Ministry of Defence

Defence Standard 05-057

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Configuration Management of Defence Materiel

Section 1

Foreword

Defence Standard Structure

Section 1 (Generated by the StanMIS toolset)

- Revision Note
- Historical Record
- Warning
- Standard Clauses

Section 2 (Technical information provided by Subject Matter Expert)

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Section 3 (Generated by StanMIS toolset)

- Normative References
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- Changes Since Previous Issue

REVISION NOTE

Minor changes to document

HISTORICAL RECORD

This standard supersedes the following:

Def Stan 05-057 Iss 7

WARNING

The Ministry of Defence (MOD), like its contractors, is subject both to United Kingdom law and any EU-derived law that has been retained under the European Union (Withdrawal) Act 2018 regarding Health and Safety at Work. Many Defence Standards set out processes and procedures that could be injurious to health if adequate precautions are not taken. Adherence to those processes and procedures in no way absolves users from complying with legal requirements relating to Health and Safety at Work.

STANDARD CLAUSES

a) This standard has been published on behalf of the Ministry of Defence (MOD) by UK Defence Standardization (DStan).

b) This standard has been reached following broad consensus amongst the authorities concerned with its use and is intended to be used whenever relevant in all future designs, contracts, orders etc. and whenever practicable by amendment to those already in existence. If any difficulty arises which prevents application of the Defence Standard, DStan shall be informed so that a remedy may be sought.

c) Please address any enquiries regarding the use of this standard in relation to an invitation to tender or to a contract in which it is incorporated, to the responsible technical or supervising authority named in the invitation to tender or contract.

d) Compliance with this Defence Standard shall not in itself relieve any person from any legal obligations imposed upon them.

e) This standard has been devised solely for the use of the MOD and its contractors in the execution of contracts for the MOD. To the extent permitted by law, the MOD hereby excludes all liability whatsoever and howsoever arising (including, but without limitation, liability resulting from negligence) for any loss or damage however caused when the standard is used for any other purpose.

Section 2

1 Introduction

1.1 This Standard contains Configuration Management (CM) requirements to be employed in contracts. These requirements are based upon the requirements contained in NATO STANAG 4427, Configuration Management in System Life Cycle Management - ACMP-2000 Edition A & ACMP-2009 Edition A & ACMP-2100 Edition.

1.2 CM is a management activity that applies technical and administrative direction, focusing upon the product physical and functional characteristics to ensure conformance with requirements and to control the change of formally approved Configuration Baselines.

CM enables the documented status of the product or system to be known at any time.

Effective CM ensures that the internal and external interfaces and the various parts of a complete product or system remain compatible, including spares, test equipment, tools, ancillaries and support documentation.

1.3 The requirements of this Standard can help to assure that:

a) Platform systems and components that are to be owned and operated by the Authority and designated as Configuration Items (CI)s; are designed, developed, produced and recorded under a formal configuration change management system and delivered against a formally recorded and approved Configuration Baseline.

b) Product CI configuration and operational information is available for the Authority's In-Service requirements.

c) Change(s) to a delivered product Configuration Baseline are established under a formal configuration change management system to ensure the integrity of design In-Service.

1.4 The Authority's programme / project lifecycle normally involves two phases of formal CM;

a) When the responsibility for the authorisation of configuration change(s) during product development resides with the Prime Contractor, i.e. (Under Contractor Control); and

b) When the responsibility for the authorisation of configuration change(s) affecting the In-Service Baseline resides with the Authority, i.e. (Under Ministry Control).

1.5 The lack of Baseline Configuration information can lead to the need for costly corrective action to establish the required information for the continued use, or further development, of a particular product or system. The investment for CM is returned by reductions associated with the costs for intervention, corrective action, risk and possible liability.

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2 Scope

2.1 This Standard details Configuration Management (CM) requirements, which may be tailored, to suit individual contracts taking into account the complexity and nature of the programme requirements.

2.2 In addition to the generic requirements of this Standard, This Standard also identifies additional CM requirements particular to the Air (Annex F), Maritime (Annex G) and Land (Annex H) Domains. Many of these additional requirements support the Authority's In-service Configuration Management arrangements.

3 Configuration Management Requirements

3.1 General

3.1.1 The Contractor shall incorporate the principal activities for; Configuration Management planning, Configuration Identification and documentation, configuration change management, Configuration Status Accounting and Configuration Audit in accordance with the requirements of this Standard.

Note 1: A process model illustrating these integrated Configuration Management activities is contained in Annex B.

3.1.2 The Contractor shall flow down the applicable contractual Configuration Management requirements to sub-contractors by reference to the contract requirements.

3.1.3 The Contractor shall ensure that the procedures and processes required to fulfil the applicable Configuration Management requirements are fully implemented at the sub-contractor's facilities.

3.1.4 The Contractor shall authorise configuration change(s) to product development Baselines, i.e. Under Contractor Control, until product acceptance by the Authority for In-Service use;

3.1.5 The Contractor shall provide to the Authority; the Configuration Item (CI) information required to support; programme design reviews and product acceptance, unless otherwise agreed by the contract.

3.1.6 The Contractor shall deliver individual CIs under a programme of acceptance agreed by the Authority, as required by the contract.

3.1.7 The Contractor shall provide to the Authority; the product CI information required for In-service Configuration Management, maintenance and operation unless otherwise agreed by the contract.

3.1.8 Where a Contractor is contracted for In-Service Configuration Management, the Contractor shall recognise the role of the Authority as part of the Configuration Control Board (CCB) to authorise change(s) affecting a CI functional or physical characteristics / Configuration Baseline.

3.1.9 The Contractor shall recognise the supplementary configuration requirements for the Air, Maritime and Land Domains as required by the contract, (see Annex F, G and H respectively).

3.2 Configuration Management Responsibility

3.2.1 A Configuration Change (Dispositioning) Authority[1] must be identified at all times throughout the life of the Contract to make decisions on product configuration as defined in the requirements for design, realisation, verification, operation and support. (Reference - ISO 10007)

Note 2: The Configuration Change (Dispositioning) Authority can also be known as the Configuration Control Board (CCB).

3.2.2 The Contractor shall establish a Dispositioning Authority / CCB throughout the life of the Contract, when the authorisation of configuration change is deemed to be Under Contractor Control (UCC).

[1] Dispositioning Authority – A person or group of persons, assigned responsibility and authority to make decisions on product configuration as defined in the requirements for product design, realisation, verification, operation and support (Reference ISO 10007).

3.2.3 The Contractor shall support the Authority's CCB throughout the life of an In-Service contract, when the authorisation of configuration change is Under Ministry Control (UMC)

3.3 Configuration Management Planning

3.3.1 Unless otherwise specified in the contract, the Contractor shall submit to the Authority a contractual deliverable Configuration Management Plan (CMP) that shall form part of the Contract.

3.3.2 CM planning shall define and document the CM System for the Contract explaining how Configuration and Data Management is to be managed, addressing the requirements in Clause 3 of this Standard and the framework detailed in Annex C. The Authority reserves the right to reject the CMP.

3.3.3 CM planning shall take into account the complexity and nature of product / system throughout the life of the contract. Omissions of the requirements in this Standard shall be justified.

3.3.4 The Contractor shall periodically review the CMP for effectiveness, and, where necessary, up-date and re-submit to the Authority.

3.3.5 The Contractor shall indicate the means by which an understanding for the requirements of this Standard is achieved between the Contractor and the sub-contractor(s), when integrating, interfacing, auditing; testing and evaluating inter-related CIs.

3.3.6 The methods used to determine the sub-contractor's capability and monitor the sub-contractor's ability to support the requirements of this Standard shall be explained.

3.3.7 Where a Contractor is contracted to establish "In-Service" configuration change(s), the Contractor shall recognise and identify the interaction between the Contractor's and the Authority's Configuration Management processes.

3.4 Configuration identification and documentation - Product structure and selection of configuration items

3.4.1 The Contractor shall select Configuration Items (CIs) to allow the efficient and effective management of product configuration change and enable the management of the product CI interfaces; internally and externally with any associated system CIs.

3.4.2 Each CI shall be defined in sufficient detail so that it may be selected, developed, tested, evaluated, product accepted, operated, maintained, supported, modified and disposed of. Further CI(s) shall be identified as necessary as the contract / project progresses.

3.4.3 Criteria for CI selection shall include, but not be limited to:

a) Statutory and regulatory requirements.

b) Criticality in terms of safety complexity, functionality and performance.

c) Integration, interchangeability and status as a replaceable item including integrated logistic support.

d) Management and responsibility considerations.

e) The consideration for the need to differentiate between individual CIs.

3.4.4 Deliverable and non-deliverable software affecting the function of the product / system shall be designated as a CI.

3.4.5 The Contractor shall establish a relationship between each CI and its associated configuration documentation and information for each product / system Baseline.

3.4.6 The Contractor shall establish a product structure from the selection and the inter-relationship of the CIs. (Reference ISO 10007).

3.4.7 Non-Developmental Items / Commercial-off-the-Shelf Item(s) and Government Furnished Equipment that require modification, shall be re-identified as a programme modified CI, and controlled in accordance with the requirements of this Standard and the Contract.

3.4.8 The Contractor shall only develop / modify Government Furnished Equipment (GFE) with the approval of the Authority.

3.4.9 The CM documentation status for each CI shall be identified by means of the Configuration Status Record (CSR).

3.5 Configuration identification and documentation - Product configuration information.

3.5.1 The Contractor shall develop and use product configuration information that is consistent and compatible with the complexity and nature of the contract.

3.5.2 The Contractor shall document the functional and physical characteristics of all selected CI(s).

3.5.3 Unless otherwise specified in the contract, the Contractor's identification numbering system shall be used to assign a unique identifier to each CI and its associated documentation.

3.5.4 Where CIs are to be delivered for management by the Authority's supply system, the Contractor shall obtain a NATO Stock Number (NSN) in accordance with the requirements of the Contract (see DEFCON 117).

3.5.5 The Contractor shall serialise like items, or groups (lots) of like items, as specified in the contract. The Serial / Lot Numbers shall be unique, consecutive, and non-duplicating for all items with a specific nomenclature. The original Serial Number of a CI / unit / item shall not be changed even when a change affecting interchangeability may require rework and re-identification. Once assigned, Serial Numbers shall not be reused for the same item / CI.

3.5.6 All CI shall be marked in accordance with contract requirements. Marking requirements and methods of application shall be entered in the configuration documentation related to the CI. If the product is too small to be marked, the configuration documentation shall specify the alternative means of identification.

3.5.7 For each Computer Software Configuration Item (CSCI), the Contractor shall identify its Computer Software Components (CSC) and Computer Software Units (CSU), if any. For each CSCI, CSC and CSU, the Contractor shall issue/obtain a Software Identifier, which shall consist of a name or number, and a version identifier, and shall relate the software to its associated software design documentation, revision, and release date.

3.5.8 Configuration information and data shall be maintained, stored and protected from accidental loss or damage such that accurate retrieval is assured.

3.5.9 Functional configuration documentation shall identify the documentation for selected items that are to be integrated or interfaced with the CI. Functional configuration documentation shall include but are not limited to:

a) All necessary functional characteristics;

b) Test requirements;

c) The necessary interface characteristics with associated items;

d) Key lower level CI, if any; and Design constraints.

3.5.10 Functional configuration documentation for a system shall be in the form of a system specification or a prime item development specification for a single item, plus other applicable documentation.

3.5.11 The Allocated Baseline or Design Baseline (Development); shall meet the functional requirements in the Functional Baseline. The development configuration documentation shall be in the form of development specification(s), referenced interface control documents, and other applicable documentation. Development configuration documentation shall include but are not limited to:

a) The functional characteristics that are allocated based on the functional baseline;

b) The tests required to demonstrate achievement of those functional characteristics;

c) The necessary interface characteristics with associated CI; and

d) Design constraints.

3.5.12 The Product Baseline configuration documentation shall be in the form of product, material, and process specifications, engineering drawings and other technical documentation for the CI that satisfactorily reflects the requirements of ABL and FBL. Product configuration documentation shall include but not be limited to:

a) All necessary physical and functional characteristics of CI;

b) Selected functional characteristics designated for production acceptance testing;

c) Production acceptance test; and

d) PCA and FCA documentation.

3.6 Configuration Baselines

3.6.1 The Contractor shall establish a Configuration Baseline when it is necessary to define a reference for further product development or In-service Modification. (Reference ISO 10007)

3.6.2 The Contractor shall have a configuration identification process to identify the configuration documents that establish each Configuration Baseline. The baseline identification process will continue for all configuration change(s) to CIs.

3.6.3 The Contractor shall identify each Configuration Baseline by; the baseline item CI number, the baseline type and system designation.

3.6.4 The Contractor shall apply configuration control measures to each baselined CI and its configuration documentation in accordance with this Standard.

3.6.5 Where required under the terms of the contract the Contractor shall establish the following Configuration Baselines for each CI,

a) Functional Baseline (FBL);

b) Allocated Baseline (ABL) or Design Baseline (DBL); and

c) Product Baseline (PBL).

3.6.6 The Contractor shall ensure that all the configuration documentation defining the Configuration Baseline(s) is mutually consistent, compatible and traceable between each Configuration Baseline. If a conflict arises between the levels of documentation the order of precedence shall be FBL, ABL and PBL.

3.6.7 The Contractor shall make available to the Authority, the CI configuration documentation required to support programme design and or baseline reviews, as required by the contract.

3.6.8 The Contractor shall provide for each Configuration Baseline, a list of documents identified by title and including the following: Identification number, Revision status, Type, Use in other related systems and Approval date.

3.6.9 The CM documentation status for each CI shall be identified by means of the Configuration Status Record (CSR).

3.7 Configuration change management - Change control – General

3.7.1 Configuration change management shall be applied through the process of establishing baseline reference points from which to control change.

3.7.2 The Contractor shall ensure that proposed changes are justified, developed, estimated provisioned, assessed, validated and reconciled to the allocated budget before approval.

3.7.3 Classified data, essential to the evaluation and disposition of configuration change, shall be submitted separately in accordance with the Authority's approved security procedures, in accordance with the requirements in the contract.

3.7.4 When software based tools are used for CM, controls shall be introduced to prevent unauthorized changes and shall be detailed in the CM planning.

3.8 Configuration change management - Initiation, identification and documentation of the need for change

3.8.1 Under Contractor Control

3.8.1.1 The Contractor shall establish a process for proposing and recording Engineering Change(s) to baselined CI(s) and associated configuration documentation to ensure:

a) Control of Configuration Baselines.

b) Consistency between product and product configuration information.

c) Communication of change information.

d) Change decisions understand the impact of change.

e) Changes are necessary or offer significant benefit.

f) Stakeholder interests are considered.

g) Product interfaces are controlled.

h) Concessions - are recorded and managed.

i) Products are supportable after change.

3.8.2 Contractor role - Under Ministry Control

3.8.2.1 Proposals for In-Service Modifications shall be submitted to the Authority in accordance with Domain requirements, as required by the contract. See Annex D, E, F, G and H.

3.8.2.2 The information requirements and format for the completion of a Modification Proposal Form shall be agreed by the Authority and identified in CM planning.

Note 3: Examples of the data set requirements within a Modification Proposal Form are detailed in Annex D.

3.9 Configuration Change Management - Evaluation of Change

3.9.1 Under Contractor Control

3.9.1.1 The Contractor shall document the evaluations of proposed changes that shall consider:

a) the technical merits and risks of the proposed change;

b) the interchangeability of CIs the need for re-identification;

c) the need to maintain the CI interfaces;

d) the impact for manufacturing;

e) the requirements for inspection and test;

f) the availability of materials;

g) the effect upon the integrated logistic support arrangements.

3.9.1.2 Proposed changes to CIs that are installed in integrated systems shall be assessed in terms of the implications for interfacing products and the overall system concerned.

3.9.1.3 The Contractor’s Engineering Change Proposal (ECP) shall be classified as either a Class 1 or Class 2.

3.9.1.4 An ECP shall be a Class I if the product Configuration Baseline(s), once established, are affected to the extent that the contract requirements are not met, or change to the Baseline(s), impacts one or more of the following:

a) Government Furnished Equipment (GFE);

b) Safety (to include safety critical software);

c) Security;

d) Deliverable computer software;

e) Compatibility or interoperability with interfacing items;

f) Delivered operational and maintenance manuals;

g) Interchangeability or replace-ability;

h) Skills, manning, training, biomedical factors or human engineering design.

3.9.1.5 A Class 1 ECP shall be agreed by the Authority and communicated to the CCB.

3.9.1.6 A Class 2 ECP shall address all changes not classified as Class 1.

3.9.1.7 The Authority shall have the ability to review Class 2 changes for concurrence and reserve the right to re-categorise a Class 2 change to Class 1.

3.9.2 Contractor role - Under Ministry Control

3.9.2.1 In-Service Modification Classification Categories shall be identified in accordance with the contract and Domain requirements see Annex E, G and H.

3.9.2.2 Proposed changes to CIs that are installed in integrated systems shall be assessed in terms of the implications for interfacing products and the overall system concerned.

3.9.2.3 When an In-Service modification to a CI is approved, traceability shall be maintained using CSA and this shall extend to those ancillary items affected and any necessary support requirements.

3.9.2.4 The Modification instructions shall include full and comprehensive details necessary to enable the implementation of the modification.

3.10 Configuration Change Management - Disposition of Change

3.10.1 The Contractor shall establish processes that recognise the Contractor's responsibility to Disposition configuration change when Under Contractor Control.

3.10.2 When contracted to undertake In-Service configuration change; the Contractor shall take into account the Authorities requirements for CI Modification and recognise the Authority's CCB for the authorisation of change(s) affecting CI functional and physical characteristics.

3.11 Configuration change management - Implementation and verification of change.

3.11.1 The Contractor shall verify the implementation of approved change by the Contractor's Organisation, when configuration management is Under Contractor Control.

3.11.2 The Contractor shall verify and make available to the Authority, the required product configuration information to implement approved change when configuration management is Under Ministry Control.

3.12 Configuration Status Accounting

3.12.1 The Suppler shall be responsible for the configuration information necessary to support the recording and reporting on the configuration baselines(s) and maintaining traceability of all proposed and approved configuration changes for each Configuration Baseline.

3.12.2 The CSA process shall recognise all CIs and be maintained for the life of the Contract.

3.12.3 CSA shall record and make available the information necessary to manage the product configuration and maintain traceability of the CM documentation, the status of proposed changes to the configuration and the implementation status of authorised changes.

3.12.4 The CSA shall consider, but not be limited to:

a) Identifiers;

b) Specification, outline, control, manufacturing and interchangeability drawings / data;

c) Design review records and certificates of design;

d) Concessions, (see Defence Standard 05-61, Part 1);

e) Design Record;

f) Computer software documentation;

g) Proposed and authorised Engineering Change Proposals and Modification Proposal Forms;

h) Modification state.

3.13 Configuration Status Record

3.13.1 When the product, equipment, system is delivered to the Authority, the Contractor shall deliver the Configuration Status Record (CSR), unless otherwise agreed by the contract.

3.13.2 A CSR shall:

a) Provide a record for each CI by reference to part numbers, drawings lists and specifications of the current and all earlier approved baselines including, where applicable, those of variants and those of ancillary items such special tools, handling equipment, special to type test equipment and packaging;

b) Provide a baseline for each CI from which to define the subsequent configuration states of the product throughout the contract

c) Record the change status of the product by providing a reference to the change record of each CI, for all authorised changes;

d) Provide a family tree showing the relationship of all the CIs making up the product by reference to drawings list numbers and/or an illustrated parts catalogue;

e) Enable the product design state to be defined as part of the Design Record in certificates of design;

f) Include Commercial Off-the-Shelf - Non-Development Items & GFA;

g) Identify any feature in the product with safety or operational implications that may require special tests or examinations;

h) List all deliverable CM documentation for the product; e.g. support and in-service publications; interface specifications; software documents and listings.

3.13.3 A CSR reference system shall be adopted such that higher-level CIs can be cross referred to those of subsidiary and associated CIs, and vice versa.

3.13.4 The CSR for products containing CIs common to more than one product shall refer to the relevant configuration documentation maintained by the Design Organisation (DO) for that common CI.

3.13.5 A complete product CSR shall be created to provide an overview of constituent CIs by means of a breakdown structure to a level of detail agreed by the Design Organisation (DO).

3.13.6 The Product Baseline (PBL) CSR shall be certified for accuracy by the DO responsible for that CI, prior to approval for production and before coming UMC.

3.13.7 A CSR shall be in a format readily accessible by the Authority. This may be outlined in the Statement of Requirement (SoR) and agreed by the appropriate Authority. Commercial database packages output shall be compatible with the Authority's data import requirements as specified in the contract.

3.14 Configuration Audit

3.14.1 The Contractor shall be responsible for conducting Functional Configuration Audits (FCA) and Physical Configuration Audits (PCA). The arrangements for FCA and PCA shall be identified in configuration management planning.

3.14.2 A FCA shall be conducted for each CI, or group of CIs, for which a separate development / requirement specification has been baselined, unless otherwise specified in the contract. The objective of the FCA shall be to verify the CIs and systems performance against the approved configuration documentation.

3.14.3 A FCA shall demonstrate that the CI has met its specified functional requirements.

3.14.4 Test data for the FCA shall be that collected from the test of the configuration of the item that is to be formally accepted or released for production. If a prototype or pre-production model is not produced, the test data shall be that collected from test of the first production item.

3.14.5 For complex systems CIs, the FCA shall be carried out in increments. In such cases, a final FCA may be conducted to ensure that all requirements have been satisfied.

3.14.6 In cases where CI verification can only be completely determined after system integration and testing the final FCA shall be conducted as part of the PCA.

3.14.7 The Contractor Shall Record the accomplishment and results of the FCA in the Configuration Status Accounting (CSA) database for each CI audited.

3.14.8 The PCA shall be the formal examination of the as-built configuration of the CI against its design documentation.

3.14.9 A PCA shall ensure that the CI meets its specified physical requirements. The PCA shall not be started unless the FCA of a CI has been accomplished or is being accomplished concurrently with the PCA.

3.14.10 During FCA and PCA the Contractor shall review approved configuration changes to ensure that the approved changes have been incorporated and verified.

3.14.11 The Contractor shall record any differences between the physical configurations of the selected production CI and the development CIs used for the FCA and certify or demonstrate to the Authority that these changes do not degrade the functional characteristics of the selected CI.

3.14.12 The Contractor shall be responsible for providing facilities, resources and materiel for conducting configuration audits.

3.14.13 The Contractor shall be responsible for ensuring that sub-contractors participate in audits, as appropriate. The contractor shall make possible the attendance of the Authority's representatives.

3.14.14 Unless otherwise specified in the contract, The Contractor shall submit to the Authority; functional and physical audit reports complete with evidence of the closure of outstanding action items, in a format agreed to by the Authority.

3.14.15 The Contractor shall issue a FCA / PCA Certificate for each CI audited as required by the Contract.

3.14.16 The Contractor shall consider the additional Functional and Physical Configuration Audit requirements in Annex A.

Annex A - Configuration Audit

A.1 General

A.1.1 In addition to the requirements in clause 3.14 of this Standard, this Annex details additional requirements for consideration when undertaking Functional and Physical configuration audit.

A.1.2 The Contractor shall consider the following when planning and conducting configuration audits:

a) Configuration audit plan;

b) Specifications, drawings, manuals, schedules, and design and test data;

c) Inspection reports, process sheets, data sheets and other documentation;

d) Tools and, measuring and inspection equipment necessary for verification and validation;

e) Access to the areas and facilities including – goods inwards inspection, manufacture, inspection and testing;

f) Access to personnel from engineering, manufacturing, configuration and quality;

g) CI(s) to be audited;

h) That each configuration audit schedule is compatible with information available e.g. - engineering data (in accordance with the Statement of Requirement, producibility analysis, risk analysis, specifications, manuals, drawings, reports, hardware, software, or mock-ups);

i) That all necessary personnel are prepared to discuss and support the scope of the configuration audit.

j) Record the official configuration audit results;

k) Recommendations are recorded together with the reason for non-acceptance;

l) Record all comments and take steps to resolve each one;

A.2 Methods

A.2.1 Functional Configuration Audit

A.2.1.1 The Contractor shall consider the following for Functional Configuration Audit (FCA):

a) Identification of items to be audited - including nomenclature and specification identification number;

b) Current listing of all concessions against the CI;

c) A FCA check sheet that identifies documents to be audited and tasks to be accomplished at the FCA of the CI;

d) A briefing report for each CI being audited and the test results and findings for each CI. The report shall include CI requirements that were not met;

e) Where FCA requirements are not met the audit report should make recommendations / proposed changes to meet the Functional specification requirements.

A.2.1.2 The audit report should also include:
a) Test plans; specifications, descriptions, procedures and reports for the CI;

b) A complete list of the successfully accomplished tests during which pre-acceptance data was recorded;

c) Pre-production test results.

A.2.1.3 An audit of formal test plans, specifications and procedures shall be made and compared against official test data. The results should be verified for completeness and accuracy. Deficiencies should be documented and made a part of the Configuration Status Accounting. Interface requirements and the testing of these requirements should be reviewed. Completion dates for all discrepancies should be clearly established and documented.

A.2.1.4 For those requirements, that cannot be completely verified through the use of testing, the FCA should determine whether adequate analysis or simulations have been accomplished and whether the results of the analysis or simulations are sufficient to ensure that the CI meets the requirements in the specification. All Changes that have been approved shall be reviewed to ensure that they have been technically incorporated and verified.

A.2.1.5 An Audit of the test report should be performed to validate that the reports are accurate and completely describe the CI tests. Test reports, procedures and data used by the FCA team should be made a matter of record in the FCA minutes.

A.2.1.6 A list of the internal configuration documentation of the hardware CI should be reviewed to ensure the documentation of the physical configuration of the hardware CI for which the test data are verified.

A.2.1.7 Drawings of the CI parts, which are to be provisioned, should be selectively sampled to ensure that the test data essential to manufacturing are included on, or provided with, the drawings.

A.2.1.8 CIs that fail to pass quality requirements shall be analysed as to the cause of failure to pass. Appropriate corrections should be made before a CI is subject to re-verification.

A.2.1.9 For Computer Software Configuration Items (CSCI) the following additional requirements shall be considered:
a) Review database characteristics, storage allocation data and timing, a sequencing characteristic for compliance with specified requirements;

b) Review all documents, which comprise or describe the contents or the use of the software product for format and completeness;

c) Review the records that reflect the changes made to the development configuration for the CSCI;

d) Review the listing of all versions of the developmental and non-developmental software for the CSCIs that are in the Software Library;

e) Review the findings of all internal CM and Quality audits of the CSCI.

A.2.1.10 Design Reviews and Critical Design Review minutes shall be examined to ensure that all findings have been incorporated and completed.

A.2.1.11 The Contractor shall:

a) Record the accomplishment and results of the FCA in the Configuration Status Accounting (CSA) database for each CI audited;

b) Carry out remedial action(s) necessary to satisfy the contractual requirements.

A.2.1 Physical Configuration Audit:

A.2.2.1 The Contractor shall consider the following for Physical Configuration Audit (PCA):

a) The PCA shall be established against the proposed production CI (First article inspection) to assure that the requirements are met, prior to the production Baseline;

b) The PCA shall not be started unless the FCA of the CI has already been accomplished or is being accomplished concurrently with the PCA;

c) The PCA shall determine that the acceptance testing requirements prescribed by the documentation is adequate for acceptance of production units of a CI by quality assurance activities;

d) The PCA shall include detailed audit of drawings, specifications, technical data, tests utilised in production of the CIs, and design documentation, listings, and operation and support documents for the CSCIs;

e) The PCA shall include an audit of the released documentation and quality control records to make sure the as-built or as-coded configuration is reflected by this documentation, and for software, the product specification, Interface Design Document should be part of the PCA.

A.2.2.2 The scheduled dates, actual accomplishment dates, for the PCA(s) shall be recorded in the Configuration Status Accounting system. All approved internally and external configuration changes should be incorporated into new revisions of the applicable configuration documentation prior to the PCA. A final draft product specification should be made available for review prior to the PCA.

A.2.2.3 Prior to the PCA the Contractor shall identify the CI to be audited by:

a) Nomenclature;

b) Specification Identification Number;

c) CI Identifiers;

d) Serial Numbers;

e) Drawing and Part Numbers;

f) List of concessions against the CI;

A.2.2.4 Reference information to the CI being audited shall consider:

a) CI product specification;

b) A list delineating both approved and outstanding changes against the CI;

c) Complete shortage list;

d) Acceptances test procedures and associated test data;

e) Draft CSR and design standard;

f) Operating and support publications, including all Maintenance manuals (or as per contract requirements);

g) Proposed - Certification of Design;

h) Version Description Document for software;

i) Approved nomenclature and nameplates;

j) FCA minutes for each CI Findings/Status of Quality Assurance Programmes;

k) Initial Recommended Spares List;

l) Interface Design Document for Software.

A.2.2.5 The Contractor shall consider, for PCA all data describing the CI configuration, including:

a) Current approved issue of hardware development and software and interface requirement specifications to include approved Software Change Note(s) and approved concessions;

b) Identification of all changes actually made during test;

c) Identification of all required changes not completed;

d) All configuration documentation, or electronic representations of the same, required identifying the CI;

e) Manufacturing instructions, manufacturing process sheets or CAM data related to drawings and CAD presentations of specified parts;

f) Should include an audit of the released documentation and quality control records to make sure the as-built or as-coded configuration is reflected by this documentation, and for software, the product specification, Interface Design Document should be part of the PCA.

A.2.2.6 The Contractor shall consider the following Configuration Audit procedures and requirements as part of each PCA:

a) Review a representative number of drawings/specification (and/or CAD data) and associated manufacturing process sheets (and/or CAM data) for each item of hardware. The purpose of this review is to ensure that the manufacturing process sheets (and/or CAM data) accurately reflect all design details contained in the drawings/specification (and/or CAD presentations);

b) The following minimum information shall be recorded in the minutes for each drawing (and/or CAD presentation) viewed:

i) Drawing number/title (include revision identifier);

ii) List of manufacturing process sheets and/or CAM data (numbers with change letter/titles) associated with this drawing;

iii) Discrepancies/comments.

A.2.2.7 The Contractor shall consider, as a minimum, the following inspections of selected drawings (and/or CAD presentations) and associated manufacturing processes (and/or CAM data):

a) Drawing number identified on manufacturing processes (and/or CAM data) should match the latest released drawing (and/or CAD presentation);

b) List of materials on manufacturing processes (and/or CAM data) should match materials identified on the drawing (and/or CAD presentation);

c) Nomenclature descriptions, part numbers, and serial number markings called out on the drawing (and/or CAD presentation) should be identified on the manufacturing processes (and/or CAM data).

d) Drawings (and/or CAD presentation) and associated manufacturing processes (and/or CAM data) should be reviewed to ascertain that all approved changes have been incorporated into the CI;

e) Release records should be checked to ensure all drawings (and/or CAD presentations) reviewed are identified;

f) The number of any drawings (and/or CAD presentations) containing more than five outstanding changes attached to the drawing should be recorded;

g) The Concession requests, drawings (and/or CAD presentations) of a major assembly/black box of hardware CI should be checked for continuity from top drawing down to piece-part drawing;

h) Ensure that the approvals are present where required.

A.2.2.8 The Contractor shall consider the Parts Catalogue for comparison to the hardware CI/Design Standard/Bill of Materials to ensure only approved parts are listed.

A.2.2.9 The Contractor shall consider the review all records of the configuration for the CI by direct comparison with the release system or other and Configuration Change Management procedures to verify that the configuration being produced accurately reflects released data. This includes interim release of spares/repair parts provisioned prior to PCA to ensure delivery of currently configured spares/repair parts.

A.2.2.10 The Contractor shall consider an audit of the Software library, or similar internal support activity, to ensure that it accurately identifies, controls, and track changes to the software and documentation.

A.2.2.11 The Contractor shall consider the Configuration Change Management mechanisms to ensure the controls of all internal and external changes. This would be accomplished by 'audit trailing' an internal and external change from concept to implementation on the CI.

A.2.2.12 The Contractor shall consider the audit of CI acceptance test data and procedures to ensue compliance with product specifications. The PCA team should determine any acceptance test to be re-accomplished, and reserves the right to witness all or a portion of the required inspections, or tests.

A.2.2.13 The Contractor shall consider CIs which fail to pass acceptance testing, that should be repaired if necessary and re-tested in a manner specified in accordance with the Product specification. The Authority shall be informed of the repaired status of the CI.

A.2.2.14 The Contractor shall consider CIs that have demonstrated compliance with the product specification which should be approved for acceptance. The PCA team should certify that the CI has been built in accordance with the drawings and specifications at the agreed baseline.

A.2.2.15 The Contractor shall consider as a minimum, the audit of each CSCI by the following actions:

a) Review all documents, which should comprise the product specification for format and completeness;

b) Review FCA minutes for recorded discrepancies and actions taken;

c) Review the design descriptions for proper entries, symbols, labels, tags, references and data descriptions;

d) Compare detailed design descriptions with the software listing for accuracy and completeness;

e) Examine CSCI delivery media (disks, tapes, etc.) to ensure conformance with the software requirements specifications;

f) Review the annotated listings for compliance with approved coding standards;

g) Review all required operation and support documents for completeness, correctness, incorporation of comments made at critical Design Review, and adequacy to operate and support the CSCI(s);

h) Examine all related documentation to ensure that the relationships of the CSCI to the parts, components or assemblies that store the executable forms of the CSCI are properly described. For Firmware, ensure that the information completely describes the requirements for installation of the CSCI into the programmable parts or assemblies and that this information has been properly implemented. Where follow-on acquisition of the firmware items is intended, ensure that the documentation has been accomplished to the level of detail necessary for the intended procurement;

i) Demonstrate, using deliverable or Customer owned support software, that each CSCI can be generated. The regenerated CSCI should be compared to the actual CSCI delivery media to ensure that it is identical.

A.2.3 In-Service Final Conferences

A.2.3.1 The intent of the Final Conference is for the Authority to establish if the PCA has been successfully carried out, as required by the contract:

A.2.3.2 The Contractor shall make available to the Authority, a summary report that shall identify all relevant remedial & corrective actions.

A.2.3.3 The Contractor shall provide a summary of the Contractors reactions and acceptance of the Authority actions on the Contractor, in respect of:

a) Certification of the CI;

b) Outstanding contractual issues in respect to the CI;

c) Outstanding liability issues (if any).

A.2.3.4 The Contractor shall ensure that the CSR (Specifications, Drawings, Configuration Status Accounting, etc.) is sealed for Production initiation.

Annex B – Configuration Management Process

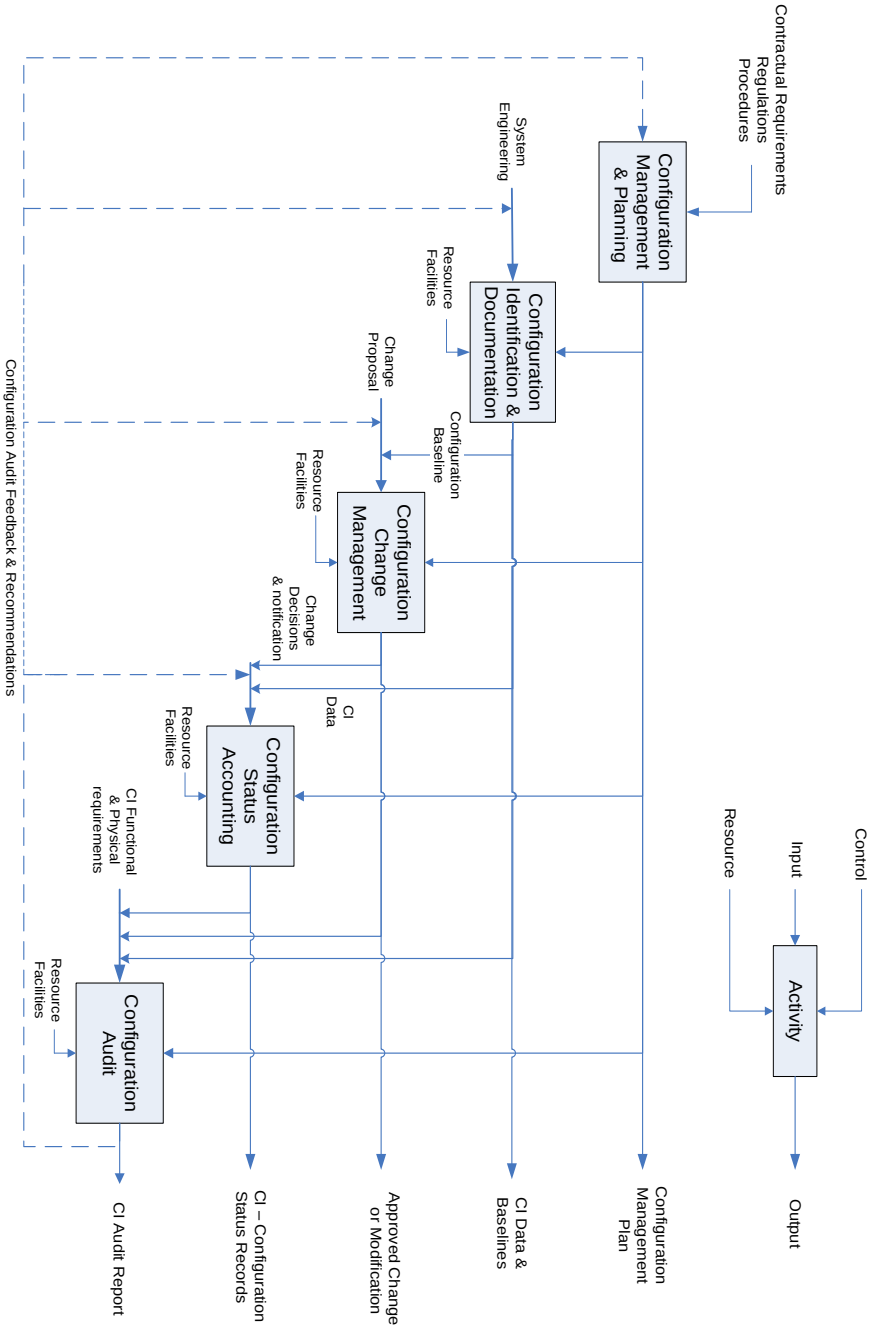


Figure 1 - Configuration Management Process

Annex C - Configuration Management Planning

C.1 General Requirements

C.1.1 The Configuration Management Plan (CMP) shall define and document the Configuration Management (CM) system for the Contract and address the CM requirements in Section 3 of this Standard. The following paragraphs provide a framework for the content of a CMP.

C.1.2 CM planning shall consider the complexity and nature of product / system throughout the life of the contract. Omissions of the planning requirements shall be justified.

Note. The level of deliverable CM planning should support the Authority's assurances for Initial or Main Gate Main submissions; within the Typical Acquisition Cycle see Annex C, Fig 2.

C.1.2.1 CM planning for initial Gate shall detail the configuration management system for the Assessment Phase and provide a CM strategy for the Demonstration and Manufacture Phases see Annex C, Fig 2.

C.1.2.2 CM planning for Main Gate shall detail the configuration management system for the Demonstration and Manufacture Phases, including the arrangements for physical and functional audit, see Annex C, Fig 2.

C.2 Introduction

C.2.1 This section shall include:

a) A programme overview;

b) Those reference specifications, standards, manuals and other documents applicable to the CM of the product. Each document shall be completely identified by title, document number, document version, issuing authority and date of issue;

c) Security instructions that are specific for CM or the CMP or any additional to those contained in the project Security Management Plan;

d) Instructions for management of CM documents, including the CMP, with the means and methods of review, change controls and authorities, approved signatories, publication and issue;

e) Special features of the materiel or the project programme which have a bearing on CM;.

f) A list of definitions, a glossary of terms and a list of acronyms relevant to the CMP;

C.3 Programme

C.3.1 This section shall provide:

a) A list of CM milestones taken from the project management planning database;

b) A plan for the transfer of individual CIs from UCC to UMC. (Usually when CIs are accepted by the Authority, when the authorisation of configuration change transfers from UCC to UMC).

C.4 Organisation and responsibilities

C.4.1 This section shall identify:

a) Policies and directives and processes relating to CM;

b) Responsibilities and authority for Configuration Change Management of all participating sub-contractors;

c) Identify the configuration change organisation and Dispositioning Authority (Configuration Control Board responsibilities (see Clause 3.2);

d) The relationships between the Prime Contractor, sub-contractors and the Design Organisation for the management of configuration change.

C.5 Contract

C.5.1 This section shall identify:

a) The contractual CM requirements and any specific controls to ensure compliance with the additional requirements for Air, Land or Maritime systems;

b) The means for reporting difficulties in complying with CM contract requirements;

c) The arrangements for achieving CM system requirements when sub-contracts are employed.

C.6 Resources

C.6.1 This section shall provide explanatory information on:

a) CIs in both the system design and development environment such as computer aided design programs, and in the manufacturing phase such as special jigs, tools and test equipment;

b) Those facilities such as, technical data models, databases and information systems with indirect implication for the product CM.

c) The job profile for CM manager(s).

C.7 Interface Management

C.7.1 This section shall include:

a) The configuration management arrangements for use of Non-Development Items / COTS and Government Furnished Assets;

b) Arrangements for co-ordination and the exchange of information with associated programmes affected by changes to the product CIs;

c) Methodologies to be adopted for the identification, control and documenting of product external interfaces, including the management of System of Systems;

d) Relationships with databases for co-ordinating CM between products and equipment at the platform or system level;

e) Arrangements for co-ordination with other project requirements e.g. Standardisation, Codification, and LSA.

C.8 Selection of Cis

C.8.1 This section shall contain sufficient information to meet the requirements of Clause 3.4 and shall outline the baseline generation procedures, Clauses 3.5 and 3.6.

C.9 Configuration Change Management

C.9.1 This section shall fulfil the requirements of Clause 3.7 to Clause 3.11 and shall present plans for:

a) Implementing a Configuration Change Management process that provides total visibility for the management of change through the product life cycle;

b) Processing and submitting Engineering Change Proposals or In-Service Modification proposals to an approved format to the Configuration Control Board (CCB);

c) Promulgating decisions concerning Engineering Change Proposals or In-Service Modification proposals;

d) Ensuring that approved changes and Concessions are recorded in Configuration Status Accounting (CSA) and reflected in the Configuration Status Record (CSR);

e) Implementing a system for change priorities (see Clause 3.9).

C.10 Configuration Status Accounting

C.10.1 This section shall satisfy the requirements of Clause 3.12 and shall contain processes for collecting, recording, processing and maintaining all configuration documentation and data necessary for the creation and maintenance of the CSR including:

a) Formats and data elements for all configuration documentation including software;

b) Specification, outline, control and manufacturing drawings;

c) Design Records and Certificates of Design;

d) Concessions;

e) Computer software documentation;

f) Proposed and authorised change proposals;

g) Correlation of change proposals on interfacing CIs;

h) Formal review periodicity and the means for being viewed remotely.

C.11 Configuration Audits

C.11.1 This section shall satisfy the requirements of Clause 3.14 and shall include:

a) Procedures for carrying out the FCA and the PCA;

b) Format for the reporting results of the FCA and PCA;

c) Schedules for the conduct of the Configuration Audits including the relevant design reviews up to the time CIs are accepted by the Authority and transferred to UMC.

C.11.2 Additional Configuration Audit requirements for consideration are detailed in Annex A.

C.12 Data Management

C.12 The section for data management shall cover:

a) Description of all data media;

b) How the management of data shall be controlled and verified throughout the contracted product life cycle;

c) Access/limitation to data and prevention of data corruption;

d) Means for the distribution and presentation of data;

e) Data ownership at the working and organisational levels;

f) Technical publications, and user data;

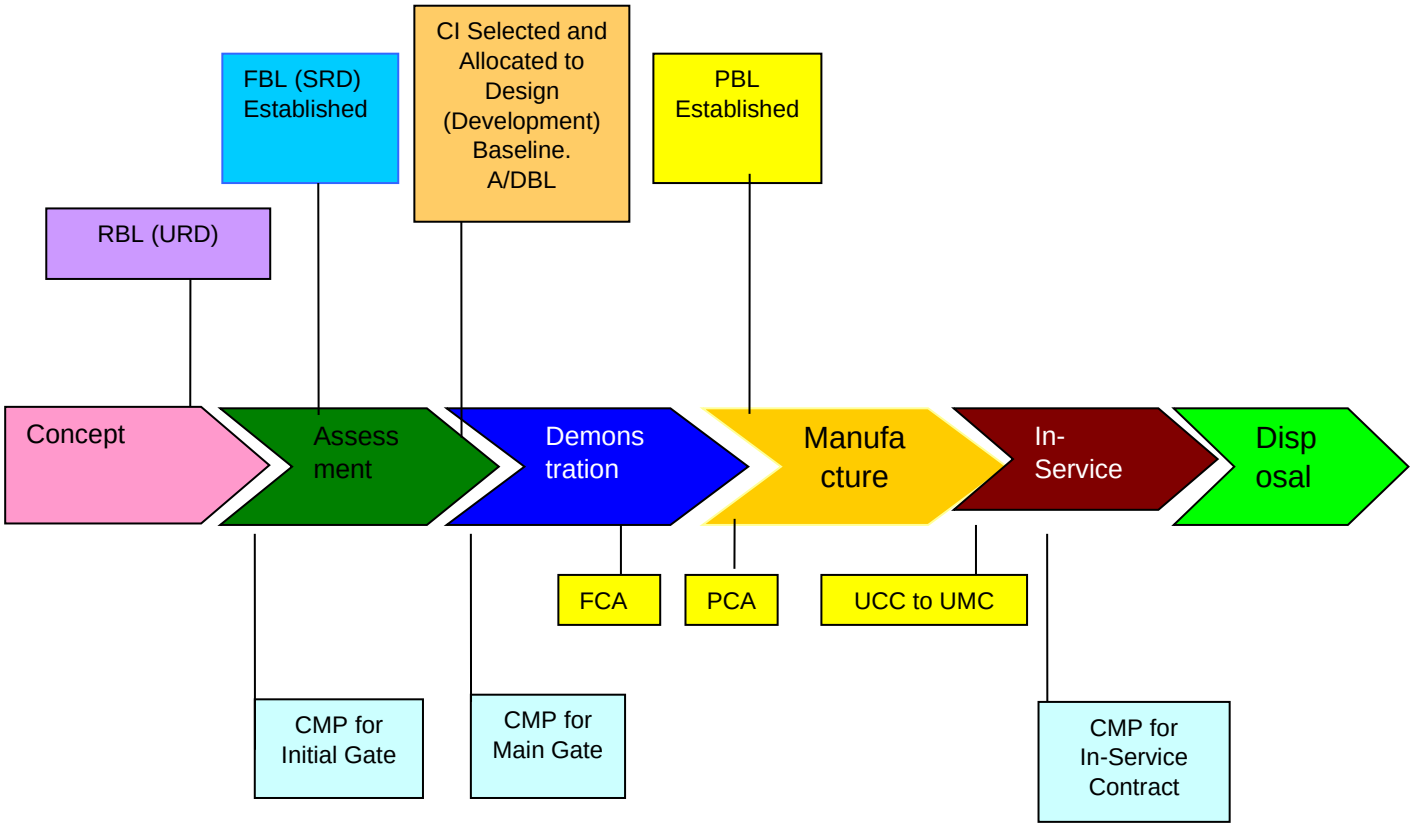
g) Data storage details including data preservation.

C.13 Qualification and Training

This section for training shall demonstrate how you ensure Suitably Qualified and Experience Personnel (SQEP) in Configuration and Data functions. Detailing minimum levels of Competency on the basis of appropriate education, training, or experience for Roles such as (but not limited to):

- Configuration Manager;
- Data Manager / Steward;
- Principle / Lead Engineers;
- Safety Manager;
- Compliance Verification Engineer;
- Sub Contracts Manager;
- General staff related to design, build and maintenance of product.

This must be suitable for the achievement of applicable regulatory and contractual requirements.



Annex C: Figure 2 - Typical Acquisition Cycle - Configuration Management Model

Key:

RBL - Requirements Baseline
FBL - Functional Baseline
A/DBL Allocated or Design Baseline
PBL - Product Baseline

IG - Initial Gate
MG - Main Gate
UCC - Under Contractor Control
UMC - Under Ministry Control

FCA - Functional Configuration Audit
PCA - Physical Configuration Audit
URD - User Requirements Document
SRD - System Requirements Document
CMP - Configuration Management Plan

Annex D - Modification Proposal Form (MPF) - Air Domain Example

D.1 Table 1 - Modification Proposal Form (Air Domain Example)

1. CONTRACTOR/DESIGN ORGANISATION / AUTHORITY	**2. MAIN EQUIPMENT** **SPEC. NUMBER**	3. **MODIFICATION NUMBER** **ISSUE NUMBER**
4. ORIGIN	**5. AUTHORITY DELIVERY TEAM**	**6. EQUIPMENT GROUP CODE**

7. TITLE

Description Title

8. EFFECT ON: PROJECT/MODIFICATION(S)	**9. EFFECT ON: OTHER CONTRACTORS**
a) Before & concurrent changes: b) Benefits to customer (MOD):	
10. ESTIMATED DATE OF EMBODIMENT a) TI/PI b) Production c) Repair & Reconditioning d) Conversion	**11. DELAY IN PRODUCTION/ CONVERSION**

12. DELIVERY OF MODIFICATION SETS:

Date: Rate of:

13. MAN-HOURS FOR SERVICE EMBODIMENT

a) Access
b) Strip
c) Embody
d) Re-assembly
e) Test
f) Total

14. CONTRACTOR'S RECOMMENDATION

Preparation, Trial Installation or Production work cannot commence on the basis of recommendation.

/Design Organisation Signature: Date:

15. AUTHORITY DELIVERY TEAM	**16. APPLICABLE CONTRACTS**
Meeting Number: Date: Item: Previous Item: Meeting Number: Date: Item: Previous Item:	Preparation & Trial Installation Manufacture Of Modification Sets Design Incorporation Embodiment By CWP **Sheet 1 of 4**

MODIFICATION NUMBER	ISSUE NUMBER
17. IS THERE AN EFFECT ON:	**17. IS THERE AN EFFECT ON: (Continued)**
01 INTERCHANGEABILITY (ICY)	**13 LINE TEST SOFTWARE HARDWARE**
a) Functional *Yes/No*	1st *Yes/No* *Yes/No*
b) Physical *Yes/No*	2nd *Yes/No* *Yes/No*
c) ICY LRU Major Assembly *Yes/No*	3rd *Yes/No* *Yes/No*
d) ICY Detailed Parts *Yes/No*	4th *Yes/No* *Yes/No*
02 INTEGRATED LOGISTIC SUPPORT	**14 NUCLEAR HARDENING** *Yes/No*
a) Reliability *Yes/No*	**15 DOCUMENTATION**
b) Maintainability *Yes/No*	a) Specifications *Yes/No*
c) Spares *Yes/No*	b) Certificate of Design *Yes/No*
d) MSPL Schedule *Yes/No*	c) Trials Documentation *Yes/No*
e) Storage *Yes/No*	d) Approval Submission *Yes/No*
f) Training *Yes/No*	e) EOD Procedures *Yes/No*
g) Support Equipment *Yes/No*	f) Release to Service *Yes/No*
h) Packaging *Yes/No*	g) Repair Procedures *Yes/No*
i) Technical Publications *Yes/No*	i) Minimum Standard Modification List (MSML) *Yes/No*
j) NSN *Yes/No*	**16 STRIKE NUMBER** *Yes/No*
03 **INTERFACES** *Yes/No*	**17 TEMPEST CLEARANCE** *Yes/No*
04 COMPATIBILITY:	18 **PERFORMANCE** *Yes/No*
a) Material *Yes/No*	19 **ENVIRONMENT CONTROL** SYSTEM *Yes/No*
b) Explosive *Yes/No*	20 **VULNERABILITY** *Yes/No*
c) Chemical *Yes/No*	21 **LIFE** *Yes/No*
d) Electro-Magnetic *Yes/No*	22 **QUALITY ASSURANCE** *Yes/No*
e) Other/Nuclear *Yes/No*	23 **TRIALS** *Yes/No*
f) External *Yes/No*	24 **DISCRIMINATION** *Yes/No*
05a MASS *Yes/No*	25 **PRODUCTION** *Yes/No*
05b **MOMENT** *Yes/No*	26 **DEPOT/SITE CAPABILITIES** *Yes/No*
06 **SAFETY CASE** *Yes/No*	27 **TEST, MOCK-UP, TI and PI** *Yes/No*
a) Airworthiness *Yes/No*	**28 TEST EQUIPMENT**
b) Structural Integrity *Yes/No*	a) Specifications *Yes/No*
c) Hull Integrity *Yes/No*	b) Automatic Test *Yes/No*
d) Nuclear *Yes/No*	c) Special to Type *Yes/No*
e) Vehicle Weapon Safety *Yes/No*	d) Software *Yes/No*
f) Nuclear Weapon System Safety *Yes/No*	**29 TOOLING** *Yes/No*
07 HANDLING/PERFORMANCE & OPERATIONAL *Yes/No*	**30 MAGNETIC SIGNATURE** *Yes/No*
08 ELECTRICAL	**31 ACOUSTIC SIGNATURE** *Yes/No*
a) Electromagnetic Pulse *Yes/No*	**32 AVAILABILITY** *Yes/No*
b) Fuses & Circuit Breakers *Yes/No*	**33 PORTABILITY (Software)** *Yes/No*
c) Electrical Power Requirements *Yes/No*	a) Adaptability *Yes/No*
09 HUMAN MACHINE INTERFACE (HMI) *Yes/No*	b) Installability *Yes/No*
10 EMBODIMENT LOAN ITEMS *Yes/No*	c) Conformance and Replaceability ***Yes/No***
11 ITEM OF SUPPLY *Yes/No*	**34 REFERENCE EQUIPMENT** *Yes/No*
12 BOUGHT OUT ITEMS *Yes/No*	**35 PLATFORM** *Yes/No*
	36 SIMULATORS *Yes/No*
	37 AIRCRAFT SYSTEM IMPACTS *Yes/No*
	38 ASSET & ENGINEERING MANAGEMENT *Yes/No*
	Sheet 2 of 4

MODIFICATION NUMBER	ISSUE NUMBER

18. MODIFICATION PROPOSAL PRICE / COSTS

a) DESIGN PREPARATION and DEVELOPMENT TRIALS

i) Preparation	£
ii) Bench Tests	£
iii) Trial Installation (PCA)	£
iv) Static Trials	£
v) Mobile Trials	£
TOTAL	**£**

NB Preparation/Trials costs may be authorised prior to classification of Modification

b) EMBODIMENT / MANUFACTURE

i) In Production	£
ii) Evaluation (GW)	£
iii) Retrospective Before: Delivery Production	£
iv) Repair & Reconditioning	£
v) Return to Works	£
vi) Scrap	£
vii) Tools for Service – Embodiment	£
viii) Inspection Media	£
ix) Test Equipment	£
x) Production Equipment	£
xi) Modification Set	£
xii) Manufacturing Tooling	£
xiii) Packaging	£
TOTAL	**£**

c) DESIGN INCORPORATION

i) Up-date Configuration Documentation	£
ii) Up-date Configuration Status Record	£
iii) Technical Publication Amendments	£
iv) Modification Leaflet	£
TOTAL	**£**

19. ADDITIONAL INFORMATION
(As required)

20. AUTHORITY'S (DELIVERY TEAM) DECISION
This decision is the to proceed with the work, subject to classification & approval by the 'Authorised Signatories' (Block 21).

MODIFICATION CLASSIFICATION:

21. MODIFICATION APPROVAL

Authority:

Signature: Date:

Approved /Contractor Design Organisation / Authority:

Signature: Date:

Sheet 3 of 4

MODIFICATION NUMBER	ISSUE NUMBER

22. SUPPORTING EVIDENCE (What, Why and How)

D.2 Information for Completion of Modification Proposal Form (Air Domain Example)

D.2.1 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.

D.2.2 **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.

D.2.3 **BOX 2:** The name of the main equipment (including project) should be specified. 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.

D.2.4 **BOX 3:** A modification number 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.

D.2.5 Modification numbers should be used in a numerical sequence from a batch provided by the Authority or the Authority may accept s Contractor's 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.

D.2.6 **BOX 4:** The origin of the modification should be taken from the list provided below (see D.2.1). 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'.

D.2.7 **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 modifications groups are defined as 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 'cover' modification action. GROUP AB MODIFICATIONSs 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.

D.2.8 **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, 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 description.

D.2.9 **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.

D.2.10 **BOX 10:** Give an estimate of the earliest embodiment point (i.e. 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, (see MAA Regulatory article 5305) the date of embodiment is only acceptable, except when retrospective embodiment by the Service(s) is required.

D.2.11 **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.

D.2.12 **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. Where appropriate, a time allowance should be made for the satisfactory completion of a proof installation.

D.2.13 **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.

D.2.14 **BOX 14:** The Contractor should recommend the cost-effective method of implementation by using the ‘classification’ categories found in Annex E.

D.2.15 **BOX 15:** The Authority’s Delivery Team should insert the relevant data in which the MPF was reviewed /authorised.

D.2.16 **BOX 16:** Should be completed by the Authority Delivery Team.

D.2.17 **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 Authority for consideration. The features being affected may have implications on the product/equipment. The relevant information is to be supplied to the Authority 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.

D.2.18 **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 state 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, Contractor /DAs may suffix the existing part number, which would be followed by the allocation of a new Service reference number.

D.2.19 **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. MSPL 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.

D.2.20 **BOX 17.03:** State if any of the equipment interfaces are affected by this modification.

D.2.21 **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, e.g. aircraft, main equipment. The name and location of the Contractor/DA affected should be entered in box 9.

D.2.22 **BOX 17.05:** The change in mass should be stated for equipment and installed equipment 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, e.g. where the change of mass or a change in physical location due to the modification has an effect on the equipment moment or the C of G of a guided missile.

D.2.23 **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 Authority 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 the Authority for approval of the safety aspects. The "features affected" box is to be marked "Yes" and the Authority approval reference is to be included in box 19 "Additional Information".

D.2.24 **BOX 17.07:** State if the modification affects handling/performance or operational requirements. A "yes" answer would lead to consideration by the Authority of the need for testing to assess the Safety case implications.

D.2.25 **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.

D.2.26 **BOX 17.09:** State whether the modification affects the HMI equipment integration.

D.2.27 **BOX 17.10:** State those items that are to be supplied to the Contractor from Authority sources for inclusion in the modification set.

D.2.28 **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 Supplier Parts' (NCP) modification.

D.2.29 **BOX 17.12:** The creation of a list of material for NCP modification. To be compiled in Box 19.

D.2.30 **BOX 17.13:** State if Service held software test gear programs or hardware is affected.

D.2.31 **BOX 17.14:** State if nuclear hardening is affected by the modification.

D.2.32 **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

D.2.33 **BOX 17.16:** State the strike number to be recorded on the modification plate, if applicable.

D.2.34 **BOX 17.17:** State whether Tempest clearance is affected by the modification. (If unsure, insert "Not known").

D.2.35 **BOX 17.18:** State if the modification affects the performance of the product.

D.2.36 **BOX 17.19:** State if the modification affects the Environment Control System of the product.

D.2.37 **BOX 17.20:** State if the modification affects the Vulnerability of the product.

D.2.38 **BOX 17.21:** State if the modification affects the life of the product.

D.2.39 **BOX 17.22:** State if the modification affects the Quality Assurance requirements of the product.

D.2.40 **BOX 17.23:** State if any further trials are required to qualify/re-qualify the product prior to modification implementation. Specify in Box 18.

D.2.41 **BOX 17.24:** State if there is an affect on the ability to discriminate between objects or actions.

D.2.42 **BOX 17.25:** State if there is any impact on the production line. This would be further addressed in the pricing data Box 18.

D.2.43 **BOX 17.26:** State if there is any impact on current Depot/Site capabilities/facilities in respect to modification implementation.

D.2.44 **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.

D.2.45 **BOX 17.28:** State if any of the test equipment requirements in respect to specification, automatic test, special to type, software is affected by this modification. These should be described within box 19.

D.2.46 **BOX 17.29:** State the effect on all tooling that is used for development /testing /production/ support. Prices for modifying should be provided in the box 18 Price.

D.2.47 **BOX 17.30:** State if the modification has an affect on the Magnetic Signature of the product.

D.2.48 **BOX 17.31:** State if the modification has an affect on the Acoustic Signature of the product.

D.2.49 **BOX 17.32:** State if the modification has an affect on the availability of the product.

D.2.50 **BOX 17.33:** State if the modification has an affect on the Portability of the product.

D.2.51 **BOX 17.34:** State if the special reference equipment would be affected in respect to calibration etc.

D.2.52 **BOX 17.35:** State if the parent platform would be affected by this modification.

D.2.53 **BOX 17.36:** State whether any simulators are affected by the modification.

D.2.54 **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.

D.2.55 **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) e.g. 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.

D.2.56 **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 RBD (Retrospective Before Delivery) (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".

D.2.57 **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) (e.g. 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.

D.2.58 **BOX 20:** Should be completed by the relevant Authority Delivery Team. 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. The Decision would include the modification classification (see Annex E). The recommendation may include a recommended modification classification.

D.2.59 **BOX 21:** The MPF should be signed by the Authority or delegated signatory and the Contractor/DA. The DA signature is to confirm agreement with the contents including any changes agreed by the Authority.

Note. The MPF is initially approved by the Authority or delegated signatory with the agreement of the commercial branch to proceed subject to contract amendment.

D.2.60 **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 description" box. Details of known failures (Service or civilian) should be given, including the incidence of faults or defects. If the modification proposal is being re-submitted 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 Authority unless extracts from this correspondence or documentation are also given.

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.

Table - 2

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 Modification requirement
Design Fault	To save weight
Failure To Meet Design Requirements	Resulting from manufacturing experience

Failure To Meet Design Specification Requirements	Resulting from civil operator's experience
Financial Saving	Brought about by DA trials
Commercial Telecommunication Requirements	Bought about by experimental trials
Production Improvement	Due to non-availability of component
Production Easement	To ease servicing
Quality Improvement	To extend life of item
Recording Requirement	To meet a Joint Requirement
Improved Reliability	Consequent upon a change to another item
Incompatibility	To cover design change in embodiment loan equipment
Legal Requirements	Consequent upon circuit or system change.
Safety	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

Annex E - Air Domain Modification Classification Categories

E.1.1 The following should be considered when categorising the modification proposal:

a) Safety - Personnel (members of the public and Services) during the use, maintenance, transportation, storage and disposal of equipment;

b) Operational and/or technical value - Including overall performance and interoperability, design and reparability;

c) In-Service aspects - Including areas of maintenance, facilities available to the User, support costs, availability and reliability;

d) Time scale and cost of incorporation - Including current and retrospective action on In-Service equipment;

e) Environmental issues;

f) Financial implications - in terms of whole-life costs - Including the cost of material, labour, trials, modification kits and retrospective embodiment.

E.1.2 An alphabetical classification shall apply to materiel in production as follows:

a) Class AA: Class AA modifications are those, whose incorporation are essential for the initial Release to Service(s) or approval for the introduction of new equipment, and shall be embodied in all such items of main equipment prior to delivery.

b) Class A: Modifications that is 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 could seriously reduce maintenance efficiency. They shall be embodied forthwith and parts made available as soon as practicable. Scrap and delay in delivery are permissible when authorised by the change committee.

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 class C. They shall be embodied in new production provided no scrap or delay in delivery is involved.

E.1.3 Special Order Only (SOO) applies to modifications which are necessary to satisfy a limited operational need to apply to a limited quantity of equipment. Examples are:

a) Specific operational requirements which can be satisfied on a scale of less than one per aircraft or missile or equipment e.g. 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.

E.1.4 A numerical classification shall apply to In-Service materiel that is held for urgent action to be taken by the user (except for nominated in-service major repair units). Numerical classifications shall apply also to materiel delivered to, or held by an In-service Contractor:

a) Class 1: Essential Modifications. When the 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 change committee

NOTE: It is recognised that instances will occur, e.g. when operational necessity, location, environment, or the need to incorporate a modification at a specific location, will result in it being impractical to embody a Class 1 Essential Modification "immediately". In such instances, it is essential that the relevant Duty Holder consider the implications to the ALARP status of the equipment resulting from the delay to embodiment. They should also decide what interim risk reduction measures (physical or procedural) should be implemented until embodiment has been completed. Further guidance can be found in Acquisition Safety and Environment Management Systems (ASEMS) S&EP Leaflet 02/2011: ALARP in a Military Equipment Capability para 2.7.1.3.

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 change committee.

c) Class 3: Modifications that are important (but less than class 2) for the improvement of operational efficiency, reliability, economy, servicing or maintainability to be gained, is judged by the configuration change committee to outweigh the cost and effort of retrospective embodiment.

d) Class 4: Modifications that are Non-retrospective and do not affect interchangeability of spares. (Modifications that are normally embodied on replacement of defective parts when all spares to the original specifications have been used.

Note. Non-retrospective service application modifications which are to be embodied only buy the Supplier (Contractor) in production ad/or on reconditioning and repair are designated A/0, B/0, C/0,or D/0.

e) Class 5 / Special Order Only: The term applied to modifications that are necessary to satisfy a limited operational objective. Embodied to a limited number of platforms or equipment as defined by the Configuration Control Board (CCB).

Note. In the case of Anglo-French modifications, the Classification 5 is used in lieu of Special Order Only (SOO),

f) Class 0: Modifications that have no In-service implications, but the interchangeability of Service Spares may be affected

E.1.5 The full classification for configuration change that is applicable either to the Contractor and/or the In-service user shall be indicated by the following appropriate classifications:

a) A/2; B/1; C/2; D/4 etc. (In-production & In-service application);

b) A/-; B/-; C/-; D/- (In-production application without In-service application designated);

c) A/0; B/0; C/0; D/0 (In-production application with no In-service application).

E.1.6 Riders or qualifications to modifications classifications

E.1.7 Contractor and Service modification classifications may have certain riders or qualifications to notify the contractor and the Services of the extent to which a modification is to be applied. These riders or qualifications shall be included in all references to the modification.

E.1.8 The modification committee may also recommend the use of either Service modification parties (SMP) or contractors' working parties (CWP). The CWP may be used for the embodiment of modifications in Classes 1, 2 and 3 where the work involved is considered to be beyond the capacity of the Service.

E.1.9 Examples of such riders and qualifications are:

a) On Removal of Unmodified Item (to be named with part/NATO stock no) or On Removal of Associated Parts, e.g. engine, radar scanner or tail plane. This means that 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.

b) On Replacement of Unmodified Item (to be named with part/NATO stock no). This means that the modification should be embodied on the first occasion that the named item becomes unserviceable, subject to a modified item being available.

c) By Return of Unmodified Item (to be named with part/NATO stock no) to the contractor or selected Service unit (to be named). This means that the modification required to the item is considered to be beyond the scope of first and second line servicing.

d) WOTSAC (When Old Type Spares Are Consumed). This is used to indicate that interchangeability is affected and that the modification will be embodied when old type spares are consumed.

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

f) Satisfied by . . . . . The identity will be quoted where a Service modification or corrective action taken under a special instruction (technical) and the subsequent contractor's modification are identical or there are no significant differences between them.

g) Superseding . . . . . The identity will be quoted where there are significant differences between a Service modification or corrective action taken under special instructions (technical) and the subsequent contractor's modification.

h) Embodiment on R&R (Repair and Recondition) at No(X) MU (Maintenance Unit). The identification of the MU concerned is to be inserted.

Annex F - Air Domain (RA)

Associated Regulatory Articles

F1.1 Further Configuration Management requirements for Aircraft, Airborne Systems and associated materiel shall be considered as applicable in accordance with:

RA 5301 – Control of Designs

RA 5305 – Modification Classification

RA 5308 – Service Modifications

RA 5602 – Control of Engine Critical Parts

RA 5726 – Integrity Management

RA 5810 – Military type certificate (MTC) (MRP Part 21 Subpart B)

RA 5815 – Instructions for sustaining type airworthiness

RA 5820 – Changes in type design (MRP Part 21 Subpart D

RA 5865 – Repairs (MRP Part 21 Subpart M

RA 5885 – Traceability of Aircraft Identifiable Parts.

NOTE! These RA's are for information only and the reader should refer to the Military Aviation Authority Regulatory Publications held on the MAA website for current Regulations.

Annex G - Maritime Domain

Additional Configuration Management Requirements

G.1 Further guidance on configuration management requirements for maritime systems can be found in the following Defence Standards and In-Service processes:

G.1.1 Surface Ships

Def Stan 02-41 Requirements for Configuration Management of Surface Ships

Def Stan 21-88 Policies and Procedures for Combat System Integration in Surface Ships

Modification Leaflet Issue 1.0 The Modification Leaflet (see link below), provides guidance to the Design Change Owner and shows the steps they should follow to achieve a defined task. It provides additional, complementary detail beyond that contained in the associated Business Procedures (BPs) and associated forms. The Modification Leaflet should be used in conjunction with BP CSM/001 Modification Update, if further clarification is required.

https://moodportal.ahe.r.mil.uk/COMPASS/Controller.aspx?elementId=DA95AEBB699540AE8970D8233F267A00&elementType=Process&modelMasterId=

G.1.2 Combat System Interfaces

Def Stan 21-13 Combat System Interface and Link Documentation

Note. Combat System documentation infrastructure and visibility of all the Combat System interfaces on a platform and across platforms is provided, both platform and equipment viewpoints of the interfaces, by the Systems Interface & Co-Coordinating Agency (SiCA) database. It provides a consistent format for Interface and Link Documentation, necessary for successful configuration management of the Combat System, and it also enables the recording of equipment cabling for each platform.

G.1.3 Master Records Index (MRI)

Note. The MRI is a record of the build standard of equipment and related documentation, and is widely used within the maritime environment. It can be considered as an equivalent to the Configuration Status Record (CSR) and likewise shall be delivered unless otherwise agreed in accordance with 3.13.1.

G.1.4 Submarines

Def Stan 02-28 Configuration Management - Nuclear Submarines - In Service Support

Def Stan 02-38 - Requirements for the Preparation, Identification and Management of Datum Pack Drawings and Photographs for S&T Class Nuclear Submarines.

G.1.5 In-Service Submarine Key Processes for CM

Key Process 2.20 – Preserve Design Intent

Key Process 2.30 – Manage Design Change

Key Process 2.31 – End to End Design Change processes

Key Process 2.32 – Implement a Design Change

Key Process 2.34 – Unauthorised Design Changes (Amnesty process)

Key Process 2.41 – Manage Requirements

Key Process 2.50 – Manage Design Information

Annex H - Land Domain

Additional In-Service Configuration Management Requirements

H.1 General Requirements

H.1.1 This section provides additional information concerning the application of CM for Land Systems equipment, which were previously covered by the procedures contain within Land Systems Procedure No 123 (LSP 123 - withdrawn).

H.1.2 This additional information highlights activities of CM, which are necessary for the approval and implementation of in-service modifications for Land Systems equipment. It is concerned with the control of Modifications after design documents have been brought UMC through the formal committee structure and details procedures for processing Modification Proposal form's, agreeing or otherwise prices for the work and obtaining subsequent Authority for the work to proceed.

H.2 Configuration Control Board (CCB).

H.2.1 A CCB is responsible to the Authority for supervising CM by reviewing changes to the equipment specification or its design which could significantly affect: performance, reliability and sustainability, cost, timescales or delivery.

H.3 Configuration Control Committee (CCC)

H.3.1 A CCC may be instigated and shall be responsible to the CCB for the CM of specified CIs.

H.4 Design Documentation

H.4.1 When the equipment system becomes UMC, a full set of documents, the CSR, shall be delivered to MOD unless otherwise agreed in accordance with 3.13.1. The documentation in the set shall include all the technical information necessary to enable the CM, Modification, manufacture, inspection, testing, packaging, installation, safe operation, servicing and disposal of the equipment.

H.4.2 When the design incorporates, Government Furnished Assets (GFA) it will be sufficient for the GFA item to be invoked in the appropriate Items List by its official title (nomenclature) and NSN.

H.5 Initiation and Management of Design Documents

H.5.1 All design documents shall be identified and issue referenced to indicate the recording of design changes in accordance with the principles of Def Stan 05-10. Design changes which result in the creation of a new derivative, mark, model or variant, may require the production of new masters but, whenever possible, only those masters required by the change should be provided.

H.5.2 Where a CI is common to more than one variant and the need arises to change that CIs design for one variant only, new masters shall be produced for the changed CI and any immediate assembly. The masters defining the unchanged CI and any immediate assembly shall be retained for the other variants. Since this procedure requires separate CSRs to be maintained for each variant, only the CSRs for those variants using the new item require amendment. No attempt shall be made to retain different issues of the same master document to describe different derivatives, marks, models or variants in service at the same time.

H.6 Configuration Baselines

H.6.1 Configuration baselines shall be established at significant points in the life cycles of major CIs when it is necessary to declare new formal departure points for the control of future changes. Each new derivative, mark, model or variant of a major CI shall be defined by a new baseline and shall be declared to be a new derivative, mark, model or variant depending on how its functional or physical characteristics differ from its predecessor's. Baselines for production shall be quoted in terms of the relevant CSR or Drawing List reference and Issue State.

H.7 Certificate of Design

H.7.1 Certificates of Design provide summaries of evidence required before procurement or introduction into service can occur. The DA shall submit Certificates of Design when:

a) Equipment is to be delivered for MOD sponsored trials.

b) Equipment is to be offered for Acceptance into Service.

c) Approval for Procurement is sought.

d) When the design of an item is changed such that the Authority requires it to be described as a new derivative, mark, model or variant.

H.7.2 Certificates of Design shall be supported by:

a) A CSR or equivalent drawing list.

b) A list of reports on all tests conducted to show compliance with the specification.

c) A list of subsidiary Certificates of Design agreed by the DA for material designed and developed by other DAs or firms and incorporated into the design. Certificates of Design for GFA can be provided by the Authority.

d) A Safety Case, where appropriate.

H.7.3 Certificates of Design shall be signed by an agreed nominated member of the DAs staff.

H.7.4 The DA shall submit the Certificate of Design and its supporting documentation to the Authority who may request the DA to attend a meeting to review the documents. The Authority will acknowledge any exceptions and limitations by completing the box on the Certificate of Design reserved for this

purpose. This endorsement by the Authority does not imply acceptance of responsibility for the design, which remains with the DA.

H.7.5 The DA shall note that, dependant on the declared exceptions and limitations, The Authority's endorsement may be conditional. In such cases the Authority shall state the conditions of endorsement on the Certificate of Design.

H.7.6 The DA shall retain the master Certificate of Design as part of the Configuration Account and distribute copies as required by the Contract.

H.8 Proposals for Modifications

H.8.1 Proposals for Modifications may be made to the Authority by any stakeholder involved with the project including manufacturing Contractors. However, a formal proposal may only be drafted and submitted to the appropriate committee with the sanction of the Authority and by the DA responsible for the CI concerned. The nature of the proposal and the CI concerned will dictate which committee is appropriate.

H.8.2 The originator shall submit each proposal for a Modification to the Authority who will, if he considers it valid, instruct the DA to draft the proposal formally in accordance with the terms and conditions of the relevant Contract. They will then submit it to the members of the appropriate committee in sufficient time to allow formal consideration at the next suitable meeting. If the proposal affects CIs for which the DA is not responsible the proposal shall be copied to all other DAs affected. In parallel with the drafting of the proposal the DA shall, unless otherwise stated in the Contract, submit a firm price quotation for the work to the relevant Authority.

H.8.3 Whenever a new derivative, mark, model or variant is introduced, a revised Certificate of Design will be required. The Authority will therefore indicate which system is to apply and how it is to be controlled and operated.

H.8.4 In the first instance the CCC or equivalent is concerned only with advising the Chairman whether he should authorise expenditure for implementing Modifications or for undertaking preparatory design work and, if required, a trial installation of prototype modifications.

H.8.5 Modification preparation work may be needed to identify in detail the proposed changes to the design. This may entail the production of preparatory drawings and/or the marking up of copies of existing drawings. Any work to be done by Sub-Contractors s shall be included. Production drawings must not be altered at this stage.

H.8.6 CCB or CCC Authority must be obtained before any Trial Installation (TI) is undertaken. A TI is the physical and/or functional proof of a proposed design change. It will usually involve the manufacture and testing of hardware and/or software and its embodiment in fully representative equipment. Where a TI is authorised it shall be used to ascertain whether the design change achieves its purpose without adverse effect on other physical and/or functional and/or ILS aspects of the design.

H.8.7 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 MPF. 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.

H.8.8 If the DA proposes to implement the modification at zero cost to the MOD, the Authority may agree implementation of the change(s) without prior CCC consideration.

H.9 Action by Contractor after Approval of Modifications

H.9.1 When modification has been approved in accordance with the requirements of the Contract, the Contractor shall:

a) 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.

b) Prepare any necessary draft support documentation.

c) Provide copies of new or updated design documents for information as required by the Contract.

d) Take any necessary codification action.

H.9.2 The Contractor shall distribute copies of completed MPF in accordance with the requirements of the Contract.

Section 3

Normative References

1 The publications shown below are referred to in the text of this standard. Publications are grouped and listed in alpha-numeric order.

Note: Def Stan's can be downloaded free of charge from the DStan web site by visiting **<**http://dstan.uwh.diif.r.mil.uk/**>** for those with RLI access or **<**https://www.dstan.mod.uk**>** for all other users. All referenced standards were correct at the time of publication of this standard (see 2, 3 & 4 below for further guidance), if you are having difficulty obtaining any referenced standard please contact the UK Defence Standardization Help Centre in the first instance.

Def Stans

Number	Title
02-028, Iss 03	Configuration Management of In-service Submarines
02-038, Iss 03	Requirements for the Preparation, Identification and Management of Datum Pack Drawings and Photographs for Swiftsure, Trafalgar & Vanguard Class Nuclear Submarines
02-041, Iss 05	Requirements for Configuration Management of Surface Ships
05-010, Pt 00, Iss 07	Product Definition Information - General Introduction to Product Definition Information
08-217, Iss 01	Naval Combat System Configuration
21-088, Pt 01, Iss 05	Policies and Procedures for System Integration in Surface Ships - Governance and Policy Directives
21-088, Pt 02, Iss 05	Policies and Procedures for System Integration In Surface Ships - Design Guidance & Technology Specific Aspects

STANAGs

Number	Title
4427 Edition 3	CONFIGURATION MANAGEMENT IN SYSTEM LIFE CYCLE MANAGEMENT - ACMP-2000 EDITION A & ACMP-2009 EDITION A & ACMP-2100 EDITION A

Allied Publications

Number	Title
ACMP-2000 Edition A Version 1	POLICY ON CONFIGURATION MANAGEMENT
ACMP-2000 Edition A Version 2	POLICY ON CONFIGURATION MANAGEMENT

ACMP-2009 Edition A Version 1	GUIDANCE ON CONFIGURATION MANAGEMENT
ACMP-2009 Edition A Version 2	GUIDANCE ON CONFIGURATION MANAGEMENT
ACMP-2100 Edition A Version 1	CONFIGURATION MANAGEMENT CONTRACTUAL REQUIREMENTS
ACMP-2100 Edition A Version 2	CONFIGURATION MANAGEMENT CONTRACTUAL REQUIREMENTS

Other References

Standard Type	**Standard Name**
BS / BS EN / BS ISO Standards	BS ISO 10007 Guidelines for Configuration Management

2 Reference in this Standard to any normative references means in any Invitation to Tender or contract the edition and all amendments current at the date of such tender or contract unless a specific edition is indicated. Care should be taken when referring out to specific portions of other standards to ensure that they remain easily identifiable where subsequent amendments and supersession's might be made. For some standards the most recent editions shall always apply due to safety and regulatory requirements.

3 In consideration of clause 2 above, users shall be fully aware of the issue, amendment status and application of all normative references, particularly when forming part of an Invitation to Tender or contract. Correct identification of standards is as defined in the ITT or contract.

4 DStan can advise regarding where to obtain normative referenced documents. Requests for such information can be made to the UK Defence Standardization Help Centre. Details of how to contact the Help Centre are shown on the outside rear cover of Defence Standards.

Definitions

For the purpose of this standard, ISO/IEC Guide 2 'Standardization and Related Activities – General Vocabulary' and the definitions shown below apply.

Definition	Description
Acquisition	The process of requirement setting, procurement management, support management and termination / disposal, implying a whole-life approach to defence capability.
Acquisition Lifecycle	The phases of a project that enable the delivery, support and disposal of military capability.
Allocated - Design Baseline (Developmental)	The configuration documentation formally designated at the end of the Assessment and before Demonstration, (see Annex C, Figure 2) The Allocated - Design Baseline includes: a) Functional and physical characteristics that are allocated from the functional baseline for Configuration Items; b) Test requirements demonstrating achievement of functional characteristics; c) Interface characteristics with associated Configuration Items; d) Design constraints.
Amendment	A change which corrects errors in Product Configuration Information that does not affect the baselined configuration item functional and physical characteristics therefore does not require authorisation by the Configuration Control Board or Authority prior to implementation.
Authority	Defined as the Secretary of State for Defence or any person(s) duly authorised to act on his behalf or as defined in the contract.
Baseline reference point	Documented product definition baseline, which can include but not limited to; design information, software version documentation and associated validation and operational information
Change Control	Activities for control of the product after formal approval of its product configuration information (ISO 10007).
Commercial-off-The-Shelf Items	An item available in the commercial market place requiring no modification to meet the requirements of the Authority.
Computer Software Configuration Item	Computer software designated for configuration management.
Computer Software Unit	An element, specified in the design of a Computer Software Component (CSC) that may be tested separately.
Concession	Permission to use, embody; deliver or release a product that does not conform in full to contract requirements. A Concession can also apply prior to production / realisation (This process was formally known as a Production Permit / Deviation. (Def Stan 05-61 Part 1).

	Note. Concessions are contractual non-conformities and do not affect the Configuration Baseline. A Concession is generally limited to the delivery of the product that has non-conforming characteristics within specified limits for an agreed time or quantity of that product (Reference ISO 10007).
Configuration Audit	Checking an item for compliance with its configuration documentation.
Configuration Baseline	The approved configuration documentation formally designated at a specific point in the configuration item lifecycle; that serves as reference for activities throughout the configuration item product life cycle. During product development, there are normally three baselines: a) Functional Baseline. b) (Allocated - configuration item Selection) Baseline c) Product Baseline.
Configuration Control Board	See Dispositioning Authority Note. The CCB can be supported by subsidiary configuration change management committee (s) (CCC) or personnel who have delegated authority from the CCB to manage and approve changes within defined technical, cost and risks constraints.
Configuration Identification	Defined as the process of identifying and documenting the functional and physical characteristics of configuration items.
Configuration Item	An item designated for Configuration Management.
Configuration Management	A discipline applying technical and administrative direction and surveillance to the following activities: a) Configuration Identification and Documentation; b) Configuration Change Management; c) Configuration Status Accounting and configuration data management d) Configuration Audit.
Configuration Management	A discipline applying technical and administrative direction and surveillance to the following activities:

	a) Configuration Identification and Documentation; b) Configuration Change Management; c) Configuration Status Accounting and configuration data management d) Configuration Audit.
Configuration Management Plan	The document that formally describes the scope, organisation and procedures of Configuration Management for the programme as mutually agreed by all stakeholders and those responsible for Configuration Management.
Configuration Status Accounting	The recording and reporting of the information that is needed to manage the configuration effectively, including a list of approved configuration documentation, the status of proposed changes to the configuration and the implementation status of approved changes.
Configuration Status Record	The record produced by the Configuration Status Accounting process; it is the source database of configuration information to support through life programme activities including programme management, system engineering, manufacturing, software development, logistic support, maintenance and modification. The Configuration Status Record should describe the status of the Configuration Item at any stage in its life cycle, including where appropriate, the current version of each Configuration Item.
Design Authority	An organisation appointed by contract to be responsible for a design or modification of a design, and for signing the Certificate of Design. The authority for acceptance of a design and any change to that design remains with the MOD DTL.
Design Baseline	Defined as the configuration documentation formally designated at the end of the Assessment and before Demonstration, the Design Baseline includes: a) Functional and physical characteristics that are allocated from the functional baseline for Configuration Items; b) Test requirements demonstrating achievement of functional characteristics; c) Interface characteristics with associated Configuration Items; d) Design constraints.
Design Organisation	The organization entrusted to design the materiel to approved specifications. Can also be known as the Design Authority
Design Record	All information necessary to define the design, manufacture, packaging, testing, installation, operation and servicing of a product.

Design Review	A formal, documented engineering management process that is used to subject a design to a systematic critical study. Its purpose is to establish that the design satisfies the specified requirement.
Developmental Configuration	The Contractor's technical documentation that defines the evolving configuration (design) during development; it is under the development Contractor's configuration control.
Deviation	Now an obsolete term – refer to Concession.
Dispositioning Authority	A person or group of persons, assigned responsibility and authority to make decisions on product configuration as defined in the requirements for product design, realisation, verification, operation and support. Note. A Dispositioning Authority; can also be known as a Configuration Control Board (CCB). Other relevant interested parties within and outside the organization should be represented on the CCB. (Reference ISO 10007:2003).
Engineering Change	An alteration in the configuration of a Configuration Item and / or its configuration documentation after formal establishment of its configuration baseline.
Engineering Change Notice	Formal approval of an Engineering Change when Under Contractor Control.
Engineering Change Proposal	Formal documentation that is prepared to provide engineering information and other data in sufficient detail to support the evaluation of an engineering change, when Under Contractor Control.
Engineering Data	All information associated with all engineering activities and recorded in documents such as drawings, associated lists, accompanying documents, manufacturer specifications, and standards, prepared by a design activity and relating to the design, manufacture, procurement, test, or inspection of items or services.
Firmware	An ordered set of instructions and associated data stored in a way that is functionally independent of main storage, usually in a ROM.
Functional Baseline	The configuration documentation formally designated during Assessment (see Annex C Figure 2) prescribing all necessary: a) Functional characteristics; b) Test requirements; c) interface characteristics with associated configuration items; d) Key lower-level configuration items, if any; e) Design constraints.
Functional Characteristics	The initial design expressed in terms of quantitative performance parameters such as range, speed, lethality, reliability, maintainability, safety, and operating, logistics parameters.

Functional Configuration Audit	Formal examination of test data and quality assurance records for a configuration item, prior to acceptance of the Product Baseline, to verify that the configuration item has achieved the performance and functional characteristics specified in its configuration documentation
Interface Control	The procedures and documentation, necessary for the identification and management of functional and physical characteristics between two or more systems or Configuration Items.
Materiel	The generic term covering system, equipment, stores, supplies and spares including related documentation manuals, computer software, firmware and services.
Modification	An In-Service design change to a Configuration Item after the formal establishment of the Configuration Baseline, after the production drawings have been sealed.
Modification Proposal	The formal documentation that provides engineering information and other data in sufficient detail to support the requirement for an In-Service change to a configuration item and its configuration documentation
NATO Stock Number	A 13-digit numeric data string, which on its own uniquely identifies an Item of Supply in the NATO inventory.
Non Developmental Item	See Commercial-Off-The-Shelf Items
Part Number	A set of numbers, letters, symbols or some combination thereof, assigned by a Contractor to identify uniquely the design of a specific part or item of materiel in the Contractor's inventory.
Physical Characteristics	Quantitative and qualitative expressions of material features, such as composition, dimensions, finishes, form, fit, and their respective tolerances.
Physical Configuration Audit	The formal examination of the "as-built" configuration of a configuration item to verify that it conforms to its product configuration documentation.
Product	A manufactured item or assembly of items that fulfils certain physical and functional requirements and is the result of a process (derived from BS EN ISO 9000:2005)
Product Baseline	The configuration documentation for a configuration item formally designated at the beginning of its production prescribing: a) All necessary physical and functional characteristics of configuration items; b) The selected functional characteristics designated for production acceptance testing. c) The production acceptance tests.

Product Configuration Information	Requirements for product design, realisation, verification, operation and support (Reference ISO 10007).
Requirements Baseline	A documented common understanding of what the product is expected to do (its functional and performance requirements). It defines the capabilities the customer expects to receive from the product.
System	A combination, with defined boundaries, of elements that are used together in a defined operating environment to perform a given task or achieve a specific purpose. The elements may include personnel, procedures, materials, tools, products, facilities, services and/or data as appropriate.
Tailored	The process by which specific requirements of specifications, standards, and related documents are modified to ensure that each tailored document invoked states only the optimum requirements to achieved particular project.
Under Contractor Control	The time when the Contractor is responsible for the authorisation of configuration change before acceptance of the product CIs by the Authority for In-Service use.
Under Ministry Control	The time when the Authority is responsibility for the authorisation of configuration change when the product configuration item(s) have been accepted by the Authority for In-Service use. Note. Although the Contractor may be required under contract, to manage the Configuration Management of an In-Service product development; the authorisation of change(s) to the In-Service Configuration Baseline(s) remains the responsibility of the Authority.
Validation	The process of determining that the design complies with the specified requirement.
Verification	The process of determining that the products of a given design & development phase are correct and consistent with respect to the products and standards provided as inputs to that phase.
Version	Defined as an identified and documented instance of a configuration item that is identified and documented. Any modification to a configuration item of a software or hardware product, resulting in a new version, requires configuration management action.
Waivers	Now an obsolete term – refer to Concession.

Abbreviations

Abbreviation	Description
AA	Class AA modifications
ABL	Allocated Baseline
ACMP	Allied Configuration Management Publication
ALARP	As Low As Reasonably Practicable
ASEMS	Acquisition Safety and Environment Management Systems
CAD	Computer Aided Design
CAM	Computer aided Manufacture
CCB	Configuration Control Board
CCC	Configuration Control Committee
CCM	Configuration Change Management
CI(s)	Configuration Item(s)
CM	Configuration Management
CMP	Configuration Management Plan
COTS	Commercial Off The Shelf
CSA	Configuration Status Accounting
CSC	Computer Software Components
CSCI	Computer Software Configuration Item
CSR	Configuration Status Record (the CSR contains the functionality of the Master Record Index (MRI)
CSU	Computer Software Units
CWP	Contractors' Working Parties
DA	Design Authority
DO	Design Organisation (Can also be known as the Design Authority)
ECP	(Contractor's) Engineering Change Proposal
EOD	Explosive Ordnance Disposal
FBL	Functional Baseline
FCA	Functional Configuration Audit

GFA	Government Furnished Assets
GFE	Government Furnished Equipment
HMI	Human Machine Interface
LSA	Logistic Support Analysis
LSP	Land Systems Procedure
MAA	Military Aviation Authority
MOD	Ministry of Defence
MPF	Modification Proposal Form
MRI	Master Record Index
MSPL	Modification Spares Provisioning List
MU	Maintenance Unit
NATO	North Atlantic Treaty Organisation
NCP	No Supplier Parts
NDI	Non-Development Item
NIP	Not In Production
NOROR	Not on Repair or Reconditioning
NSN	NATO Stock Number
PBL	Product Baseline
PCA	Physical Configuration Audit
PDS	Product Data Sheets
RA	Regulatory Article
RBI	Retrospective Before Delivery
RBL	Requirements Baseline
SDR	System Design Review
SMP	Service Modification Parties
SOO	Special Order Only
SRD	System Requirements Document
SRR	System Requirements Review
STANAG	NATO Standardization Agreement

TI	Trial Installation
UCC	Under Contractor Control
UKNCB	United Kingdom National Codification Bureau
UMC	Under Ministry Control
URD	User Requirements Document
WOTSAC	When Old Type Spares Are Consumed

Changes since previous issue

The changes incorporated in this issue are shown below. For more information please contact DStan through the UK Defence Standardization Help Centre. Details of how to contact the Help Centre are shown on the outside rear cover of Defence Standards.

Clause	Page	Change	Change Reason
3.2.1	2-6	"(Reference – ISO 10007:2003)" updated to (Reference – ISO 10007)	Normative reference issue date removed to avoid updating this document when reference changes.
3.3.2	2-6	"shall define and document the CM System for the Contract, address the requirements in Section 3 of this Standard and the framework" Updated to: "shall define and document the CM System for the Contract explaining how Configuration and Data Management is to be managed, addressing the requirements in Clause 3 of this Standard and the framework"	Amended to get contractors to explain how they manage Configuration and Data
C1.1	2-25	"Section 5 of this Standard." Updated to "Clause 3 of this Standard"	Section 5 does not exist
C13	2-27	Title C13 Qualification and Training and added new para.	Clarify training roles and requirements
G.1.1	2-46	Include Reference to "Marine Mofification Leaflet" in Marine Domain Annex G. Added link to bottom of para G.1.1	Improve Standard
Annex F	2-41	NOTE and RA 5810, RA 5820, RA 5865 added.	To make RA list up to date
Definitions	3-7 and 3-8	Definition of "Product" and "System" added.	To improve standard

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UK Defence Standardization

Kentigern House

65 Brown Street

GLASGOW

G2 8EX

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File Reference

The DStan file reference relating to work on this standard is 01439/2021.

Contract Requirements

When Defence Standards are incorporated into contracts, users are responsible for their correct application and for complying with contractual and statutory requirements. Compliance with a Defence Standard does not in itself confer immunity from legal obligations.

Revision of Defence Standards

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