs are to ensure that the BIS record for all modifications kits are to have the Disposal Restriction Code (DRC) set to K *All surplus arising at units to be returned regardless of constraint*.

Transfer or Disposal of an Equipment

12. When a vehicle or technical equipment is to be sent to a Sales disposal point, any associated unused modification kits are to be retained by the unit and disposal instructions requested using AF G8621 *Request for Disposal Instructions*.

13. When a vehicle or technical equipment is transferred to another unit, or return to the supply system or a repair agency, any unused modification kits held are to be transferred or returned with the main equipment. Details of any accompanying unused modification kits are to be entered on the issue voucher.

Accounting for Modification Kits

14. Modification kits are to be brought on charge at unit level on the Miscellaneous Stores Account (MSA).

15. When modification kits have been incorporated into equipments, all modification details are to be recorded in the Unit Modification Register. This register is to be held by the unit LAD / Workshop or, if there is no attached unit REME support, by the Quartermaster once the vehicle or equipment has been returned to unit lines. Documents used to record the modifications are:

Army Form B 9927 - Unit Equipment Modification Register
Army Form B 9928 - Modification Record Sheet
Army Form B 9929 - Unit Register of Outstanding Modifications