

APPENDIX XIV

140. DEFINITIONS

140.1 Baseline. A configuration identification document or a set of such documents formally designated and fixed at a specific time during a configuration items (CI's) life cycle. Baselines, plus approved changes from those baselines, constitute the current configuration identification. For configuration management there are four baselines, as follows:

140.1.1 Functional baseline. The functional baseline is normally the first baseline established and is usually the product of the systems requirements process as described in the latest edition of FAA Order 1810.1, System Acquisition Management. It shall be established by authentication of the system specification, or item specification. This document becomes the contractor's technical base for accomplishing system requirements analysis and allocating functions to configuration items (CIs).

140.1.2 Allocated baseline. As allocated requirements are grouped into a specific function or set of functions, a new CI is identified. The development specification which contains the "design to" technical requirements shall be the basis for detail design. Establishment of the allocated baseline occurs with the authentication of the development specification.

140.1.3 Developmental Configuration. The contractor's software and associated technical documentation that defines the evolving configuration of a CSCI during development. It is under the development contractor's configuration control and describes the software design and implementation. The Developmental Configuration for CSCI consists of a Software Design Document and source code listings. Any item of the Developmental Configuration may be stored on electronic media.

140.1.4 Product baseline. The detailed design shall be documented in the form of a product specification and associated drawings. Authentication of the product specification and/or drawings and interface control or other documentation shall establish the product baseline.

140.1.5 Other configuration items. Facility construction contract requirements are based on the construction drawings and specifications for each operational site.

140.2 Baseline management. Baseline management is the application of technical and administrative direction to designate the documents which formally identify and establish the configuration identification at specific times during its life cycle, i.e., functional, allocated, design and product baseline.

140.3 Code identification numbers. A five digit number listed in Cataloging Handbook H4/H8, Commercial and Government Entity (CAGE) Code, which is assigned to activities that manufacture or develop items for the Federal Government. When used with an ECP number, the CAGE designates the contractor or Government agency assigning the ECP number. When used with a drawing number or part number, the CAGE number designates the design activity from whose series the drawing or part number is assigned. The CAGE code was previously called manufacture's code, code identification number or federal supply code for manufacture (FSCM).

140.4 Computer data definitions. A statement of the characteristics of elements of information operated upon by hardware in responding to computer instructions. These characteristics may include, but are not limited to, type, range, structure, and value.

140.5 Computer software. A combination of associated computer instructions and computer data definitions required to enable the computer hardware to perform computational or control functions.

140.6 Computer Software Component (CSC). A functional or logically distinct part of a Computer Software Configuration Item (CSCI). Computer software components may be top-level, or lower-level.

140.7 Computer software configuration item. See Configuration Item.

140.8 Concept analysis. The initial period of a program when the technical, functional, and economic basis for an acquisition is established through comprehensive studies and experimental development and evaluation.

140.9 Configuration. The functional and/or physical characteristics as set forth in technical documentation and achieved in a product. The term configuration denotes the orderly agreement of subordinate parts and functional characteristics to give unity to the whole.

140.10 Configuration audits. The checking of an item for compliance with the configuration identification and verification that configuration management processes are being applied as required.

140.11 Configuration control. The systematic evaluation, coordination, approval or disapproval, and implementation of all approved changes in the configuration of a Configuration Item (CI) after formal establishment of its configuration identification.

140.12 Configuration identification. The currently approved or conditionally approved technical documentation for a configuration item as set forth in specifications, drawings, and associated lists, and documents referenced therein.

140.13 Configuration Item (CI). An aggregation of hardware/software, or any of its discrete portions, which satisfies an end-use function and is designated by the Government for configuration management. CIs may vary

widely in complexity, size, and type; from a system, group, or set to a unit, assembly, subassembly, or part. During development and initial production, CIs are only those specification items that are referenced directly in a contract.

140.14 Configuration item development record. The configuration item development record provides status information on the development progress of a CI as reflected by configuration audits and reviews.

140.15 Configuration Item Identification (CII) number. A CII number is a permanent number assigned by the design activity to identify a configuration item. The number is a common identification for all units in a configuration item type, model, series, and serves as a permanent address for all actions and document applicable to the type, mode, and series. The CII number is seven-digits with alpha-numeric characters.

140.16 Configuration item specification addendum. A configuration item specification addendum is accomplished by writing a new specification (addendum) by direct reference to an existing specification and recording in the new specification reference to each paragraph in the existing specification. A specification created in this manner is a new and complete specification with a new specification number.

140.17 Configuration management. A discipline applying technical and administrative direction and surveillance to (a) identify and document the functional and physical characteristics of a configuration item, (b) control changes to those characteristics, and (c) record and report change processing and implementation status, (d) verify through formal examination, configuration item and its configuration identification.

140.18 Configuration management plan. The configuration management plan defines the implementation (including policies and methods) of configuration management on a particular program/project.

140.19 Configuration status accounting. The recording and reporting of the information that is needed to manage configuration effectively, including a listing of the approved configuration identification, the status of proposed changes to configuration, and the implementation status of approved changes.

140.20 Contract. The legal agreement between Government and Industry, or similar internal agreement wholly within the Government, for the development, production, maintenance, or modification of an item.

140.21 Contractor. An individual, partnership, company, corporation, or association having a contract with the procuring activity for the design, development, manufacture, maintenance, modification, or supply of items under the terms of a contract. A government activity performing any or all of the above actions is considered to be a contractor for configuration management purposes.

140.22 Critical Design Review - (CDR). CDRs are held to review and verify specific system designs before detailed coding of software or fabrication of hardware begins. The contractor presents a draft design specification(s) that is reviewed to ensure that the functions allocated by the Development Specification are properly addressed at the "build to" level. Upon successful completion and approval of the CDR, the updated detailed design is entered into the contractor's Developmental Configuration or the Design Baseline is established as specified. The baseline provides approved and controlled engineering drawings and form/fit specifications for hardware.

140.23 Data (Technical data and information). The means for communication of concepts, plans, description, requirements, and instructions relating to technical projects, material, systems, and services. These may include specifications, standards, engineering drawings, associated lists, manuals, and reports, including scientific and technical reports. They may be in the form of documents, displays, sound records, punched cards, and digital or analog data.

140.24 Deployment Readiness Review (DRR). The DRR is an assessment conducted to assure that the subsystem is ready for the field, the field is ready to accept the subsystem, and readiness for incorporation into the NAS for tracking. The results of this task are to ascertain and test project readiness against currently imposed or applicable technical and programmatic requirements.

140.25 Deviation. A specific written authorization, granted prior to the manufacture of an item, to depart from a particular performance or design requirement of a specification, drawing, or other document for a specific number of units or a specific period of time. A deviation differs from an engineering change in that an approved engineering change requires corresponding revision of the documentation defining the affected item, whereas a deviation does not contemplate revision of the applicable specification or drawing.

140.26 Engineering change. An alteration in the configuration of a Configuration Item (CI) or items, delivered, to be delivered, or under development, after formal establishment of its configuration identification.

140.26.1 Class I engineering change. (See 80-4).

- 140.27 Engineering Change Proposal (ECP). A term which includes both the proposal for engineering change and the documentation by which the change is described and proposed.
- 140.28 Engineering release record. The engineering release record comprises the official data file which records and interrelates engineering data, and changes thereto, which technically describe and are to be or have been used to build/operate/maintain CIs.
- 140.29 Firmware. Firmware is computer software resident in hardware read-only-memory devices, that cannot be modified under program control. Changes to firmware should be treated as functional changes based on the fact that all software changes require some retest.
- 140.30 First article development. The phase when the initial unit is developed and produced under contract providing a system that can be tested.
- 140.31 Formal Qualification Review (FQR). A formal review, normally accomplished incrementally at the contracting facility, of test reports and test data generated during the formal qualification of a new group of configuration items comprising a system to ensure that all tests required by Section 4 of the development specification(s) have been accomplished and that the system performs as required. Usually held in conjunction with the FCA, it may be delayed until after the FCA/PCA if total system testing is required (see MIL-STD-1521).
- 140.32 Full scale development. The phase of a program when the system/equipment/computer program special support and training equipment are designed, fabricated, tested, and evaluated.
- 140.33 Functional area. A distinct group of system performance requirements which, together with all other such groupings, form the next lower level breakdown of the system on the basis of function.
- 140.34 Functional characteristics. Quantitative performance and operating and logistic parameters and their respective tolerances. Functional characteristics include all performance parameters, such as range, speed, reliability, maintainability, and safety.
- 140.35 Functional Configuration Audit (FCA). The formal examination of functional characteristics test data for a configuration item, prior to acceptance, to validate that the item has achieved the performance and functional characteristics specified in its functional or allocated configuration identification.
- 140.36 Hardware Configuration Item (HWCI). See configuration item.

140.37 Installation control requirements. The term installation control requirements denotes the space or location allocated for each configuration item or equipment, taking into account installation, assembly, test, operation, maintenance, environment, power requirements allocated for each item.

140.38 Interface. The term is defined as the functional and physical characteristics required to exist at a common boundary between two or more equipments/computer software products, which are provided by different contractors/Government agencies.

140.39 Interface control. Interface control comprises the delineation of the procedures and documentation, both administrative and technical, contractually necessary for identification of functional and physical characteristics between two or more configuration items (CIs) which are provided by different contractor/government agencies, and the resolution of the problem thereto.

140.40 Interface control drawing. An interface control drawing depicts physical and functional interface engineering requirements of a configuration item which affect the design or operation of co-functioning configuration items. These drawings are used as design control documents, delineating interface engineering data coordinated for the purpose of (a) establishing and maintaining compatibility between co-functioning configuration items, (b) controlling interface designs thereby minimizing change to configuration item requirements which would adversely affect compatibility with co-functioning subsystems, (c) communicating design decisions and changes to participating activities, and (d) establishing envelope and assess compatibility to verify that all interfacing contractor/Government agency supplied configuration items and function without interference through assembly, test, and all expected operating conditions.

140.41 Interface Requirements Specification (IRS). The IRS specifies in detail the requirements for one or more CSCI interfaces within the system. Under various conditions the interface requirements may be included in the associated Software Requirements Specification. The IRS is part of the allocated configuration identification in accordance with FAA-STD-005.

140.42 Line Replaceable Unit (LRU). The lowest possible unit to be replaced within the operating system during site level maintenance activities. It is a separate, installable physical package performing a single function or groups of closely related functions.

140.43 Manufacturer's code. (See 140.3)

140.44 Physical Configuration Audit (PCA). The formal examination of the "as-built" configuration of a unit of a CI to verify that it conforms to its technical documentation in order to establish the CI's initial product configuration identification.

140.45 Preliminary Design Review (PDR). PDRs are used to review the basic approach for a configuration item or group of items and supporting documentation submitted by the contractor. The contractor conducts the PDRs to demonstrate that all the functions of the subsystem specification have been completely and accurately allocated to the CI specifications. For hardware, the initial allocated baseline is set upon the successful conclusion of the initial PDR.

140.46 Privately developed item. An item completely developed at private expense and offered to the Government as a production article, with government control of the article's configuration normally limited to its form, fit, and function.

140.47 Procuring activity. An activity responsible for the procurement of equipment and/or services.

140.48 Programming and timing interfaces. Describes the critical system function interfaces and signal timing constraints inherent in the system hardware and computer software.

140.49 Retrofit. Incorporation of an engineering change (at any level) in accepted or in-service items.

140.50 Specification document. The term specification document, as used herein, shall denote those documents primarily intended for use in procurement that either increases Federal Aviation Administration permanent inventory, provides services for operational facilities, or provides inventory and services, or both, for research and development activities.

140.51 Specification Change Notice (SCN). A document used to propose, transmit, and record changes to a specification. In proposed form, prior to approval, the SCN (proposed) supplies proposed changes in the text of each page affected.

140.52 Software. A collection of associated computer programs and computer data required to enable the computer equipment to perform computational or control functions. It is the abstract of tapes, disks, card decks, and firmware.

140.53 Software Specification Review (SSR). The SSR is the review of the specifications for each identified Computer Software Configuration Item (CSCI) and related FAA Interface Requirements Documents (IRDs).

140.54 Source control drawing. A source control drawing depicts an existing commercial or vendor item that exclusively provides the performance, installation, and interchangeable characteristics required for one or more specific critical applications. Quality conformance inspection and approval procedure shall be stated on the drawing or in a document referenced on the drawing.

140.55 Specification control drawing. A specification control drawing depicts an existing commercial item or vendor-developed item advertised or catalogued as available on a unrestricted basis, or order as an "off-the-shelf" item, or an item, while not commercially available, is procurable on order from a specialized segment of an industry.

140.56 Subcontractor. A subcontractor is an individual, partnership, corporation, or association, who (which) contracts with a contractor to design, develop, design and manufacture, or manufacture items, which are, or were, designed specifically for use in a government application.

140.57 System. A combination of two or more sets, generally physically separated when in operation, and such other units, assemblies and basic parts necessary to perform an operational function or functions. Typical examples are: telephone carrier system, ground controlled approach electronic system, telemetering system, facsimile transmission system.

140.58 System allocation document. A system allocation document is a document which identifies the aggregation of configuration items by serial number and the system configuration at each location.

140.59 System Design Review (SDR). The SDR evaluates the total system requirements including a summary review of system engineering management activities and an overall review of the operational/support requirements. Successful completion and approval of the SDR is required prior to establishment of the functional baseline, which generally consists of the functional specification and the requirements document describing what the system is to accomplish.

140.60 System engineering. System engineering as it relates to configuration management is the application of scientific and engineering efforts to transform an operational need into a description of system performance parameters. A system configuration must be ultimately called out in the configuration identification specifications.

140.61 System released ICD. A system released ICD is an authorized document which has been provided by the contractor with prime responsibility and signed by the interfacing subsystem contractors and the procuring activity's subsystem project managers. When only one of the interfacing contractors is under contract, the ICD is signed by the interfacing contractor and the procuring activity's project manager.

140.62 System Requirements Review (SRR). The SRR provides a means to review the FAA's operational and functional requirements. The contractor's total system engineering management activity and its output is reviewed for responsiveness to the SOW.

140.63 System validation. The period of a program when the major program characteristics (technical, cost, and schedule) are refined and validated through extensive study and analysis, development, test, and evaluation.

140.64 Test Readiness Review (TRR). The TRR is conducted in order to assess the readiness to begin formal acceptance testing of a specified configuration item. A technical understanding is reached on preliminary, informal test results, and the validity and accuracy of supporting user manuals.

140.65 Waiver. A written authorization to accept a configuration item or other designated item, which during production or after, having been submitted for inspection, is found to depart from specified requirements, but nevertheless is considered suitable for use "as is" or after rework by an approved method.

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