

3. DEFINITIONS

Acronyms used in this standard. The acronyms used in this standard are defined as follows:

AA	Application Activity
ABL	Allocated Baseline
ACD	Allocated Configuration Documentation
ADP	Automated Data Processing
AIS	Automated Information System
AMSDL	Acquisition Management Systems and Requirements Control List
ANSI	American National Standards Institute
CAGE	Commercial and Government Entity
CAO	Contract Administration Office
CCB	Configuration Control Board
CDCA	Current Document Change Authority
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CI	Configuration Item
CITIS	Contractor Integrated Technical Information Service
CM	Configuration Management
COTS	Commercial-Off-The-Shelf
CSA	Configuration Status Accounting
CSAR	Configuration Status Accounting Report
CSCI	Computer Software Configuration Item
DID	Data Item Description
DLA	Defense Logistics Agency
DOD	Department of Defense
DODISS	Department of Defense Index of Specifications and Standards
DUI	Data Use Identifier
ECP	Engineering Change Proposal
EMD	Engineering and Manufacturing Development
EEPROM	Electrically Erasable Programmable Read-only Memory
FBL	Functional Baseline
FCA	Functional Configuration Audit
FCD	Functional Configuration Documentation
GFD	Government Furnished Data
GFE	Government Furnished Equipment
GLAA	Government Lead Application Activity
HWCI	Hardware Configuration Item
ICD	Interface Control Drawing
ICWG	Interface Control Working Group
IDD	Interface Design Document
IGES	Initial Graphics Exchange Specification
ILS	Integrated Logistics Support
IRS	Interface Requirements Specification
IWSDB	Integrated Weapons System Data base
LSA	Logistics Support Analysis
JEDMICS	Joint Engineering Data Management Information & Control System
LSAR	Logistic Support Analysis Record

MILSCAP	Military Standard Contract Administration Procedures
MRB	Material Review Board
MTS	Mobile Training Sets
NATO	North Atlantic Treaty Organization
NDI	Nondevelopmental Item
NOR	Notice of Revision
NSCM	NATO Supply Code for Manufacturers
NSN	National Stock Number
PBL	Product Baseline
PCA	Physical Configuration Audit
PCD	Product Configuration Documentation
PCR	Problem Change Report
PDI	Privately Developed Item
PDR	Preliminary Design Review
PIN	Part or Identifying Number
PPSL	Program Parts Selection List
PROM	Programmable Read-only Memory
RFD	Request For Deviation
SPS	Software Product Specification
SDL	Software Development Library
SOW	Statement of Work
TCTO	Time Compliance Technical Order
TRR	Test Readiness Review
VDD	Version Description Document
VE	Value Engineering
VECP	Value Engineering Change Proposal

3.2. Allocated Baseline (ABL). The approved allocated configuration documentation.

3.3. Allocated Configuration Documentation (ACD). The documentation describing a CI's functional, performance, interoperability, and interface requirements that are allocated from those of a system or higher level configuration item; interface requirements with interfacing configuration items; and the verifications required to confirm the achievement of those specified requirements.

3.4. Application activity (AA). An activity which has selected an item or a document for use on programs under its control. However, it is not the current document change authority for the document(s).

3.5. Approval. The decision that data is complete and suitable for its intended use. (See also: 3.4 Application activity, 3.24 Contractual acceptance of data, 3.25 Current document change authority.)

3.6. Approved data. Approved data is data that has been approved by the appropriate authority (in the context of this standard, the current document change authority [CDCA]), and is the official (identified) version of the data until replaced by another approved version.

3.7. Assembly. A number of basic parts or subassemblies, or any combination thereof, joined together to perform a specific function. Typical examples are: electric generator, audio-frequency amplifier, power supply.

3.8. Computer data base. See 3.27 Data base.

3.9. Computer software. See 3.83 Software.

3.10. Computer Software Configuration Item (CSCI). A configuration item that is computer software.

3.11. Computer software documentation. Technical data or information, including computer listings, regardless of media, which document the requirements, design, or details of computer software; explain the capabilities and limitations of the software; or provide operating instructions for using or supporting computer software.

3.12. Configuration. The performance, functional, and physical attributes of an existing or planned product, or a combination of products.

3.13. Configuration audit. (See: 3.46 Functional Configuration Audit, and 3.68 Physical Configuration Audit.

3.14. Configuration baseline. See 3.2 Allocated Baseline, 3.44 Functional Baseline, and 3.69 Product Baseline.

3.15. Configuration control. The element of configuration management concerning the systematic proposal, justification, evaluation, coordination, and disposition of proposed changes, and the implementation of all approved/released changes, in the configuration of a CI.

3.16. Configuration Control Board (CCB). A board composed of technical and administrative representatives who recommend approval or disapproval of proposed engineering changes to, and proposed deviations from, a CI's current approved configuration documentation.

3.17. Configuration documentation. Technical documentation, the primary purpose of which is to identify and define a product's performance, functional, and physical attributes. NOTE: Several documents might describe the attributes of a product (e.g., a specification, an engineering drawing, a technical manual, sales literature). Of those, only the specification and the engineering drawing are considered configuration documentation because their primary purpose is to define the configuration of the product. Other items of product information are derived using configuration documentation as source material. (See also: 3.3 Allocated Configuration Documentation, 3.47 Functional Configuration Documentation, and 3.70 Product Configuration Documentation)

3.18. Configuration identification. The element of configuration management concerning the selection of CIs; the determination of the types of configuration documentation required for each CI; the issuance of numbers and other identifiers affixed to the CIs and to the technical documentation that defines the CI's configuration; the release of CIs and their associated configuration documentation; and the establishment of configuration baselines for CIs.

3.19. Configuration Item (CI). A Configuration Item is any hardware, software, or combination of both that satisfies an end use function and is designated for separate configuration management. Configuration items are typically referred to by an alphanumeric identifier which also serves as the non-changing base for the assignment of serial numbers to uniquely identify individual units of the CI. (See also: 3.30 Product-tracking base-identifier).

3.20. Configuration Management (CM). A management process for establishing and maintaining consistency of a product's performance, functional, and physical attributes with its requirements, design and operational information throughout its life. As applied to digital documents, it is the application of configuration management principles to digital documents, their representations, and data files; and the correlation of digital documents to each other and to the products to which they apply.

- 3.21. Configuration Management Plan (CMP). The document defining how configuration management will be implemented (including policies and procedures) for a particular acquisition or program.
- 3.22. Configuration Status Accounting (CSA). The configuration management activity concerning capture and storage of, and access to, configuration information needed to manage products and product information effectively.
- 3.23. Contract. As used herein, denotes the document (for example, contract, memorandum of agreement/understanding, purchase order) used to implement an agreement between a tasking activity and a performing activity.
- 3.24. Contractual acceptance of data. The action taken by the tasking activity signifying that an item submitted or delivered by the performing activity complies with the requirements of the contract.
- 3.25. Current document change authority. The authority currently responsible for the content of a drawing, specification, or other document and which is the sole authority for approval of changes to that document. (See also: 3.4 Application Activity, 3.5 Approval, 3.35 Document custodian activity.)
- 3.26. Data. Recorded information of any nature, including administrative, managerial, financial, and technical, regardless of medium or characteristics.
- 3.27. Data base. A collection of related data stored in one or more computerized files in a manner that can be accessed by users or computer programs via a data base management system.
- 3.28. Defect. Any nonconformance of a characteristic with specified requirements.
- 3.29. Deficiencies. Deficiencies consist of two types:
- a. Conditions or characteristics in any item which are not in accordance with the item's current approved configuration documentation; or
 - b. Inadequate (or erroneous) configuration documentation which has resulted, or may result, in units of the item that do not meet the requirements for the item.
- 3.30. Design change. See 3.37 Engineering change.
- 3.31. Developmental configuration. The performing activity's design and associated technical documentation that defines the evolving configuration of a configuration item during development. It is under the performing activity's configuration control and describes the design definition and implementation. The developmental configuration consists of the performing activity's released hardware and software designs and associated technical documentation. Programs may control design file/data bases in lieu of design drawings when implementing paperless/drawingless design approaches.
- 3.32. Deviation. A specific written authorization to depart from a particular requirement(s) of an item's current approved configuration documentation for a specific number of units or a specified period of time, and to accept an item which is found to depart from specified requirements, but nevertheless is considered suitable for use "as is" or after repair by an approved method. (A deviation differs from an engineering change in that an approved engineering change requires corresponding revision of the item's current approved configuration documentation, whereas a deviation does not allow a revision of the item's current approved configuration documentation.)

- 3.33. Distribution Statement. A statement used in marking a technical document to denote the extent of its availability for distribution, release, and disclosure without need for additional approvals and authorizations from the controlling DOD office.
- 3.34. Document. A self-contained body of information or data which can be packaged for delivery on a single medium. Some examples of documents are: drawings, reports, standards, data bases, application software, engineering designs, etc.
- 3.35. Document custodian activity. The custodian of a document is the activity which is charged with the physical and electronic safekeeping and maintenance of the "original" documents.
- 3.36. Document representation. A set of digital files which, when viewed or printed together, collectively represent the entire document. (For example, a set of raster files or a set of IGES files) Note: A document may have more than one document representation.
- 3.37. Engineering change. A change to the current approved configuration documentation of a configuration item.
- 3.38. Engineering Change Proposal (ECP). The documentation by which a proposed engineering change is described, justified, and submitted to the current document change authority for approval or disapproval.
- 3.39. Exchangeability of items. See 3.50 Interchangeable item, 3.79 Replacement Item, and 3.87 Substitute item.
- 3.40. Firmware. The combination of a hardware device and computer instructions or computer data that reside as read only software on the hardware device.
- 3.41. Fit. The ability of an item to physically interface or interconnect with or become an integral part of another item.
- 3.42. Form. The shape, size, dimensions, mass, weight, and other physical parameters which uniquely characterize an item. For software, form denotes the language and media.
- 3.43. Function. The action or actions which an item is designed to perform.
- 3.44. Functional Baseline (FBL). The approved functional configuration documentation.
- 3.45. Functional characteristics. Quantitative performance parameters and design constraints, including operational and logistic parameters and their respective tolerances. Functional characteristics include all performance parameters, such as range, speed, lethality, reliability, maintainability, and safety.
- 3.46. Functional Configuration Audit (FCA). The formal examination of functional characteristics of a configuration item, or system prior to acceptance of the design capabilities, special tooling or developmental testing, to verify that the item has achieved the requirements specified in its functional and/or allocated configuration documentation.
- 3.47. Functional Configuration Documentation (FCD). The documentation describing the system's functional, performance, interoperability, and interface requirements and the verifications required to demonstrate the achievement of those specified requirements.
- 3.48. Hardware. Items made of material, such as weapons, aircraft, ships, tools, computers, vehicles, and their components (mechanical, electrical, electronic, hydraulic, pneumatic). Computer software and technical documentation are excluded.

- 3.49. Hardware Configuration Item (HWCI). See 3.19 Configuration item.
- 3.50. Interchangeable item. One which (1) possesses such functional and physical characteristics as to be equivalent in performance, reliability, and maintainability, to another item of similar or identical purposes; and (2) is capable of being exchanged for the other item (a) without selection for fit or performance, and (b) without alteration of the items themselves or of adjoining items, except for adjustments.
- 3.51. Interface. The performance, functional, and physical characteristics required to exist at a common boundary.
- 3.52. Interface control. The process of identifying, documenting, and controlling all functional and physical attributes relevant to the interfacing of two or more products provided by one or more organizations.
- 3.53. Interface Control Documentation (ICD). Interface control drawing or other documentation that depicts performance, physical, functional, performance and test interfaces of related or co-functioning products.
- 3.54. Interface Control Working Group (ICWG). For programs which encompass a system, configuration item, or a computer software configuration item design cycle, an ICWG is established to control interface activity among the tasking activity, performing activities, or other agencies, including resolution of interface problems and documentation of interface agreements.
- 3.55. Interoperability. The ability of the defense services and agencies to exchange information with each other (joint operations) or with an allied system (combined operations) to enable them to operate effectively together.
- 3.56. Item. A non-specific term used to denote any product, including systems, materiel, parts, subassemblies, sets, accessories, etc.
- 3.57. Life cycle cost. The total cost to the tasking activity of acquisition and ownership of that system over its life cycle. It includes the cost of development, acquisition, support, and where applicable, disposal.
- 3.58. Lot number. An identifying number consisting of alpha and numeric characters which, in conjunction with a manufacturer's identifying CAGE code and a common base number, uniquely identifies a group of units of the same item which are manufactured or assembled by one producer under uniform conditions and which are expected to function in a uniform manner.
- 3.59. Materiel. A generic term covering systems, equipment, stores, supplies, and spares, including related documentation, manuals, computer hardware, and software.
- 3.60. Nomenclature. The combination of a Government-assigned designation and an approved item name. In certain cases, the designation root serves as the basis for assignment of serial and/or lot numbers.
- 3.61. Nonconformance. The failure of a unit or product to meet a specified requirement.
- 3.62. Nonrecurring costs. As applied to ECPs, these are one-time costs which will be incurred if an engineering change is approved and which are independent of the quantity of items changed, such as cost of redesign, special tooling, or development testing.
- 3.63. Non-repairable Item. Any part or assembly which, upon failure or malfunction is either discarded or returned to the original manufacturer.
- 3.64. Notice of Revision (NOR). A document used to define revisions to configuration documentation which require revision after Engineering Change Proposal approval. See also: 3.38 Engineering Change Proposal.

- 3.65. Original. The current design activity's documents or digital document representation and associated source data file(s) of record.
- 3.66. Performing activity. Denotes an activity performing any of the requirements contained in a contract. A "Performing Activity" can be either a contractor or Government activity.
- 3.67. Physical characteristics. Quantitative and qualitative expressions of material features, such as composition, dimensions, finishes, form, fit, and their respective tolerances.
- 3.68. Physical Configuration Audit (PCA). The formal examination of the "as-built" configuration of a configuration item against its technical documentation to establish or verify the configuration item's product baseline.
- 3.69. Product Baseline (PBL). The approved product configuration documentation
- 3.70. Product Configuration Documentation (PCD). The CI's detail design documentation including those verifications necessary for accepting product deliveries (i.e., first article and acceptance inspections). Based on program production/procurement strategies, the design information contained in the PCD can be as simple as identifying a specific part number or as complex as full design disclosure.
- 3.71. Product-Tracking Base-Identifier. A non-changing identifier used as a base for the assignment of serial numbers to uniquely identify individual units of an item or lot numbers to uniquely identify groups of units of an item. The product-tracking identifier is used rather than the Part or Identifying Number (PIN) because the PIN is altered to reflect a new configuration when the item it identifies is modified. The same product-tracking base-identifier may be used for several similar items (usually defined by a common document) and requires that each such item is assigned serial or lot numbers distinct from each other such item.
- 3.72. Product Tracking Identifier. A generic term which refers to the sequentially assigned alphanumeric identifier applied to a product to differentiate units of the product or groups of the product. This may be a Government serial (or hull) number, manufacturer's serial number, lot number or date code.
- 3.74. Recurring costs. Costs which are incurred for each item changed or for each service or document ordered.
- 3.75. Release. The designation by the originating activity that data, a document representation, or software version is approved by the appropriate authority and is subject to configuration change management procedures.
- 3.76. Released Data. Released data is data that has been released by the originating activity after review and internal approvals. Released data may be selectively provided to a tasking activity for purposes such as design review.
- 3.77. Repair. A procedure which reduces, but does not completely eliminate, a nonconformance. Repair is distinguished from rework in that the characteristic after repair still does not completely conform to the applicable drawings, specifications, or contract requirements.
- 3.78. Repairable Item. Any part or assembly which, upon failure or malfunction, is intended to be repaired by Government personnel (including contract personnel).
- 3.79. Replacement item. One which is interchangeable with another item, but which differs physically from the original item in that the installation of the replacement item requires operations such as drilling, reaming, cutting, filing, shimming, etc., in addition to the normal application and methods of attachment.

3.80. Retrofit. The incorporation of new design parts or software code, resulting from an approved engineering change to a product's current approved product configuration documentation, into products already delivered to and accepted by customers .

3.81. Rework. A procedure applied to a nonconformance to the drawings, specifications, or contract requirements that will completely eliminate it and result in a characteristic that conforms completely

3.82. Serial number. An identifying number consisting of alpha and numeric characters which is assigned sequentially in the order of manufacture or final test and which, in conjunction with a manufacturer's identifying CAGE code, uniquely identifies a single item within a group of similar items identified by a common base number.

3.83. Software. Computer programs and computer data bases.

3.84. Specification. A document which explicitly states essential technical attributes/requirements for a product and procedures to determine that the product's performance meets its requirements/attributes.

3.85. Specification Change Notice (SCN). See 3.38 Engineering Change Proposal (ECP).

3.86. Submitted data. Released data that has been made available to customers, as required by contractual agreement.

3.87. Substitute item. An item that possesses such functional and physical characteristics as to be capable of being exchanged for another item only under specified conditions or in particular applications and without alteration of the items themselves or of adjoining items.

3.88. Support equipment. Equipment and computer software required to maintain, test, or operate a product or facility in its intended environment.

3.89. Survivability. The capability of a system to avoid or withstand a hostile environment without suffering an abortive impairment of its ability to accomplish its designated mission.

3.90. System. A complete system includes all equipment, related facilities, material, software, services, and personnel required for its operation and support to the degree that it can be considered a self-sufficient unit in its intended operational environment.

3.91. Tasking activity. A tasking activity (for example, a Government Contracting Activity which awards a contract to a contractor, a Government Program Management Office which tasks another Government activity, or a contractor which tasks a subcontractor) is the activity imposing the requirements contained in a contract on a performing activity.

3.92. Technical data. Technical data is recorded information (regardless of the form or method of recording) of a scientific or technical nature (including computer software documentation).

3.93. Technical data package. A technical description of an item adequate for supporting an acquisition strategy, production, engineering and logistics support. The description defines the required design configuration and procedures required to ensure adequacy of item performance. It consists of all applicable technical data such as drawings and associated lists, specifications, standards, performance requirements, quality assurance provisions, and packaging details.

3.94. Technical documentation. See 3.92 Technical data.

3.95. Technical reviews. A series of system engineering activities by which the technical progress on a project is assessed relative to its technical or contractual requirements. The reviews are conducted at logical transition points in the development effort to identify and correct problems resulting from the work completed thus far before the problems can disrupt or delay the technical progress. The reviews provide a method for the performing activity and tasking activity to determine that the development of a configuration item and its documentation have a high probability of meeting contract requirements.

3.96. Training equipment. All types of maintenance and operator training hardware, devices, audio-visual training aids, and related software which:

a. are used to train maintenance and operator personnel by depicting, simulating, or portraying the operational or maintenance characteristics of an item or facility.

b. are kept consistent in design, construction, and configuration with such items in order to provide required training capability.

3.97. Version. An identifier used to distinguish one body or set of computer-based data from another. Version identifiers are usually associated with data used by, or maintained, in computers such as files, data bases, and software. Modifications to a version of either software, or a computer data base or a file (resulting in a new version) may require configuration management actions by either the performing activity, the tasking activity, or both.

3.98. Waiver. See 3.32 Deviation.

3.99. Working data. Data that has not been reviewed or released; any data that is currently controlled solely by the originator including a new version of data that was released, submitted, or approved.

4. GENERAL REQUIREMENTS

4.1 General. DOD activities are responsible for ensuring the necessary configuration information and documentation (or access thereto) is procured, recorded, maintained, and disseminated to support (a) development, acquisition, and production, (b) reprourement, spare part procurement, modification, and indigenous logistics support of fielded equipment/software, and (c) safe disposal of hazardous material. The data which is necessary for configuration management of these Government assets varies during the life-cycle of the product and is dependent on the acquisition and logistic support strategies for the CI. To accomplish this requirement, the Government will maintain a system, or set of interconnected systems, which maintain the necessary information in a form which complies with Appendices B and C. Government personnel must:

- a. ensure the unique identification of parts, assemblies, materials, software, and supporting documentation;
- b. generate and correlate documentation with the associated parts, assemblies, materials, or software;
- c. record the approved and actual structures of fielded units (assets);
- d. provide a repository for explanatory and requirements documents;
- e. document CCB membership and meeting results;
- f. maintain a history of the changes to the performance requirements, approved configurations and actual asset configurations;
- g. maintain an accurate record of the Government's decision making role over documents which are delivered to the Government; and
- h. monitor audit actions and change implementation actions.

The Government is responsible for maintaining the Government CM AIS which supports the information needs listed above. The CM AIS is the database, or set of interconnected databases, which contains both the electronic documents to be configuration controlled and the CSA data about those documents and about fielded Government products/assets. Usually, several different activities are responsible for different aspects of configuration identification, documentation, control, audits, and status accounting. Therefore, various Government organizations must be tasked with providing the required information or documents and some of the information or documents may be procured from performing activities by ordering the appropriate information packets. (See Section 6 for ordering information.)

4.2 Configuration identification. To accomplish the requirement for accurate configuration identification records, Government responsibilities include:

4.2.1 Configuration identification of configuration items. The Government will select the systems/CIs for management. Each system will be assigned a name (for example, HARM Missile, Eagle, Javelin, Crusader Artillery System, Trident Submarine, etc.) and each CI will be assigned a name and may be assigned an alphanumeric identifier (for example: AGM-88B High-Speed Anti-Radiation Missile; F-15 Fighter Aircraft, WAU-47 Warhead, FMU-111A Fuze, CG47 Ticonderoga Class Guided Missile Cruiser, AN/TAS-4A Night Vision Sight Assembly, etc.). Together, these will uniquely identify the major end-use item. CSCIs will be identified as indicated in 4.2.4. If a system or CI is composed of lower level systems/CIs, this hierarchy will be maintained in the CSA system.

4.2.2 Configuration identification of parts and assemblies. (Some commercial parts do not have a unique identifier, for example, machine screws are identified by diameter, length, thread, and head instead of by a part number. Such items will be identified using the requirements for materials in 4.2.3 instead of the requirements in this paragraph.)

4.2.2.1 Part and assembly design identification. The design of each part or assembly will be identified by a design source and a unique identifier assigned by that design source. This identification will always be associated with one or more configuration documents which define the design, including a component breakdown list (for example, parts list). The design source for the part/assembly and the document source for the document must be the same.

4.2.2.2 Part and assembly unit/lot identification. Each physical part or assembly will be identified with the part identification (design source and identifier), and a manufacturer. If it is critical to safety or CI performance or operation, each individual part or assembly will also be identified by a unique product tracking identifier (usually assigned by the manufacturer).¹ In some cases, more than one type of product tracking identifier may be assigned (for example, a serial number and a lot number); in this case, the correlation between product tracking identifiers will be recorded.

4.2.3 Configuration identification of materials. (If a part number has been assigned to the material by the design source, the material will be identified using the requirements for parts in 4.2.2 instead of the requirements in this paragraph.)

4.2.3.1 Material design identification. Each material will be identified by its design specification or standard (design source, document identifier and document type) and an optional list of up to six parameters, each with an associated value. The design

¹ This requirement does not preclude the assignment of a product tracking identifier to parts, assemblies, and materials which are not critical to safety, CI performance or operation when the assignment is for manufacturing, inspection, or other purposes.

documentation will also include a component breakdown list (for example, parts list) if required.

4.2.3.2 Material unit/lot identification. Each batch of material, or the package or shipping document for each batch of material, will be identified by the material design identification and a manufacturer. If it is critical to item safety, performance, or operation, each batch of material will also be identified by a unique product tracking identifier assigned by the manufacturer.¹ In some cases, more than one type of product tracking identifier may be assigned (for example, a serial number and a lot number); in this case, the correlation between product tracking identifiers will be recorded.

4.2.4 Configuration identification of software. Each software item which is designed to be directly installed in hardware (for example: computer, PROM, EEPROM, etc.) will be identified by its design source and a unique identifier or title assigned by that design source. It is further identified with a document type code which is used for tracking in the CM AIS database. Each software item will consist of at least one document representation (for example, source code, executable code, etc.). Each iteration of a software item will be identified by a version identifier (also known as a revision identifier or release identifier) which is unique to the software item.

4.2.5 Configuration identification of documents. Each document will be identified by a document source², a unique identifier assigned by the document source, and a document type. Each document will consist of at least one document representation. Each iteration of a document will be identified by a revision identifier which is unique to the document.

4.2.6 Configuration identification of document representations. Each document representation will be identified by the document identification (that is, the document source, unique identifier, and document type) of the document which it represents and a document representation identifier which is unique for the document. A document representation may consist of any number of electronic files. Each iteration of a document representation will be identified by a revision identifier which is unique to the document representation.

4.2.7 Configuration identification of files. Each electronic file which is part of a document will be uniquely identified by the combination of the name of the person and organization (for example, company, service, office, etc.) which created it, the name assigned to the file by the creator of the file, and the creation date of the file.

² Generally, the document source should be the organization which originates the document and determines the initial content of the document; however, if the Government is contracting for the creation of documentation with the intent of transferring CDCA and responsibility to the Government at some future time, then, the document source shown on the document may be different from the organization actually originating the work. In either case, the CM AIS should record both the originating organization and the CDCA. For drawings, the organization that actually originates the drawing is sometimes called the preparing activity, and the organization whose number appears in the title block of the drawing is called the Original Design Activity.

4.2.8 Secondary configuration identifiers. Some items or documents may have one or more alternate identifiers. These are in addition to, not in lieu of, the identifiers in 4.2.2 through 4.2.7 and must be cross-referenced to the primary configuration identifier.

4.2.8.1 National stock numbers (NSN). For the purpose of supplying and stocking parts, assemblies, materials, and software, an NSN may be assigned. A single NSN may be used for all interchangeable parts/assemblies/materials/software. Different NSNs may be used for a single item for variations in packaging, preservation, unit of issue, etc. NSNs should be marked on parts/assemblies and their packaging when appropriate.

4.2.8.2 Contract data item identifiers. If a document (or group of documents) is submitted as a contract required data item, it may also be additionally identified with a data item identifier consisting of the contract number, contract data requirements list (CDRL) sequence number, and submittal number. Subsequent submittals of the same item of data (for example when the original data item submittal is disapproved) may be identified by a revision identifier which uniquely identifies the submittal iteration. A data item identifier is a method of identifying the specific document representation(s) which is submitted as the data item. Contract Data Item Identifiers are primarily for tracking purposes, but they may be marked on the document(s) if desired.

4.2.8.3 Block identifiers. For hardware CIs, a block identifier may be assigned to designate a quantity (a block) of consecutive production units of the CI which will have essentially the same configuration on delivery or upon the completion of modification. (Using this concept, the production run is divided into “blocks” of units. The production line incorporation for an ECP is delayed to coincide with the first unit of the next block, or retrofit is required for at least all already-delivered units of the current block.)

4.3 Configuration documentation. The configuration documentation which must be accessible via the CM AIS will vary depending on the acquisition and logistics support scenario. All configuration documentation for which a DOD organization is the CDCA must be accessible via the Government CM AIS. All configuration documentation which is necessary for the DOD to perform maintenance/modification/disposal actions to fielded assets must be accessible via the Government CM AIS but does not have to be controlled by a Government agency. The Government tasking activity will obtain the configuration documentation³, copies of the configuration documentation, or access to copies of the configuration documentation as described below.

³ If the Government procures the configuration document, instead of a copy of the configuration document, control of the master file(s) is transferred to the Government, the Government becomes the CDCA for the document(s), is solely responsible for all future changes to the content of the document(s), and can make unilateral changes to it. If the Government procures only a copy of the document, or access to the document, the Government does not have the authority to change the document unilaterally; the CDCA remains with the originating activity, and any changes proposed by the Government must be approved and incorporated by the CDCA. If not otherwise stated in the contract, the assumption is that the Government is procuring a *copy* of the document, not the master of, and control of, the document.

4.3.1 Performance-based procurement of a nonrepairable item. A Government activity should be the CDCA for the FCD and ACD for the CI being procured.⁴ The performing activity will be the CDCA for the PCD. Copies of, or access to, the PCD by the Tasking Activity is not required.

4.3.2 Performance-based procurement of a repairable item. A Government activity should be the CDCA for the FCD and ACD for the CI being procured.⁴ The performing activity usually will be the CDCA for the PCD. The tasking activity will be responsible for obtaining the top-down breakdown structure of items which are critical to safety, performance, or operation by obtaining *copies* of, or perpetual access to, the PCD documents describing the design, down to and including all replaceable components in the lowest level repairable assembly. The tasking activity will be responsible for obtaining a copy of the complete product configuration of each delivered tracked item (as-built configuration report) down to and including the replaceable components of the lowest level repairable item.

4.3.3 Detailed-design procurement of a repairable item. A Government activity should be the CDCA for the FCD and ACD for the CI being procured.⁴ The tasking activity will be responsible for obtaining a copy of the complete product configuration of each delivered item (as-built configuration report). Depending on tasking activity plans for procurement of the CI and for enhancement to the design after the end of production, the tasking activity will be responsible for either

- a. obtaining a *copy* of, or perpetual access to, the TDP including the PCD describing the complete design, down to and including all replaceable components in the lowest level repairable assembly (in which case, the performing activity will be the CDCA), and for reviewing proposed changes to the design documentation for logistics impact, or
- b. obtaining the originals of the PCD (or a portion of the PCD) describing the detailed design, down to and including all replaceable components in the lowest repairable assembly (in which case, the tasking activity will become the CDCA for these documents) as part of the TDP, and for reviewing and dispositioning proposed changes to the design documentation.

4.4. Configuration control.

4.4.1 Change control of documents. There are five categories of document control which are independent of contractual relationships. In order to provide proper change control of documents, the Government CM AIS must maintain clear records of the

⁴ The organization which originates the document is always the current change control authority unless the authority and responsibility is transferred. Normally, that transfer should take place prior to the Government using that document as a basis of contracting. The CDCA for the remainder of the document(s) should remain with the originating activity.

various controlling roles, as discussed below, for each document (or copy of a document) accessible by the Government CM AIS.

4.4.1.1 Originating activity. The originating activity is the organization which determines the content of, and creates the initial issue of, the document. The originating activity determines the identification to be used for the document. Usually, the originating activity assigns itself as the source and assigns a number (or title) of its choosing; however, when it is preparing the document for another organization, it may be required to assign that tasking organization as the source and assign a number (or title) provided by the tasking organization. Regardless of the identification of the document, the originating activity never changes for the life of the document. There is always one originating activity for each document.

4.4.1.2 Current document change authority (CDCA). When a document is first created, the originating activity is the CDCA for the document. The CDCA can approve (baseline) the initial document and can unilaterally approve changes to the document. Therefore, the CDCA has the final authority and responsibility for controlling the content of the document and for ensuring that changes are incorporated into the document. Coordination with application activities is not necessary unless a contractual arrangement so dictates (see 4.4.1.4). The CDCA may be transferred to another organization. There is always only one CDCA for each document.

4.4.1.3 Custodial activity. When a document is first created, the originating activity is the custodial activity for the document. The custodial activity is usually the same as the CDCA, but custodial responsibility may be transferred to another organization. This custodian is responsible for storing the “master” or “original” copy/document representation(s)/file(s) of the document and the subsequent approved revisions of the document. There is always only one custodial activity for each document.

4.4.1.4 Application activity (AA). An application activity is any organization which uses a document for which it is not the CDCA. The AA may or may not have a contractual relationship with the CDCA and the authority of the AA depends on the contractual relationship with the CDCA of the document.⁵ In general, AAs can provide approval for use (adoption) of a document or of a change to a document. AAs cannot direct incorporation of a change into the document, or approve or direct implementation of a proposed change which has been disapproved by that document's CDCA.

⁵ If there is a contractual relationship between the CDCA and AA, The CDCA should coordinate proposed changes to the document with the AA to allow the AA to determine if the changes will impact the AA's use of the product (or ability/cost to produce the product). The CDCA can unilaterally make changes to the document provided the changes do not affect the product deliveries currently under contract. The CDCA can also make unilateral changes to the document which do affect the product, but the CDCA must then negotiate any necessary contract adjustments. However, if the tasking and performing activities are both AAs, neither has any control over changes to the document (for example, procuring steel to the ANSI standard for steel). The CDCA (in this example, ANSI) has no responsibility for coordinating changes with either AA.

4.4.1.5 Government lead application authority (GLAA). When more than one Government organization is an AA with a contractual relationship with the CDCA of a document, one Government organization is sometimes designated as the GLAA. If one Government activity has been designated as the lead for Government acquisition of the item (for example, DLA), and other Government activities “buy” through the lead activity, the designated lead is the GLAA. The GLAA should consolidate recommendations from all Government AA’s and act as the sole point of contact within the Government for coordination with the performing activity concerning proposed engineering changes.

4.4.1.6 Contract data item approval. When there is a contractual requirement for a decision about the acceptability of information submitted to meet contract requirements (as opposed to the always-required technical decision by the CDCA or AA described in 4.4.2 or 4.4.3) this approval (contractual acceptance) is a separate action by the tasking activity; however, it is usually dependent, at least in part, on the technical decision by the tasking activity either in its role as CDCA or as AA. The name of the data submittal approval authority, approval/disapproval disposition decision, and date will be recorded in the Government CM AIS or be accessible to the Government CM AIS.

4.4.2 Configuration control of Government products/assets and their designs.

4.4.2.1 Configuration control of designs for products/assets. All documents for which the Government is the CDCA (ranging from performance specifications to detailed design drawings to data items) will be entered into the Government CM AIS. If the Government is the CDCA for detailed design documents the completed design structure will be entered into the Government CM AIS. For repairable items which will be repaired by the Government, the complete design structure and any necessary associated documentation will be entered into the Government CM AIS. Changes to the design, design structure, or configuration documentation will be proposed by means of an ECP. Prior to delivery of the unit affected, temporary departures from the design requirements (permanently incorporated in the unit) will be proposed by means of an RFD. (See also: 4.4.2.1.2)

4.4.2.1.1 Design changes requiring new identification. The CDCA will assign new part/material/software identifiers when a part, material, or software is changed in such a manner that any of the following conditions occur⁶:

⁶ When a part, assembly, material, or software is changed in such a manner that the conditions listed do not occur, the part/material identifier will not be changed. Under no condition will the part/material identifier be changed only because a new application is found for an existing item. When an item has been furnished to the Government, the applicable part/material/software identifier will not be changed unless the conditions listed apply. However, when the CDCA desires to create a tabulated listing or a standard because of multiple application of an item, the aforementioned need not apply. The superseded drawing will identify the document which superseded it. The superseding document will identify the part/material identifiers replaced and provide a complete cross-reference of superseded part/material identifiers to replacement part/material identifiers.

- a. Condition 1: Performance or durability is affected to such an extent that superseded items must be discarded or modified for reasons of safety or malfunction.
- b. Condition 2: Parts, subassemblies, or complete articles (including software) are changed to such an extent that the superseded and superseding items are not interchangeable.
- c. Condition 3: When superseded parts, materials, or software are limited to use in specific articles or models of articles and the superseding parts are not so limited in use.
- d. Condition 4: When an item has been altered, selected, or is a source control item.
- e. Condition 5: When a repair part within an item is changed so that it is no longer interchangeable with its previous version, it will be assigned a new part/material identifier. A new part/material identifier will also be assigned to the next higher assembly for the changed repair part and to all subsequent higher assemblies up to and including the level at which interchangeability is re-established.
- f. Condition 6: When an item is changed in such a way that it necessitates a corresponding change to software for operation, self test, acceptance test, or maintenance test, the part/material identifier of the item, its next assembly and all progressively higher assemblies will be changed up to and including the assembly where the software is affected.

4.4.2.1.2 Configuration control boards. Each Government organization or project which is responsible for the design (CDCA) or acquisition (AA or GLAA) of a system/CI will establish a CCB for the CI and maintain a record of the current members by name and position. The CCB will review proposed changes for their impact on cost, logistics support, and implementation planning. For each ECP or RFD reviewed by the CCB, the CCB date and results will be entered in the Government CM AIS. The results will include the disposition of the ECP/RFD and may include a description of each action item identified as a result of the CCB decision. For each major and subsidiary action item in the CCB directive, a record of the status of the action item will be maintained, including the organization responsible for accomplishment of the action item, its estimated completion date, and current status.

4.4.2.1.2.1 Approval of ECPs. When an engineering change proposal affects documents controlled by more than one CDCA, or when more than one performing activity is involved in accomplishing the change, related ECPs must be prepared. A separate ECP must be prepared for each package of documents controlled by a single CDCA which are to be changed to accomplish this single engineering change. Only the CCB convened by the CDCA for the documents being changed by the ECP can make the

final disposition of the ECP. AA CCBs should review proposed ECPs and make recommendations to the CDCA (or GLAA). (See also: Table I.)

TABLE I. ECP Disposition Authority

Activity	Decision	Forwarded to
CDCA	Final	
GLAA	Overall Government AA position	CDCA
AA (Government)	User Position	GLAA if any, CDCA if there is no GLAA
AA (Nongovernment)	User Position	CDCA

4.4.2.1.2.2 Approval of RFDs. Disposition of a proposed RFD will be by a CCB convened by, or MRB authorized by, the tasking activity which is procuring the affected product.

4.4.2.2 Configuration control of parts/materials. A product-tracking base-identifier will be assigned to each part or material to be tracked. Within a product-tracking base-identifier (for example a unique CI designator), product tracking identifiers (for example, serial numbers) will not be duplicated even if part numbers change.

4.4.2.3 Product configuration record. For each selected part, assembly, or material (including installed software), which is critical to the product safety, performance, or operation, a record will be maintained of:

- a. the part/assembly (design source, identifier, manufacturer, and product tracking identifier) or material (material design source, specification or standard identifier, list of material parameters, manufacturer, and product tracking identifier),
- b. the next higher level of assembly (design source, part identifier [or material specification/standard identifier and list of part parameters], manufacturer, and product tracking identifier) in which it is installed, and
- c. the component software, part/assembly (design source and identifier) or material (material design source, specification or standard identifier, and list of material parameters) for each replaceable part or material to which a product tracking identifier has not been assigned.

4.4.2.4 Configuration control of assets. Each maintenance, modification, update, or retrofit action performed by, or for the, Government (including contract maintenance/depot personnel) which involves the removal/replacement or re-identification of a part/assembly/material/software which is critical to safety, performance, or operation will be recorded in the Government CM AIS. (This is

normally accomplished through maintenance data collection systems and fed electronically to the Government CM AIS.) This record will include:

- a. the old part/assembly/material/software identification, manufacturer, and product tracking identifier,
- b. the new part/assembly/material/software identification, manufacturer, and product tracking identifier,
- c. the old next higher assembly identification, manufacturer, and product tracking identifier,
- d. the new next higher assembly identification, manufacturer, and product tracking identifier,
- e. the identification of the organization performing the task and when the task was performed, and
- f. for modifications, updates, and retrofits, the tasking document (for example, Modification Work Order, Time Compliance Technical Order, Technical Directive, Ordnance Alteration Instruction, Ship Alteration Instruction, Machinery Alteration Instruction, etc.).

4.4.2.4.1 ECP requests for changes to assets. After delivery of a product, an ECP will be used to request a change to the asset(s) if

- a. the asset is still being produced or
- b. the asset is no longer being produced but the Government is the CDCA for the design document of the part/material/software being changed. (See also: 4.4.2.1.)

4.4.2.4.2 Modification requests for changes to assets. After delivery of a product, a modification request (an ECP, or if policy permits a Modification Improvement Program Request, Proposed Military Improvement, Proposed Technical Improvement, or approved equivalent) will be used to request a change to the asset(s) if

- a. the asset is no longer being produced and the Government is not the CDCA for the design document of the part/material/software being changed, or
- b. the asset is still being produced, but the requested change is temporary in nature (such as modification of an asset to conduct testing of new equipment).

4.4.2.4.2.1 Approval of modification requests. Modification requests to deployed hardware and software (assets) will be reviewed and dispositioned by the activity responsible for the equipment/software. If the modification request is approved, the approving activity will:

- a. Prepare the appropriate tasking document(s) (for example, Modification Work Order, Time Compliance Technical Order, Technical Directive, Ordnance Alteration Instruction, Machinery Alteration Instruction, Field Change Instruction, Rapid Action Minor Engineering Change, etc.) and include it in the Government CM AIS.
- b. Create, or direct the creation of, any new engineering drawings (including altered item drawings) which are necessary to the accomplishment of the modification,
- c. Mark, or direct the marking of, any modified parts/materials/software with the altered item part number.⁷
- d. Ensure that the modification is properly recorded in the Government CM AIS upon completion of the modification (see also: 4.4.2.3),
- e. Prepare and issue changes to any technical manuals/orders (including maintenance and operations) which must be changed to reflect the new configuration resulting from the modification.

4.5 Configuration audit. To accomplish the requirement for accurate configuration audit records, Government responsibilities include:

4.5.1 Configuration audit results. For each CI, a record of the date and results of each FCA and PCA performed by the Government will be maintained. The results will include a description of each problem and action item from the audit and the basis of the problem/action item (for example, contract, specification, etc.).

4.5.2 Configuration audit action item status. For each problem identified by an FCA or PCA, the resulting action item(s) and a record of the status of the action item will be maintained including the organization responsible for accomplishment of the action item, its estimated completion date, and current status.

⁷ If parts (or materials) change sufficiently to become non-interchangeable (see 4.4.2.1.1), an altered item drawing must be created by the approving activity and the modified part/material must be marked with the altered item part identifier. An altered item drawing will also be created, and altered item part/material identifiers marked on the next higher assembly and all subsequent higher assemblies up to and including the level at which interchangeability is re-established. If the change is to software, or necessitates a corresponding change to software for operational, self test, acceptance test, or maintenance test, the approving activity will assign a new identifier to the software, create an altered item drawing for, and mark, the part/material item, its next assembly and all progressively higher assemblies up to and including the assembly where the software is affected.

4.6 Miscellaneous.

4.6.1 On-line review and comment on documents. The Government CM AIS allows for any document entered into CM AIS to be reviewed on-line and be commented on by the reviewer(s) prior to approval by the CDCA of the document. As a minimum, CCB members are reviewers of all configuration documents submitted to the CCB. If the on-line review/comment capability is to be used for other documents, the name and organization of the reviewers must be maintained in CM AIS by the CDCA.

4.6.2 On-line review and comment on data item submittals. The Government CM AIS allows for any data item submittal entered into CM AIS to be reviewed on-line and be commented on by the reviewer(s) prior to contractual acceptance of the data item. If the on-line review/comment capability is to be used for data item submittals, the name and organization of the reviewers must be maintained in CM AIS by the contract data manager.

4.6.3 Document protection. Each document, document representation, and electronic file will be coded and marked with the appropriate protective markings. The following are recognized in the Government CM AIS:

- a. Government security classification level, authority, and downgrading,
- b. Government security access restrictions (for example: WINTEL, CRYPTO, CNWDI, etc.),
- c. Export Controlled item warning,
- d. Document Distribution Limitations, controlling office, and date,
- e. Government Rights in Technical Data and Computer Software and expiration date,
- f. Copyright information and limitations,
- g. Company proprietary rights and competition sensitive information.

4.6.3 Access. Access to documents/document representations/files will be limited to those personnel with the appropriate authorization for the particular file.

5. DETAILED REQUIREMENTS

5.1. Data information packets. To streamline the effort required to obtain this information and eliminate redundant or overlapping responsibilities, the required information has been broken into data information input packets, each dealing with a different major aspect of configuration management. These packets are then further broken into sub-packets. Each sub-packet includes only that information which would be expected to be provided by a single activity. The packets are:

- a. Data information packet 1: Project management data information packet. This packet includes system and configuration item designations and CCB organization.
- b. Data information packet 2: Technical data package data information packet. This packet includes information about and all necessary configuration documents which are program-unique, including primary item, test equipment, etc. It also includes Government drawing number assignment report and transfer of CDCA.
- c. Data information packet 3: Parts list and index list data information packet. This packet includes the contents of index lists and parts lists (including integral and separate parts lists).
- d. Data information packet 4: Standardization document data information packet. This packet includes information about, and may include actual documents (or access to documents), which are referenced as part of the configuration design. This include such documents as industry organization specifications/standards/etc., defense specifications/standards/handbooks/etc., other US government agency (for example, DOE, DOT, OSHA, etc.) standards/specifications/codes/etc., and other non-US standards/specifications/protocols/etc. (for example, STANAG, ISO, etc.).
- e. Data information packet 5: Ancillary documents data information packet. This packet includes information about documents which are ancillary to the configuration definition but necessary to management of the configuration of the deployed product. These include such documents as technical manuals/orders and their changes, decision documents and other miscellaneous contract data items associated with the product.
- f. Data information packet 6: Product configuration data information packet. This packet includes the actual current configuration (by part and serial/lot number) of fielded hardware/software. It includes a correlation of serial, lot, and block numbers when multiple tracking identifiers are used for a single item.
- g. Data information packet 7: Configuration change control data information packet. This packet includes information concerning requests for change/modification of engineering designs and/or fielded equipment/software.

- h. Data information packet 8: Configuration management action item status. This packet includes information concerning CCB-directed actions and configuration audit actions and their status.
- i. Data information packet 9: Basic document protection data information packet. This packet includes document/file security classification, Government rights in technical data, document distribution restrictions, company proprietary rights, etc. This packet is used only in conjunction with the other packets when documents, files, or information on documents or files are provided. It is treated separately solely to prevent redundancy within this standard. It cannot be ordered separately.
- j. Data information packet 10: Basic file data information packet. This packet includes file identification, file administrative information, and may contain the actual files. This packet is used only in conjunction with the other packets when files, or information on files, are required by the packet. It is treated separately solely to prevent redundancy within this standard. It cannot be ordered separately.
- k. Data information packet 11: Basic document representation data information packet. This packet includes document representation identification and administrative information. This packet is used only in conjunction with the other packets when documents, or information on documents, require this information. It is treated separately solely to prevent redundancy within this standard. It cannot be ordered separately.

5.1.1 Source of data information packets. Government activities may be tasked by invoking this military standard and specifying the information sub-packet to be provided and the timing for delivery of the subpacket. Contractors may be tasked by ordering the appropriate DID (see Section 6.3) and specifying the sub-packet(s) via the CDRL of the contract. In all cases, the preferred delivery method is on-line delivery of CSA data and either on-line delivery of, or on-line access to, documents. Electronic delivery is always preferred instead of hard copy. Guidance for determining which packets should be obtained, and when, is provided in Appendix A.

5.1.2 Content of data information packets. The data information packets define the elements and documents/files to be provided and correlates the information elements with the conceptual CM AIS database described in Appendices B and C. For each packet, the subpacket identifier shall be followed by the various elements listed. These elements shall be provided in the order shown, except that fields which are not applicable (denoted by blank) and optional fields (denoted by O) for which data is not being submitted shall be skipped. Each element shall be preceded by the table and data element code, separated by a decimal, as shown in the column labeled "Table.Element". The full field size for the data element, as shown in Appendix C, shall be used and shall

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immediately follow the data element code. The end of each data packet will be indicated by the inclusion of “/end”.

5.2 Validation of data. CM information is highly interrelated. Any information to be added to the DOD CM AIS database must be validated against information already existing in the database. For example, information on an ECP cannot be added to the database unless the identification of the document(s) affected by the ECP is already in the database. Therefore, some of the information included in each of the information packets is there solely for validation of the input. Data information packets will also be validated based on their conformance to 5.1.2.