



DEPARTMENT OF THE NAVY
NAVAL AIR SYSTEMS COMMAND
RADM WILLIAM A. MOFFETT BUILDING
47123 BUSE ROAD, BLDG 2272
PATUXENT RIVER, MARYLAND 20670-1547

NAVAIRINST 4130.1D
AIR-1.1
DEC 19 2006

NAVAIR INSTRUCTION 4130.1D

From: Commander, Naval Air Systems Command

Subj: NAVAL AIR SYSTEMS COMMAND CONFIGURATION MANAGEMENT
PROCESS

Ref: (a) DoDI 5000.2, Operation of the Defense Acquisition
System of 12 May 03
(b) SECNAVINST 5400.15B, Department of the Navy Research,
Development and Acquisition, and Associated Life-
Cycle Management Responsibilities of 23 Dec 05

Encl: (1) NAVAIR Configuration Management Policy and Processes

1. Purpose. To define policy, processes, procedures and responsibilities governing Configuration Management (CM) within the Naval Air Systems Command (NAVAIR). This instruction is a complete revision and should be reviewed in its entirety.

2. Cancellation. This instruction supersedes NAVAIR Instruction (INST) 4130.1C of 31 January 1992.

3. Scope. This instruction applies to all NAVAIR programs managed by Assistant Commander for Acquisition (AIR-1.0); the Naval Aviation Program Executive Office (PEO) for Air Anti-Submarine Warfare, Assault and Special Mission Programs (PEO(A)); the PEO for Tactical Aircraft Programs (PEO(T)); the PEO for Joint Strike Fighter Program (PEO(JSF)); the PEO for Strike Weapons and Unmanned Aviation (PEO(W)) and the Naval Air Warfare Centers (NAWCs). Any exceptions to this instruction must be approved by the Program Management Community Support Department (PMCS), AIR-1.1.

4. Policy. In accordance with references (a) and (b), CM must be performed by NAVAIR in accordance with the policy and processes defined in this instruction and enclosure (1). The PEOs and Office of Primary Responsibility (OPR) have ultimate responsibility for the final performance and configuration of the systems and equipment it acquires.

5. Definition. CM is a technical discipline, which facilitates the orderly management of product information and product changes. When properly implemented, CM enables the OPR to:

- a. Establish formal planning to facilitate CM;
- b. Identify and accurately document the functional and physical characteristics of a Configuration Item (CI);
- c. Control changes to a CI and its related documentation;
- d. Record and report information needed to manage a CI effectively, including the status of proposed engineering changes and implementation status of approved changes; and
- e. Audit a CI to verify conformance to specifications, drawings, interface control documents, and other contractual requirements.

6. Responsibility and Authority

a. The PEO and OPR (i.e., the program office or code) that has overall management responsibility for one or more configuration items (CIs). The PEO and OPR has responsibility and authority to:

- (1) Implement adequate life cycle CM programs for assigned CIs;
- (2) Designate a Configuration Manager responsible for all aspects of CM;
- (3) Prepare and maintain CM plans for assigned CIs; obtain approval of and assure proper program implementation following those plans and this instruction;
- (4) Manage and provide team direction for planning, budgeting, scheduling, and staffing of all Engineering Change Proposals (ECPs), Rapid Action Minor Engineering Changes (RAMECs), and Requests for Major and Critical Deviations and Waivers (or variances) from initiation until submittal and disposition by the NAVAIR Configuration Control Board (CCB) or by a Decentralized Configuration Control Board (DCCB) if chartered by AIR-1.1;

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- (5) Implement CCB approved actions as documented;
 - (6) Maintain record of the status of all CCB approved changes;
 - (7) Conduct appropriate configuration audits or verification actions;
 - (8) Establish appropriate configuration baselines; and
 - (9) Maintain configuration status accounting.
- b. AIR-1.1 has responsibility and authority to:
- (1) Establish, implement and enforce CM policy and processes for NAVAIR;
 - (2) Chair and govern the operation of the NAVAIR CCB for the Commander, NAVAIR;
 - (3) Review and approve OPR Configuration Management Plans (CMP) and CCB/DCCB charters;
 - (4) Charter special CCBs as appropriate;
 - (5) Collect and maintain CM process metrics;
 - (6) Audit and assess performance of decentralized and special CCBs;
 - (7) Provide CM functional requirements for information technology development for the Commander, NAVAIR;
 - (8) Function as NAVAIR CM subject matter expert; and
 - (9) Train NAVAIR CM personnel in the CM and ECP process.
- c. Assistant Commander, Logistics and Industrial Operations (AIR-6.0) has the responsibility and authority to:
- (1) Review and assess all Major (Class I) engineering changes for acceptability and supportability of all logistics elements;

- (2) Serve as a voting member of the NAVAIR CCB/DCCB;
 - (3) Establish, implement and enforce Technical Directive (TD) process, Technical Directive Status Accounting (TDSA) and the NAVAIR 00-25-300 TD System Manual;
 - (4) Establish, implement and enforce TD kit management policy and processes and operation of the NAVAIR Central Kitting Activity (CKA);
 - (5) Certify NAVAIR civilian and military personnel to approve TDs;
 - (6) Training of NAVAIR personnel in the TD process and the Logistics portion of the ECP process;
 - (7) Manage Naval Air Technical Data and Engineering Command (NATEC), including posting of TDs to the NATEC website;
 - (8) Manage Kit Management Information System (KITMIS) and the NAVAIR Modification Management Information Tracking System;
 - (9) Establish, implement and enforce the process for Work Unit Code assignment;
 - (10) Conduct Fleet reviews of TDSA, Kit and TD status;
 - (11) Develop and deploy logistics CM information systems (See Exhibit 6-6 of Chapter 6 of enclosure (1) for systems and their applications.); and
 - (12) Provide CM functional requirements for logistics.
- d. Assistant Commander, Research and Engineering (AIR-4.0) has responsibility and authority to:
- (1) Judge the design validity and operational safety of aviation systems;
 - (2) Control test aircraft re-configuration, modifications, and project work as governed by NAWC Aircraft Division (AD) INST 13050.1B, NAWCADINST 13050.2, NAWCADINST

13050.3, and NAWCADINST 13050.4 and NAWC Weapons Division (WD) INST 13034.1;

(3) Ensure a formal technical review by the approved performance monitors from all engineering disciplines for flight clearances and ECPs. Provide temporary certification (airworthiness certification and aviation facilities certification) for flight of aircraft in a nonstandard configuration, outside of published limits or for nonstandard operations (OPNAVINST 3710.7T) governed by NAVAIRINST 13034.1C;

(4) Ensure that Assistant Program Managers for Systems Engineering (APMSE) make comprehensive assessments of risk factors, performance predictions and effectiveness/cost analyses;

(5) Ensure the technical review process is applied appropriately to baseline configuration changes;

(6) Review and provide concurrence/non-concurrence for all engineering changes;

(7) Serve as a voting member of NAVAIR CCB and DCCB, where applicable;

(8) Train NAVAIR engineering personnel in the CM and ECP process;

(9) Serve as cognizant software expert for all NAVAIR managed programs.

e. Aviation Training Systems (PMA205) has responsibility and authority to:

(1) Review all Class I engineering changes to ensure the configuration, procurement, installation and support accurately reflect the configuration of the equipment the training systems are modeled after;

(2) Provide representation as voting members of Centralized and Decentralized CCBs; and

(3) Review and assess all Class I engineering changes to ensure that all training systems requirements are adequately addressed.

f. Assistant Commander, Contracts (AIR-2.0), has responsibility and authority to:

(1) Ensure the Procuring Contracting Officer assigned to each program reviews all Class I engineering changes including those changes procured outside of NAVAIR, reviews implementation schedules, and signs the NAVAIR 4130/9 Staffing and Concurrence form prior to the CCB;

(2) Ensure that the OPR has given due consideration to the impact of the change on other parts of the program/other contracts; and

(3) Ensure proper classification and coding (O-coded/D+ coded).

7. Review. AIR-1.1 shall review this instruction annually and provide recommendations for revision or cancellation to the Commander.

8. Forms. Applicable CM forms referred to in this instruction with stocking information are listed in enclosure (1) and are available on the NAVAIR directives website at <http://directives.navair.navy.mil/> under "NAVAIR Forms".



W. B. MASSENBURG

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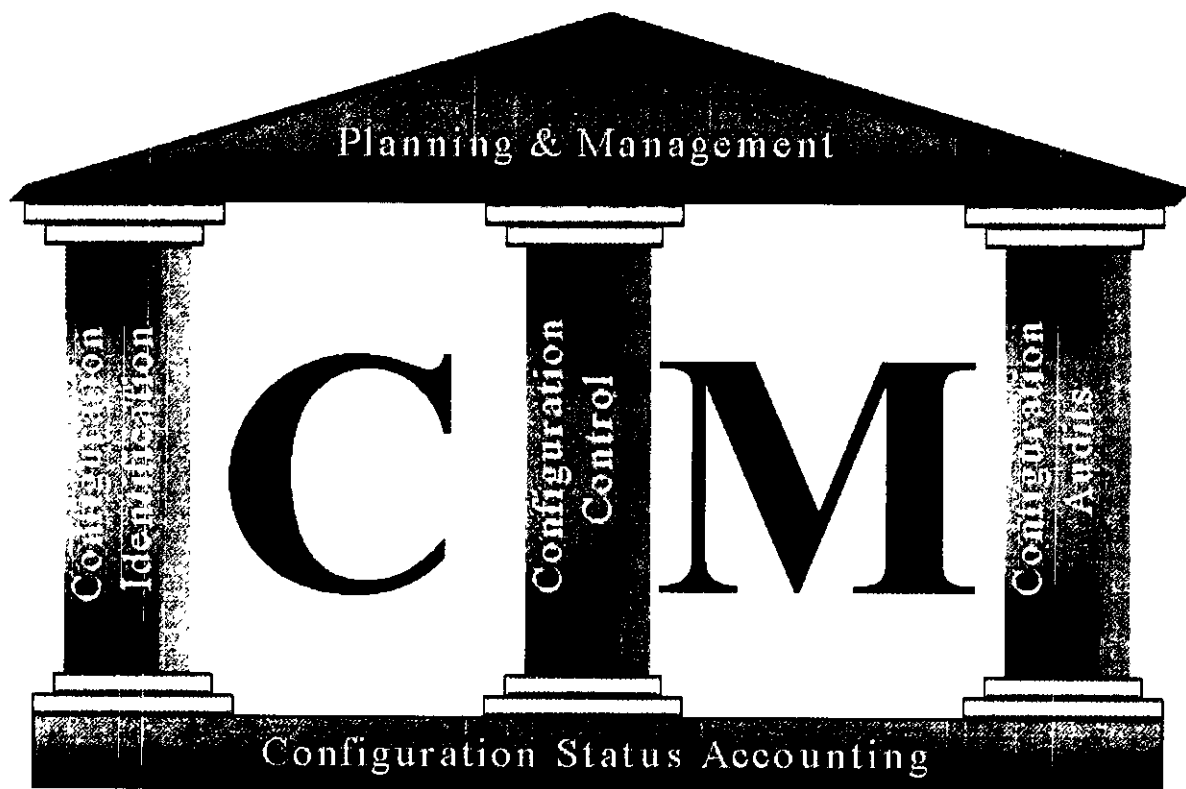
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NAVAL AIR SYSTEMS COMMAND CONFIGURATION MANAGEMENT POLICY AND PROCESSES



Configuration Management

RECORD OF CHANGES

CHANGE NUMBER	DATE OF CHANGE	DESCRIPTION OF CHANGE	ENTERED BY	DATE

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CHAPTER 1 GENERAL INFORMATION**1. General Information****1.1 Purpose**

To provide Naval Air Systems Command (NAVAIR) with policy and processes for effective planning and execution of Configuration Management (CM) programs for assigned Configuration Items (CIs).

1.2 Application

CM programs will be implemented for all CIs, hardware, firmware, and software, assigned to the Assistant Commander for Acquisition (AIR-1.0); the Naval Aviation Program Executive Office (PEO) for Air Anti-Submarine Warfare, Assault and Special Mission Programs (PEO(A)); the PEO for Tactical Aircraft Programs (PEO(T)); the PEO for Joint Strike Fighter Program (PEO(JSF)); the PEO for Strike Weapons and Unmanned Aviation (PEO(W)); the Naval Air Warfare Centers (NAWCs); and all of NAVAIR for life cycle management.

1.3 Configuration Management (CM)

CM programs will include the combined and systematic application of the following CM processes as delineated in this document:

- a. CM Planning;
- b. Configuration Identification;
- c. Configuration Audits;
- d. Configuration Control;
- e. Configuration Status Accounting; and
- f. Configuration Data Management

1.3.1 CM Terms and Definitions

Commonly used CM terms and definitions are identified by Appendix B of this manual.

1.3.2 CM Related Documents

Military Handbook 61A (MIL-HDBK-61A) (SE) CM Guidance

Purpose: This handbook provides guidance and information to Department of Defense (DoD) acquisition managers, logistics managers, and other individuals assigned responsibility for CM. Its purpose is to assist them in planning for and implementing effective DoD CM activities and practices during all life cycle phases of defense systems and CIs. It supports acquisition based on performance specifications, and the use of industry standards and methods to the greatest practicable extent. Cannot be cited as a requirement in contracts, and is added for guidance only

AMERICAN NATIONAL STANDARDS INSTITUTE/ELECTRONIC INDUSTRIES ALLIANCE (ANSI/EIA)-649 NATIONAL CONSENSUS STANDARD FOR CONFIGURATION MANAGEMENT

Purpose: It provides the basic CM principles and the best practices employed by industry to identify product configuration and effect orderly management of product change.

EIA-836 - CONSENSUS STANDARD FOR CONFIGURATION MANAGEMENT DATA EXCHANGE AND INTEROPERABILITY

Purpose: This provides a set of standard definitions and business objects that can be used by extensive markup language (XML) frameworks in interfacing the content elements among one or more systems or databases. To be most effective, the capabilities of the process, tools or systems, should embody the CM principles in ANSI/EIA-649 in conjunction with the business objects and data element definitions in EIA-836.

ANSI/EIA-632 - PROCESSES FOR ENGINEERING A SYSTEM

Purpose: It describes the Systems Engineering process of which CM is an integral part because the Systems Engineering Process governs the product development and addresses all aspects of total system performance.

NAVAIRINST 4355.19C - Systems Engineering Technical Review Process

Purpose: To establish policy, outline the process, and assign responsibilities for planning and conduct of Systems Engineering Technical Reviews (SETR's) of NAVAIR programs. For more information see the Web site <http://directives.navair.navy.mil>.

NAVAIRINST 5215.12A - NAVAL AIR SYSTEMS COMMAND TECHNICAL DIRECTIVES SYSTEM

Purpose: This instruction establishes a Technical Directive (TD) system for use by NAVAIR. TDs are documents issued by NAVAIR to provide technical information necessary to properly and systematically inspect or alter the configuration of aircraft, engines, systems, weapons or equipment. For more information see the Web site <http://directives.navair.navy.mil>.

NAVAIR 00-25-300 - MANAGEMENT AND PROCEDURES MANUAL NAVAL AIR SYSTEMS COMMAND TECHNICAL DIRECTIVES SYSTEM

Purpose: This manual provides detailed instructions to implement NAVAIRINST 5215.12A, NAVAIR TD System, and NAVAIRINST 4720.8, Process for Management of NAVAIR Modification Material. It supports the TD provisions of COMNAVAIRFORINST 4790.2, The Naval Aviation Maintenance Program (NAMP), and OPNAVINST 8000.16, Naval Ordnance Maintenance Management Program (NOMMP). It establishes the policies, responsibilities, and procedures for using TDs and kits in support of naval aviation. For more information see the Web site <https://www.natec.navy.mil>.

COMNAVAIRFORINST 4790.2J - THE NAVAL AVIATION MAINTENANCE PROGRAM (NAMP)

Purpose: To issue the maintenance policies, procedures and responsibilities for the conduct of the NAMP at all levels of maintenance throughout naval aviation. For more information see the Web site <http://logistics.navair.navy.mil/4790>.

SECNAVINST 4140.2 - MANAGEMENT OF AVIATION CRITICAL SAFETY ITEMS

Purpose: To jointly issue policy from all military Services, Defense Logistics Agency (DLA), and Defense Contract Management Agency (DCMA) that establishes principles and procedures and assigns responsibilities for the life cycle management of replenishment items critical to aviation safety. It includes specific requirements for engineering technical authority

approval of Engineering Change Proposals (ECPs) and Deviations on Critical Safety Items (CSIs).

**NAVAIRINST 4200.25E - MANAGEMENT OF CRITICAL APPLICATION ITEMS
INCLUDING CRITICAL SAFETY ITEMS**

Purpose: To issue policy that establishes principles and procedures and assigns responsibilities for the life cycle management of replenishment items critical to naval aviation safety. It includes specific requirements for Assistant Commander of Research and Engineering (AIR-4.0) approval of ECPs and Deviations on Critical Application Items, including CSIs.

**DEFENSE FEDERAL ACQUISITION REGULATION SUPPLEMENT (DFARS)
246.407, NONCONFORMING SUPPLIES OR SERVICES**

Purpose: Establishes authority of the head of the design control activity to approve nonconformances associated with aviation CSIs and to delegate this authority for minor nonconformances.

1.4 Life cycle CM Requirements

CM programs will be implemented in accordance with Office of Primary Responsibility (OPR) CM plans (CMPs) approved by Acquisition Policy and Processes Department (AIR-1.1). Figure 1-1 depicts typical CM life cycle phase requirements.

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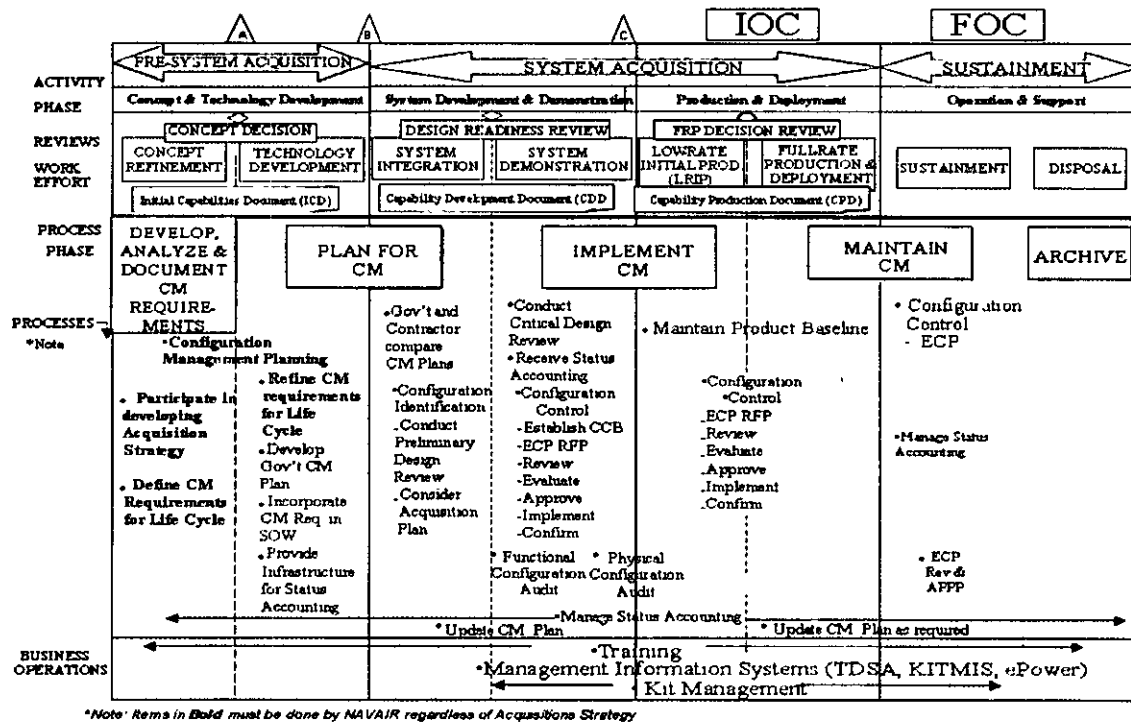


Figure 1-1 Configuration Management Life Cycle Requirements

1.5 Joint Service Requirements

When more than one military service (or government activity) is involved in the acquisition, modification or life cycle support of a CI, the assigned OPR will prepare a CM Memorandum of Agreement (MOA) to identify all key CM program participants including their roles and responsibilities (i.e. Program Managers, Logistics, Engineering, Contracts, etc). The MOA will also address any unique CM interface or coordinating requirements that have been approved for program use. The MOA will be staffed through key CM participants, (i.e. logistics, engineering, contracts, etc) including AIR-1.1, for concurrence prior to being approved and incorporated as an addendum to the OPR CMP.

1.6 Foreign Military Sales (FMS) Requirements

When FMS requirements are involved in the acquisition, modification or support of a CI managed by the Team, the OPR will ensure that the applicable FMS Letter of Agreement (LOA) describes how CM will be implemented for FMS requirements. This

is usually accomplished by referencing the applicable OPR CMP in the LOA. FMS requirements that are different from U.S. Navy requirements will be incorporated as an addendum to the OPR CMP. See Chapter 5 for detailed guidance.

1.6.1 Engineering Changes Having FMS Application

Interested FMS customers will be given ample opportunity to review and procure engineering changes having both U.S. Navy and FMS application. However, FMS requirements including funding should not be allowed to delay the timely procurement and processing of U.S. Navy requirements.

1.7 ECPs for Common Systems/Equipment Impacting Multiple Platforms

ECPs for common systems/equipment which affect more than one weapon system/equipment must be coordinated with the Configuration Manager for each OPR managing weapon systems/equipment which the change affects. Prior to NAVAIR Configuration Control Board (CCB) approval, item criticality determinations (i.e., designation as critical safety, critical application, or non-critical) will be coordinated among all cognizant engineering technical authorities. Where the same equipment has different criticalities in the various platforms, the most stringent determination will be applied. This is necessary for item acquisition and supply management purposes because there may be no way to predetermine where the item will be distributed over time. The OPR of the common change must obtain the signature of the Configuration Manager for each weapon system/equipment affected by the change on a CCB Logistics Staffing Requirements form (NAVAIR 4130/9), which shall be included in the CCB request for the change to the common item.

1.8 Responsibilities for CM Data

It is ultimately the responsibility of the procuring organization and/or OPR to establish contract requirements for CM data and delivery requirements and to define a procurement process that will ensure such requirements are met.

1.8.1 Contractual Requirements

All Procurement Initiation Documents (PIDs) and/or contracts prepared for the procurement of a CI, hardware, firmware, or software, will contain an appropriate CM requirements within the

Statement of Work (SOW), a Special Section-H Configuration Control Clause, and Contract Data Requirements Lists (CDRLs), DD 1423, for applicable CM data deliverables as identified by this instruction.

1.8.2 CM Data Item Description (DID)

Effective 30 September 2000 Military Standard 973 (MIL-STD-973) was cancelled. A set of MIL-STD-973 replacement DIDs supporting CM have been issued. These DIDs are accessible on the Internet from the Defense Standardization Program Office (DPSO) Assist-Online Web site: <http://www.dsp.dla.mil/>

- a. Configuration Audit Summary Report DI-CMAN-81022C;
- b. Configuration Management Plan DI-CMAN-80858B;
- c. Configuration Status Accounting Information
DI-CMAN-81253A;
- d. Engineering Change Proposal DI-CMAN-80639C;
- e. Engineering Release Record DI-CMAN-80463C;
- f. Interface Control Document DI-CMAN-81248;
- g. Installation Completion Notification DI-CMAN-81245 ;
- h. Notice of Revision DI-CMAN-80642C;
- i. Request for Deviation DI-CMAN-80640C;
- j. Specification Change Notice DI-CMAN-80643C;and
- k. Technical Directive Kit Shipment Report DI-MGMT-80771B

1.8.3 MIL-STDs Having CM Application

MIL-STDs that have CM application may only be cited by the government in PIDs and/or contracts for guidance unless proposed by the Contractor. In existing contracts where MIL-STDs are contractually invoked, the requirements are still considered valid and binding, even in the event of cancellation of the MIL-STD. In such cases, it is not normally necessary for the OPR to revise the CM contract requirements, unless it will result in

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significant cost savings to the government. Cancelled MIL-STDs, such as MIL-STD-973 CM, cannot be cited in new contracts.

1.8.4 Industry Standards

1.8.4.1 ANSI/EIA-649 National Consensus Standard for CM

ANSI/EIA-649 is the Industry Standard used to establish and implement CM. With the cancellation of MIL-STD-973, the government, when contracting for CM, should cite ANSI/EIA-649 as guidance.

1.8.4.2 Documents/Standards to be used as CM Guidance in NAVAIR Acquisition and Contracting

Both MIL-HDBK-61A and ANSI/EIA-649 should be cited as guidance only, to the contractor in SOWs for NAVAIR CM requirements. Contractor proposals and CMPs should meet the intent of these documents when addressing CM.

1.8.4.3 EIA-836 CM Data Exchange and Interoperability Requirements

EIA-836 is a private industry consensus standard and, as such, is only intended to serve as a source of information for establishing CM business partner relationships, and for developing flexible information systems that can support the exchange and interoperability of CM data. It also provides a set of standard CM data definitions and digital representations for the CM data elements, core components, and business objects needed to support data exchange and inter-operability between business partners engaged in CM processes as defined by ANSI/EIA-649.

1.8.4.3.1 Business Case for EIA-836

Although neither MIL-HDBK-61A (SE) nor the applicable DIDs mandate the use of EIA-836, DoD endorsement of the standard provides a strong business case for DoD business partners to consider including it in their solicitation/Request for Proposals (RFP).

1.8.4.3.2 Potential Acquisition Benefits of EIA-836

Potential program benefits of EIA-836 are:

- a. CM data interoperability;

- b. CM/Program Decision Memorandum (PDM) Tool Interoperability;
- c. Reduced cost and time for enterprise systems integration;
- d. Reduced cost and time for business to business systems Integration;
- e. Reduced cost and time for business to business CM process integration;
- f. Reduced CM cost and risk;
- g. Improved CM capability; and
- h. Reduced product life cycle cost and risk

1.8.4.3.3 Intended Users of EIA-836

The intended users of EIA-836 include CM practitioners, enterprise system developers, and software application vendors. CM practitioners are expected to benefit most from the standardization of CM terms and definitions, business object content and structure. Software application developers are expected to benefit from the standardization of digital representations.

1.9 Lessons Learned

The OPR should always certify that the CM requirements specified by a PID or contract, including applicable CDRL/DD 1423 requirements, are adequate based on the life cycle support requirements of the CIs involved. Such certification can easily be accomplished by implementing the Data Requirements Review Board (DRRB) process governed by NAVAIRINST 4200.21C. AIR-1.1 is the competency leader for data management DRRB processes.

CHAPTER 2 CONFIGURATION MANAGEMENT PLANNING

2. CM Planning

2.1 Definition

CM planning is used over the life cycle of a product and is essential to achieve an effective, predictable and respectable CM process.

2.2 Use of CM Plans (CMPs)

Both the government OPR and contractors use CMPs to document and execute their respective CM program requirements. CMPs are also useful as CM instructional aids for team members since they identify all key CM participants, including their roles and responsibilities, and any unique CM requirements that have been approved for program use.

2.3 CMPs

There are two types of CMPs: the Government OPR CMP and Contractor or Original Equipment Manufacturer (OEM) CMP. Each of these plans must be prepared during acquisition phase and maintained throughout the life cycle of an acquisition program. Figure 1-1 depicts where in the acquisition life cycle CMPs are developed and approved.

2.3.1 Government OPR CMPs

The government OPR CMP identifies the government's CM life cycle requirements of a CI. It is prepared during the program initiation phase and is updated throughout the life cycle as program changes occur. The government CMP must be approved prior to Milestone B. CMPs must be reviewed and updated every 2 years and submitted to AIR-1.1 for approval.

2.3.1.1 CMP Content

Exhibit 2-1 identifies the format of a CMP as depicted in MIL-HDBK-61A.

2.3.1.2 CMP Format

Government OPR CMPs will include, as a minimum, the following:

- a. Cover Sheet. A cover sheet that identifies the CIs involved, the name, the title and the code of person who

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prepared it, the concurrence signatures of specified key CM participants or stakeholders, including the cognizant Program Manager (PM) and AIR-1.1. The functional and/or competency codes listed on the OPR CMP cover sheet must define any supplemental staffing requirements (e.g., level II) internal to their organization prior to approving a plan.

b. CMP Introduction. A brief introduction including the primary configuration identifiers assigned to the CIs involved.

c. CMP Reference Documents. A listing of any CM or CM related reference documents other than those listed in this instruction.

d. CMP Information

(1) Applicable acquisition milestones and events schedules for all contract CM related products, including the end item and a corresponding milestone chart.

(2) A description of the OPR's CM organization including appropriate functional departments to include personnel names, codes and key responsibilities.

(3) Outline or summary of any unique CM contract requirements other than listed by this instruction.

(4) List of all Joint Military Service or FMS Interface Agreements planned or that exist.

(5) List of program exceptions to the CM requirements of this instruction including justification and approval authority.

(6) Identify the date when the next CMP will be approved by AIR-1.1. (Every 2 years or prior to each milestone decision.)

(7) List any special CM security requirements (internal and external).

e. CMP Organization

(1) Identify applicable government or commercial CM standards to be used for CI guidance other than those cited by this instruction.

(2) Identify the level and degree of Configuration Identification (aircraft, trainers, support equipment, avionics equipment, containers, etc) that will be implemented for each CI listed, including specific nomenclatures, designators, lot, tail, side or serial numbers, as applicable.

(3) If more than one CI is involved, explain the relationship, if any that exists between them.

(4) Identify the preparing, controlling, and maintaining custodian and other such activities of the item(s) Configuration Identification documents.

(5) Explain the process used for preparing, numbering, disseminating, maintaining, amending, and storing applicable configuration documentation and revisions/amendments thereto.

(6) Identify provisions for establishing and maintaining a configuration record, including identification of such record (manual and/or automated), content, custodian, location and requirements for distribution.

(7) Explain the process for integrating configuration records with technical reviews, audits, central data files, weapon system and systems files at the applicable Naval Inventory Control Point(s) (NAVICP), DLA, United States Air Force (USAF) and United States Army (USA) Supply Center(s), the Maintenance Material Management (3-M) (e.g., Naval Aviation Logistics Command Management Information System (NALCOMIS)), U.S. Accounting System (e.g., Technical Data/Configuration Management System, Technical Directive Status Accounting (TDSA) process).

f. Engineering/Technical Reviews

(1) Identify the application and tailoring of applicable commercial or government specifications and standards.

(2) Identify the technical reviews or Configuration audits planned during each life cycle phase of the CI's life cycle, including the selection and methods of conducting such reviews (e.g., performed as a single event or on an incremental basis).

(3) Identify requirements for any additional technical reviews required, if any, during production or in the field.

(4) Identify the process used for conducting, coordinating, monitoring, documenting, submitting and approving the results or action items assigned during the applicable event.

(5) Identify the participants, their roles and responsibilities.

(6) Identify the CI selection for functional and allocation purposes.

(7) Identification requirements of the CIs selected and the level and degree to which the technical reviews will be conducted.

(8) Identify the process used for establishing the functional and allocated baselines and updating their current Configuration Identification as a product of the technical review process.

(9) Identify the processes and procedures used for closing out action items resulting from audits conducted to establish the preliminary Product Baseline (PBL) (if applicable) or PBL, and updating the current CI documentation.

g. Configuration Audits

(1) Application and tailoring of applicable commercial/government specifications and standards.

(2) The process and schedule for conducting, coordinating, monitoring, documenting, submitting and approving each configuration audit.

(3) The selection of conducting each configuration audit as a single event or on an incremental basis.

(4) Key participants, their codes and responsibilities, including any engineering and quality assurance coordination requirements.

(5) Requirements for additional configuration audits during production or while in service, or during follow-on production.

(6) Identification of the CIs to be audited and the level and degree to which the configuration audits will be conducted.

(7) Processes and procedures for coordinating the technical review process required for establishing PBLs.

h. Configuration Control

(1) Application and tailoring of commercial or government specifications and standards identified by this instruction.

(2) Level and degree of configuration control to be applied to each designated item.

(3) Configuration control process, including the key participants by function and organization.

(4) Procedures used for requesting ECPs and subsequent revisions.

(5) Identify the retrofit process and any unique procedures (retrofit procedures) that will be implemented to address the incorporation of production changes in delivered items, including trainers and support equipment.

(6) Approval/disapproval process for ECPs, Request for Deviations (RFDs), and Request for Waivers (RFWs) (if applicable) and Rapid Action Minor Engineering Changes (RAMECs), including reference to specific contract requirements, item criticality, etc.

(7) NAVAIR Decentralized CCB (DCCB) Process Charter, if any, key participants including code, function and responsibilities including interface requirements with other CCBs or higher-level authority.

(8) Process used for changing a CI and its configuration documents after the ECP/RFD/RFW/RAMEC is approved, including provisioning, spares, rotary pools, tests, training, etc.

(9) Process for ensuring that approved ECPs, RFDs, RFWs and RAMECs are promptly installed.

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(10) Process selected/used for concurrence/approval of minor (Class II) ECPs and minor RFDs and RFWs, including those related to CSIs.

(11) Provisions for maintaining an information library or archive of all program ECPs, RFDs, RFWs and RAMECs including location, custodian, and length of retention. Also include requirements for manual and/or automated data processing.

(12) Process and activities responsible for incorporating approved ECPs or correcting RFDs and RFWs.

(13) Provisions for preplanned product improvement program(s), affordable readiness, etc.

i. Configuration Status Accounting (CSA)

(1) Application and tailoring of applicable commercial and government specifications and others not identified by this instruction.

(2) Level of CSA.

(3) Process (including requirement for manual and/or automated data processing the CSA system) and participants for CSA data collection, processing and distribution of configuration information.

(4) Forms, format and data elements of the CSA data collection, file and distribution systems.

(5) Compatibility and integration of the CSA accounting system including, but not limited to:

(a) Total program needs;

(b) Configuration Identification document repositories;

(c) Central configuration data files (the weapon systems files at NAVICP);

(d) DLA, USAF and USA supply centers;

(e) 3-M reporting system, and the standard CSA system used; and

(f) FMS customers and the standard Configuration accounting system used.

(6) Additional requirements for data distribution from the CSA system, including purpose for the data, frequency of publication, timeliness of each part of the CSA system, and distribution requirements.

2.3.1.3 CM Umbrella Plans

CM Umbrella Plans are another version of the OPR CMP and should be prepared when the OPR has management responsibility for more than one CI. A CM Umbrella Plan identifies the basic or general CM requirements that will be implemented across the board for all items managed, but utilizes separate addendum to address the CM requirements or processes of a particular CI item that are different from the others.

2.3.1.4 Coordination and Approval

OPR CMPs will be coordinated with the key CM participants or stakeholders identified by the plan prior to being submitted to AIR-1.1 for approval. See Exhibit 2-2 for sample concurrence sheet.

2.3.2 Contractor or OEM CMP

Contractor or OEM CMPs serve the same purpose as OPR CMPs, except that they are prepared by and describe the CM policies and processes of the Contractor/OEM. The OPR must coordinate, review and approve the CMPs of contractors to ensure that they are consistent with the CM requirements of the OPR CMP and the applicable SOW.

2.3.2.1 Contractual Requirements/Provisions

Contractor or OEM CMPs should be contractually invoked or procured as a CM product deliverable unless justified. The contract SOW must identify specific CM elements and processes to be performed for each CI. The OPR should require contractual notification whenever the contractor is contemplating a change to his/her plan that could potentially impact contractually specified performance and/or delivery requirements of the CIs involved. See paragraph 1.8.2 for applicable DID.

2.4 Lessons Learned

The use of a CM Umbrella Plan precludes the need to prepare separate OPR CMPs for each particular CI being managed and not having to revise the entire CMP whenever the requirements of just one particular CI changes. In this case, only the applicable addendum has to be revised and submitted for approval to AIR-1.1.

CM Plan Content

1 INTRODUCTION

- Purpose and Scope
- Brief Description of the System and/or Top-Level CIs
- Reference to applicable Directives/ Guidance Documents

2 REFERENCE DOCUMENTS

- Documents Referenced in CM Plan

3 CM CONCEPT OF OPERATIONS AND ACQUISITION STRATEGY

- CM Concept of Operations
- CM Acquisition Strategy

4 ORGANIZATION

- Description of Planned CM Organization

5 DATA MANAGEMENT

- Technical Data Concept of Operations

6 CM PROCESS

- Description of the CM Process
- Description of Sequence of Events/ Milestones for Implementation of CM
- CM Planning and Management

7 CONFIGURATION IDENTIFICATION

- Description of the Configuration Identification Process and Procedures, Including List of Affected/ New CIs

8 CONFIGURATION CONTROL

- Description of the Configuration Control Process and Procedures

9 CONFIGURATION STATUS ACCOUNTING

- Description of the Procedures and Methods for Configuration Status Accounting

10 CONFIGURATION AUDITS

- Description of the Procedures, Documentation, and Schedules for FCA/PCA

11 INTERFACE MANAGEMENT

- Description of the Procedures for Identification of Interface Requirements, Including the Establishment/ Participation of ICWGs

Exhibit 2-1. CMP Content

CONFIGURATION MANAGEMENT PLAN FOR _____

Prepared by:

Project Engineer/Class Desk

Signature

REVIEWED BY:

Print Name

Code

Date

Logistics Manager/APML

Signature

Print Name

Code

Date

Configuration Manager

Signature

Print Name

Code

Date

Training/Training System Rep.

Signature

Print Name

Code

Date

Program Procuring Contracting Officer

Signature

Print Name

Code

Date

Support Equipment Rep.

Signature

Print Name

Code

Date

Govt. Furnished Equipment (GFE) Rep.

Signature

Print Name

Code

Date

Fleet Support/ICP rep.

Signature

Print Name

Code

Date

Test & Evaluation Rep.

Signature

Print Name

Code

Date

Publications Rep.

Signature

Print Name

Code

Date

APPROVED BY:

Assistant Program Manager

Signature

Print Name

Code

Date

Program Manager

Signature

Print Name

Code

Date

Head, Configuration Management Policy and Processing Division, AIR-1.1.3

Signature

Print Name

Code

Date

Exhibit 2-2 Sample CMP Concurrence/Approval Sheet

CHAPTER 3 CONFIGURATION IDENTIFICATION

3. Configuration Identification

3.1 Purpose

Configuration Identification accurately describes the Form, Fit, Function and Interface (F³I) attributes of a CI. It is necessary to define the functional and physical characteristics of a CI in sufficient detail so that it may be developed, tested, evaluated, produced, procured, inspected, accepted, operated, maintained, and supported. Configuration Identification ensures that all acquisition, operational and maintenance personnel receive the same CM documentation necessary for life cycle management of the item(s) involved. Configuration Identification is established by approved baselines plus approved changes

3.2 Configuration Baseline

A baseline is a Configuration Identification document or set of such documents formally designated by the OPR. Once established, the baselines for a given item do not change. For acquisition purposes, the term "Current Configuration Baseline" has been coined to describe an item's initially approved configuration baseline, plus all approved changes. Figure 3-1 depicts established baselines in the acquisition life cycle.

3.2.1 Types of Configuration Baselines

There are three types of configuration baselines normally established during the life cycle of a CI. Figure 3-1 illustrates the Configuration Identification Baseline documentation for each type of baseline.

3.2.1.1 Functional Baseline (FBL)

The FBL consists of all approved configuration documentation necessary to define a CI's top-level F³I attributes, plus the verification requirements necessary to demonstrate achievement of those requirements. The FBL is generally established upon satisfactory completion of a Functional Configuration Audit (FCA).

3.2.1.2 Allocated Baseline (ABL)

The ABL consists of all approved configuration documentation necessary to define the F³I attributes of a CI that are allocated from a higher-level configuration system or item

3.2.1.3 Product Baseline (PBL)

The PBL consists of the approved configuration documentation necessary to procure, operate and maintain a CI during its life cycle. It consists of the FBL and ABL plus any of the verification requirements necessary to demonstrate achievement of those requirements and to support final acceptance (e.g., contractual documents) of the item. The PBL is normally established contractually by the OPR, via the Procuring Contracting Officer (PCO), upon satisfactory completion of a Physical Configuration Audit (PCA). Completion includes the successful close out of all PCA action items..

3.3 Contractual Requirements

The establishment of contract Configuration Identification requirements and/or baselines for a CI will be based on the acquisition methods and strategies employed by the OPR and OEM/Contractor. Such requirements should be specified only to the level at which the CI involved is designated, and for which the government performance or detail design specifications are written. Government and OEM/Contractor Configuration Identification requirements should be consistent throughout the life cycle of the item(s) involved. All contracts awarded for the procurement of a CI will contain, as a minimum, the following information:

- a. A requirement to document configuration baselines;
- b. Applicable CDRL, DD 1423, as may be necessary to document an item's CI. See paragraph 1.8.2 for applicable DID(s);
- c. Performance or design based specifications;
- d. Compatibility requirements for support and automatic test equipment; and
- e. Nomenclature assignments and other applicable identification markings.

3.4 Lessons Learned

Major modification improvement programs, such as Service Life Extension Programs (SLEP), Conversion in Lieu of Procurement Programs (CILOP), and Remanufacture (REMAN) Programs will often require an equal and sometimes a higher degree of Configuration Identification and control than the item(s) involved initially had. This is largely due to the age and/or overall physical condition of the item(s) involved and the quantity of engineering change(s) that have been installed in the item(s) during its service life.

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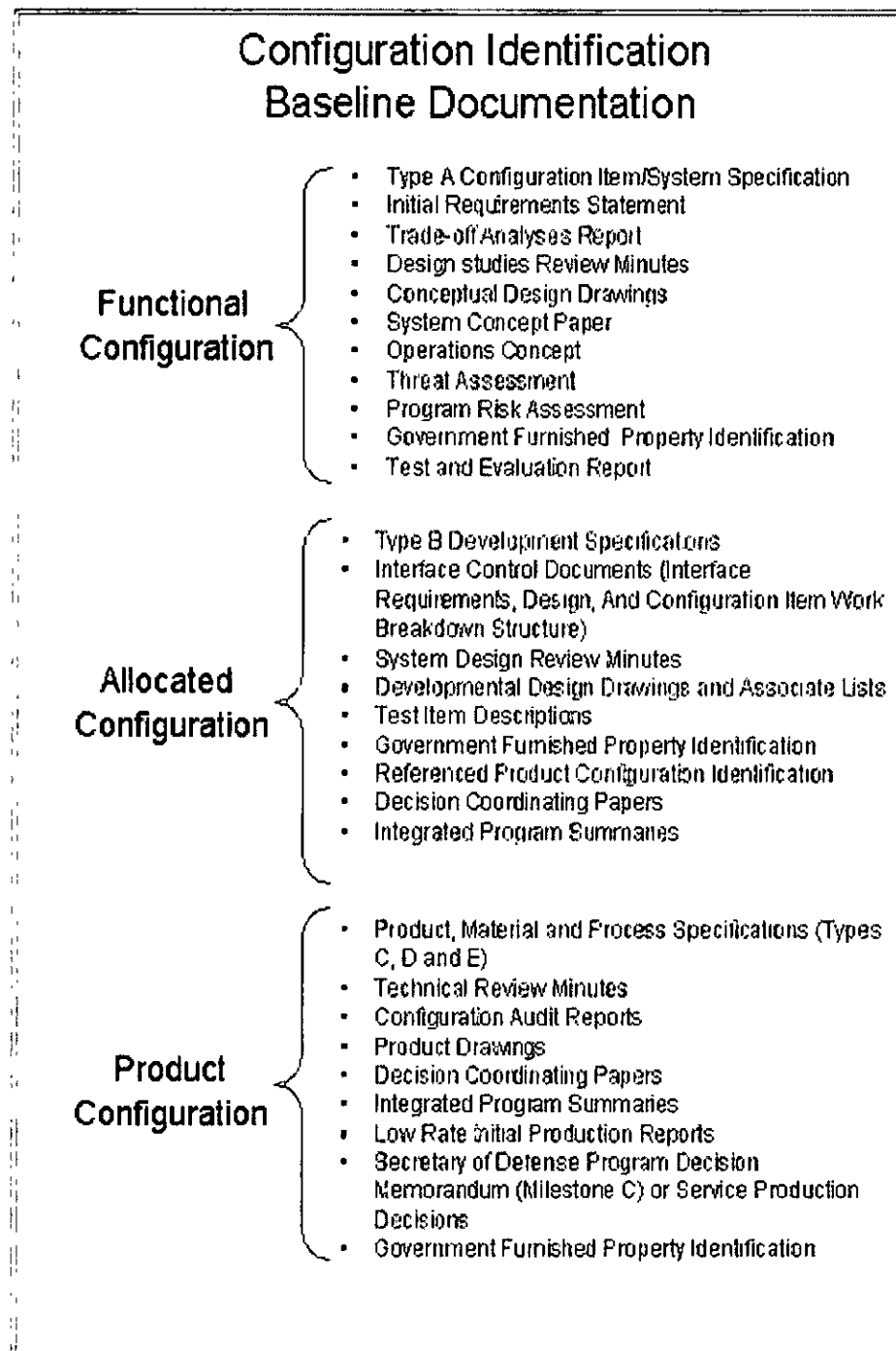


Figure 3-1 Configuration Identification Baseline Documentation

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CHAPTER 4 CONFIGURATION AUDITS

4. Configuration Audits

4.1 Purpose

Configuration Audits are performed to verify that the contractually specified F³I attributes of a CI are met and that the item's Configuration Identification documentation is complete, accurate and consistent with the item's life cycle support requirements.

4.2 Types of Configuration Audits

There are two types of configuration audits normally performed during the course of an acquisition program: the Functional Configuration Audit (FCA) and the Physical Configuration Audit (PCA). The requirement for conducting one or both is a prerequisite to establishing an item's FBL and/or PBL. The responsibility for performing configuration audits is normally a shared one between the OPR and the OEM/Contractor. Figure 1-1 depicts the acquisition phase in which FCA and PCA are conducted.

4.2.1 FCA

FCAs are conducted on hardware, firmware, and software CIs to assure that the technical documentation accurately reflects the functional characteristics of each

4.2.2 PCA

The purpose of a PCA is to examine the actual configuration of an item being produced in order to verify that the related design documentation matches the item as specified in the contract. It is also used to validate many of the supporting processes used by the contractor in the production of the item and to verify other elements of the item that may have been impacted/redesigned after completion of the FCA..

4.3 Requirements for Additional Configuration Audit(s)

Often during the operational and support phase of a CI, additional configuration audits are necessary to verify that the item(s) involved are still meeting specified F³I performance

attributes and that the item's current configuration matches its approved Configuration Identification documentation or baseline. With the increased use of Performance Based Specifications there will likely be more reliance on FCAs.

4.4 Contractual Requirements

All contracts awarded for the procurement of CIs will contain requirements for conducting configuration audits. This is accomplished by making configuration audits a CM SOW tasking and by incorporating the applicable DIDs. (See paragraph 1.8.2 for applicable DID(s)).

4.5 Lessons Learned

Configuration Audits conducted on an incremental basis are often more accurate, reliable and economical. Additionally, they do not have a tendency to interfere with the contractor's (or sub-contractor's) plant operations since a massive amount of subject matter experts are not required at the contractor's facilities all at once.

CHAPTER 5 CONFIGURATION CONTROL

5. Configuration Control

5.1 Purpose

The Configuration Control Process, which is probably the most dynamic element of the CM process, must be implemented by both the OPR and OEM/Contractor in order to manage design changes to a CI and its approved configuration documentation.

5.1.1 Configuration Control Definition

Configuration Control is a systematic process that ensures that changes to released configuration documentation are properly identified, documented, evaluated for impact, approved by an appropriate level of authority, incorporated, and verified. It includes the CM activity concerning: the systematic proposal, justification, evaluation, coordination, and disposition of proposed changes; and the implementation of all approved and released changes into: the applicable configurations of a product, associated product information, and supporting and interfacing products and their associated product information.

5.2 Configuration Control Process

The configuration control process at NAVAIR is a single documented process with many embedded coordination and control features. It is basically the responsibility of the OPR, and includes, but is not limited to, the following:

- a. Preparation of OPR CMPs which must be approved by AIR-1.1.
- b. Implementation of standardized CM contractual requirements.
- c. Fleet concurrence on all proposed Major (Class I) engineering changes.
- d. Coordination between Commodity Managers (Common Avionics, Cruise Missile, Electronic Warfare Systems, Crew Systems, and common support equipment etc.) and OPRs for weapon systems and trainers to ensure proper effective implementation of engineering changes to common systems.

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- e. Obtaining CCB approval of all Major (Class I) ECPs, RFDs/RFWs, Master Government Furnished Equipment Lists (MGFELs) and RAMECs.
- f. Performing Validation/Verification (VAL/VER) and NAVAIR approval of all TDs.
- g. Prompt TD compliance reporting.
- h. Establishing Interface Control Working Groups for joint service or cross Systems Commands (SYSCOMs) issues with respect to CM program requirements.
- i. Preparation of FMS and inter service Memoranda of Agreements/Understandings (MOAs/MOUs) with respect to CM program requirements. FMS and interservice MOAs/MOUs must be approved by AIR-1.1.

5.2.1 Configuration Control Authority

Configuration control authority is normally determined by the acquisition methods and strategies employed by the OPR and/or the level to which the OPR plans to operate and maintain the item(s) as delineated in the OPR CMP. Configuration control authority must be contractually constrained, but in a manner that allows configuration control authority to evolve from a very flexible and informal process between the OPR and Contractor to a more disciplined and formal process that utilizes the NAVAIR CCB process. See Figure 1-1 for additional CM life cycle phase requirements. The OPR and OEM/Contractor normally control the Configuration Identification of an item until a functional, allocated, or physical configuration baseline (FCB, ACB or PCB) is established by a FCA or PCA. A FBL or PBL must be established before the applicable CIs can be accepted government.

5.3 CCB(s)

The Government and OEM/Contractor establish CCBs as a means of evaluating the acquisition benefits and/or impacts of a proposed engineering change before an approval decision is made.

5.3.1 CCB Attributes

An effective CCB is one that:

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- a. Enables change decisions to be based on knowledge of complete change impact;
- b. Limits changes to those that are necessary or offer significant benefits;
- c. Facilitates evaluation of cost, savings, and trade-off;
- d. Ensures customer interests are considered;
- e. Provides orderly communication of change information;
- f. Preserves configuration control at product interfaces;
- g. Maintains and controls the current configuration baseline;
- h. Maintains consistency between product and applicable documentation;
- i. Documents and limits deviations or variances; and
- j. Facilitates continued supportability of the product after change.

5.4 CCB Authority

The CCB authority during the life cycle of an acquisition program is normally established as follows:

5.4.1 Pre-Product Baseline Authority

CCB authority for (Major) Class I engineering changes not having a government approved FBL and/or PBL normally will be the OEM/Contractor. A CI which does not have a government approved FBL/PBL will not be contractually accepted and delivered to operating forces.

5.4.2 Post-Product Baseline CCB Authority

CCB authority for Major (Class I) engineering changes to items having a government approved FBL/PBL is the CCB as administered by AIR-1.1.

5.4.3 Delegation of Centralized CCB Authority

Under special or extenuating circumstances, AIR-1.1 may delegate CCB authority to an OPR by issuance of a DCCB Charter. It operates no differently than does the Centralized CCB, using the same CM policy and ECP processing procedures, including forms described by this instruction or as approved by AIR-1.1. A DCCB Charter is valid only for the CIs specified for normally 2 years from date of approval, and once expired, the CCB authority automatically reverts back to AIR-1.1. See Exhibit 5-1 for sample DCCB charter.

5.4.4 CM/CCB Performance Evaluation

The Site Information Generation and Material Accountability (SIGMA) e.Power ECP approval tool enables real time evaluation of DCCB performance by the NAVAIR Centralized CCB members from AIR-1.1, Assistant Commander for Logistics and Industrial Operations (AIR-6.0), AIR-4.0, and Training Systems Program Office (PMA205). Integrated Logistics Assessments (ILAs) are conducted during each life cycle phase with results being reported to the applicable Milestone Decision Authority (MDA). The OPR will provide appropriate resources to support DCCB performance evaluations and resolve any outstanding actions.

5.5 NAVAIR CCB Process

There is only one CCB process documented and used by both the NAVAIR CCB and DCCBs to disposition Major (Class I) engineering changes to CIs. It is established by Commander, Naval Air Systems Command (COMNAVAIRSYSCOM) and managed by AIR-1.1. The CCB has the authority to review, evaluate, approve or disapprove, in whole or part, all Major (Class I) ECPs, RFDs, RFWs, and RAMECs. DCCBs are authorized in accordance with Chapter 5, paragraph 5.4.3 of this instruction.

5.5.1 CCB Membership

Members of the CCB, whether centralized or decentralized, will be experienced, qualified, and competency certified government representatives from CM, systems engineering, production management, logistics support, aviation training, and other competencies as required. All members will be formally trained and certified by their respective competency leaders prior to being nominated and endorsed by AIR-1.1. All CCB voting members must complete the Naval Aviation Configuration Management Expertise Development (NACMED) workshop. CCB membership and

responsibilities cannot be delegated or transferred without respective competency and AIR-1.1 endorsement. Current CCB membership is listed in Figure 5-1.

5.5.2 Responsibilities of CCB Members

Responsibilities of the CCB members, whether serving on the centralized CCB or a DCCB are listed in Figure 5-2.

CCB MEMBERSHIP	Voting Member	Non-voting		
		Associate Members	Secretariat	DCCB OPR
Chairperson, Acquisition Policy and Processes Department (AIR-1.1), or designated representative(s) or OPR designated Chairperson	✓			✓
<i>The Designated representatives of:</i>				
Research and Engineering (AIR-4.0).	✓			
Logistics and Industrial Operations (AIR-6.0).	✓			
Systems Training Program Office (PMA205).	✓			
Other systems commands, as may be required for joint programs.	✓			
GFE/MGFEL (AIR-1.1)	✓			
System Safety (AIR-09F3/4.1.6) Program Manager	✓	✓		
Assistant Commander for Contracts (AIR-2.0) (normally from Policy and Processes Department (AIR-2.1))		✓		
Common Support Equipment (SE) Program Office (PMA260).		✓		
Naval Inventory Control Point Philadelphia (NAVICP).		✓		
Naval Air Technical Data & Engineering Service Command (NATEC).		✓		
Cognizant Engineering Department AIR-4.0 (i.e. Structural (AIR-4.3), Propulsion (AIR-4.4) Avionics (AIR-4.5), etc)		✓		
Naval Training Systems Center, Orlando, FL.		✓		
Test and Evaluation (AIR-5.0).		✓		
Government Agencies and Other Military Services as may be required.		✓		
Recorder/Secretary as designated by AIR-1.1 or AIR-6.8.5.2 or DCCB OPR.			✓	

Figure 5-1 CCB Membership

CCB MEMBERSHIP RESPONSIBILITIES	Voting Member	Non-Voting		
		Associate Members	Secretariat	DCCB OPR
Final decision on changes; ensure all board members have an opportunity to address each ECP; call for a vote on a change when all information on the subject has been presented; may defer voting until complete information is made available; apprise CCB members of the latest NAVAIR (AIR-1.1) CM/CCB policy and processes. AIR-1.1 will serve as an arbitrator in all controversial change actions adversely impacting Fleet Operational Support Readiness requirements including safety.	Chairperson			
To review, validate, and approve information relating to their respective functional areas.	✓	✓		
Assign CCB numbers for <u>all</u> Major (Class I) ECPs, RAMECs and requests for major/critical deviations or waivers.			✓	
Enter this information into e.Power metadata.			✓	
"Schedule" the CCB.			✓	✓
Obtain and enter TD number(s) in e.Power. metadata			✓	✓

Figure 5-2 CCB Member Responsibilities

5.6 Engineering Change Proposal (ECP)

An ECP is considered the universal method for proposing a Major (Class I) engineering change to a CI. The government's ECP form (DD 1692), which was traditionally cited in past contracts, as a MIL-STD-973 requirement, is no longer required. However, all of the program elements previously identified by the DD 1692 must in some way (e.g., contract SOW, CMP) be addressed by the OEM/Contractor or ECP originator and the OPR in order to determine the total cost and impact of the change.

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5.6.1 Classification of ECPs

All engineering changes will be classified as either Major (Class I) or Minor (Class II) in accordance with the classification criteria of paragraph 6.1.1.2 of MIL-HDBK-61A. There will be no exceptions to this requirement unless authorized by AIR-1.1..

5.7 Approval of ECPs

The classification of ECPs determines the process for change approval.

5.7.1 Approval of Major (Class I) Changes

Major (Class I) engineering changes will be approved by the centralized CCB or chartered DCCB prior to contractual implementation. Changes that impact critical characteristics will be reviewed by the Level II or III engineering authority for the subject area.

5.7.1.1 Production Only Changes

The CCB will not approve a Major (Class I) engineering change for "Production only" installation if the CIs in question have previously been accepted and/or delivered to the operating forces. Retrofit requirements with regard to a "production only" change must be reconciled with AIR-6.0 via the APML prior to CCB approval. The logic behind this requirement is to minimize the adverse impact that multiple/mixed configurations are having on readiness and/or operational & support (O&S) costs.

5.7.1.2 Value ECPs (VECPs)

VECPs are a net life cycle costs reduction to the Department of Defense and are processed the same as any other Major (Class I) ECP, but are submitted following Defense Acquisition Regulation (DAR, Section 52.248) Value Engineering Provisions and Clauses. The program office's AIR-4.0 designated values engineering Point of Contact (POC) or contracting activity against which the VECP was submitted is responsible for determining the merits of the VECP.

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5.7.1.3 Contractual Requirements

All PIDs and contracts awarded for a CI, hardware, firmware, or software, will contain an appropriate CM tasking within the SOW in a Section of the contract and an applicable CDRL (DD 1423) for CM product deliverables. MIL-HDBK-61A and ANSI/EIA-649 should be cited as guidance in the CM requirements within the SOW.

5.7.1.4 Tailoring of Contract Requirements

Tailoring of contract requirements relating to configuration control requirements of this instruction must be approved by AIR-1.1.

5.7.2 Concurrence of Minor (Class II) Changes

Unless otherwise specified by contract or an item is identified as CSI, NAVAIR CCBs do not normally review or approve Minor (Class II) ECPs. The Defense Contract Management Agency (DCMA) office, servicing the applicable program or contractor should be tasked with classification and concurrence of Minor (Class II) changes. Systems Engineering Department (AIR-4.1) may delegate via the PCO for concurrence of minor changes and deviations on CSIs to the applicable DCMA office. Examples of reasons why an OPR may want to concur with classification or concurrence of Minor (Class II) changes in addition to those on CSIs are:

a. The government has complete control over the item's Technical Data Package (TDP) and is, therefore, more qualified to determine any potential impact, or

b. The contractor (or ECP originator) has developed a poor track record with regard to the proper Classification of Minor (Class II) changes

5.7.3 Changes to Commercial Aircraft/Controlled Items

Major (Class I) engineering changes to U.S. Navy CIs, especially aircraft which are commercially controlled, may be documented and submitted as Federal Aviation Administration (FAA) airworthiness directives or certificates, contractor service bulletins and other such commercially acceptable means. However, all such changes will still require CCB approval and reporting via a Navy TD, following the TDSA process governed by NAVAIR 00-25-300 TD Systems Manual.

5.7.4 Changes to Commercial Off The Shelf Items (COTS)

The OEM/Manufacturer of the COTS product generally retains complete configuration design/control/authority over the product. Therefore, when managing COTS items, the OPR integrating the COTS product will use the product's performance specifications (performance baseline) as the key point of control. In fact, the specifications are the only legitimate basis for configuration control that can be used. The OPR may request the supplier to make a change to its product, but does not have the right to direct that change and may risk negating the initial cost benefit to acquiring the COTS item. For a complete discussion of configuration control of COTS items, see MIL-HDBK-61A, Appendix C.

5.7.5 Changes to Non-Development Items (NDIs)

Non-Development Item (NDI) products are generally COTS products that have been specially modified by and for military applications to save or to reduce developmental cost/schedule. The OPR integrating a military component that is a non-developmental item does not have configuration control over the product. The only documentation that should be baselined by the integrator should be the performance specifications or equivalent documents used for acquisition. In fact, the specifications are the only legitimate basis for configuration control that can be used. For a complete discussion of configuration control of NDI products, see MIL-HDBK-61A, Appendix C.

5.7.6 Foreign Military Sales (FMS) Requirements

FMS customers will be given every opportunity, as early in the process as possible, to review and procure ECPs having both U.S. Navy and FMS application. ECPs having both U.S. Navy and FMS requirements will be processed as a single NAVAIR CCB change package, whenever practical, in order to optimize procurement and support requirements and reduce program costs.

5.7.6.1 General CM Planning for FMS CM/ECP Requirements

All PMs/Integrated Program Teams (IPTs) should first consult with NAVAIR's FMS Office (AIR-1.4) and AIR-1.1 to determine if any special requirements exist based on the size, scope and/or complexity of the programs involved. NAVAIR CM policy currently requires PMs to document their FMS CM/ECP management

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requirements (including any applicable MOAs, etc.) in their respective CMPs. Generally speaking, PMs should employ the same CM/ECP processes used for managing Navy assets, unless otherwise dictated by the customer or because of some extenuating circumstances such as national security issues. This is why CMPs are important and need to be maintained as living program documents. With continued downsizing and/or the rapid turnover of acquisition personnel, a good CMP will help shorten the learning curve of new employees and will also help maintain program continuity. In order to be effective, CMPs must be thoroughly coordinated with all key IPT functional personnel and others that have a legitimate need to know (e.g., OEM, FMS customer, NAVICP, other associated PMs). A special staffing sheet has been developed to help make sure such coordination occurs prior to CMP approval. The following actions should also be taken with FMS cases:

a. FMS representatives should always be included in Navy ECP/Modification planning activities as early as possible. Most Major (Class I) ECPs, with the exception of some compatibility (or correction of defect's) changes, are planned well in advance (i.e., Operational Safety Improvement Program (OSIP) process) so there should be ample time to determine if FMS customers operating like systems will want to participate. PMs are always encouraged to solicit FMS participation whenever practical as a means of reducing life cycle acquisition costs. Generally speaking, FMS requirements need to be adequately addressed prior to requesting a Major (Class I) ECP (via the Request for Proposal (RFP) process) from an OEM/Contractor. The OEM/Contractor is often more aware of potential FMS requirements and, therefore, should be directed to address them in the formal proposal. FMS requirements should be priced out separately just in case they do not materialize, etc. Notwithstanding, FMS requirements should never delay the implementation of Navy requirements.

b. Prior to contract award, a complete and comprehensive CM contract SOW should be prepared and staffed through all key IPT personnel. Ideally, the CM requirements within the SOW tasking will be the same for both Navy and FMS requirements. Any different FMS management requirements should be identified separately as an addendum, etc.

c. A Contract (Section-B) CM Line Item may also need to be established in conjunction with the CM requirements within the SOW; unless of course, it can be adequately addressed by the end

item (CLIN 0001) SOW. In any event, a complete and comprehensive CM requirements within the SOW needs to be prepared. The tendency of some programs just to insert a few CDRLs, DD 1423s, for the delivery of various CM product deliverables (e.g., Class I ECPs, Major RFDs and RFWs, Specification Change Notices (SCNs), Notice of Revision (NORs), or OEM/Contractor CMPs) will not suffice. Proper CM requirements within the SOW supported by applicable CDRLs, DD 1423s, will assure the timely delivery of these critical CM products. AIR-1.1 should always be consulted prior to the actual development of the CM requirements within the SOW, including the latest CM DIDs approved for use by Office of Management and Budget (OMB).

d. All CM CDRLs (DD 1423s) should be scrutinized by a DRRB per NAVAIRINST 4200.21C. Since decentralization of the DRRB process (previously managed by AIR-1.1), many PMs/IPTs do not seem to know that this is still an acquisition requirement. Current NAVAIR acquisition policy is that all procurement contracts having an estimated value of over \$5 million dollars must be reviewed by a DRRB. DRRBs are an important management tool and should be utilized by all PMs/IPTs to minimize technical data and save money.

e. There has been a tendency to omit some of the key program personnel in the distribution of CM (CDRLs/DD 1423s or contractor equivalent). These same key personnel should be requested for input prior to the release of an RFP. This will greatly improve overall program continuity/communication and ensure that they all are receiving the same data (especially the Major (Class I) ECPs). This will ensure that they simultaneously receive the same data (especially Major (Class I) ECPs). This small, but important, requirement will greatly improve overall programs success.

5.7.6.2 TD Requirements and Kit Management for FMS Engineering Changes

5.7.6.2.1 TD Requirements for FMS Engineering Changes

a. Unless otherwise dictated by the terms of the Letter of Offer and Acceptance each FMS customer shall have a separate, sanitized TD written for their particular configuration of equipment. Any extra cost incurred will be identified on the cost and funding summary and paid for with FMS case funds.

b. FMS TDs will be written at the same time as domestic TDs.

c. FMS TDs will follow the same formatting instructions as domestic TDs, established in the NAVAIR 00-25-300.

d. Naval Air Technical Data and Engineering Service Command (NATEC) will assign all TD numbers as per NAVAIR 00-25-300. The country designator will follow the TD number. If required for clarification, the service component (USAF, Army, etc.) may be placed after the country designator.

e. The TDSA will not monitor FMS TD incorporations, unless special provisions are made.

5.7.6.2.2 FMS Kit Management

a. NAVAIR TD Kit Management Team (AIR-6.8.3.2) provides kit management services to all NAVAIR platforms and FMS customers. Services include kit identification number assignment, kit assembly, secure storage, worldwide shipments/tracking, requisition processing, reclamation and disposal.

b. AIR-6.8.3 assigns Kit Identification Numbers (KINs) for all NAVAIR TD kits as per NAVAIR 00-25-300. FMS unique KINs will be assigned as requested by FMS case numbers. The NAVAIR Central Kitting Activity (CKA) has assembled numerous kits for FMS countries over the past 15 years. This arrangement has proven mutually beneficial for U.S. Navy and FMS customers; especially when they both are installing the same TD and need the same kits.

5.8 Engineering Change Planning/Implementation

The NAVAIR change planning and ECP configuration control process involves all key stakeholders and begins with the Operational Requirements Determination (ORD) and Priorities process via the Operations Advisory Group (OAG). It continues from development of the required changes through CCB approval and installation into the affected CIs. The process actually stops, but continues during the life cycle of CIs involved. Figures 5-3 and 5-4 depict the process stakeholders and formal coordination activities that take place.

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5.8.1 Change Planning and Preparation

Prior to requesting or soliciting a Major (Class I) ECP, the OPR will ensure that all key participants and stakeholders have a thorough technical and logistical understanding of the engineering change as reflected by the RFP. The ECP Management Guide contained in Appendix D of MIL-HDBK-61A (SE) will be followed as closely as possible. The ECP Management Guide, developed by NAVAIR, is designed to serve as an ECP checklist for both the OPR (prior to requesting an ECP) and the OEM/Contractor (prior to submitting an ECP), so that both parties have a better understanding of each other's requirements and expectations. The ECP Management Guide has been proven to reduce ECP preparation, approval and actual modification implementation time due to the improved quality of the final ECP. With improved quality, fewer revisions, if any, will be required resulting in faster approval of the ECP..

5.8.2 ECP Impact to Configuration Identification

All Major (Class I) ECPs will be systematically evaluated by the OPR/IPT for any real or potential impact to the following program elements:

- a. Affordability;
- b. Financially executable;
- c. Functional and physical characteristics;
- d. All integrated logistic support elements;
- e. Quality assurance;
- f. Reliability;
- g. Maintainability;
- h. Availability;
- i. Operational readiness;
- j. Test and Evaluation;
- k. Systems engineering (e.g., design integrity interfaces, simulation, interchangeability, interoperability, nuclear hardening, survivability, human factors, etc.);

- l. Nuclear safety;
- m. Technical reviews;
- n. Configuration audits;
- o. Schedules (e.g., development, manufacturing, delivery, and installation);
- p. Retrofit requirements;
- q. Impact on total life cycle costs;
- r. Change justification;
- s. Support equipment;
- t. Security;
- u. Interfaces/Interoperability with other configuration items;
- v. FMS requirements;
- w. Impact on environment (hazardous materials);
- x. Ship and/or shore suitability;
- y. Warranties/guaranties;
- z. Requirements for government furnished property/equipment;
- aa. Mission critical computer Resources Requirements;
- bb. Safety;
- cc. Item criticality (CSI, CAI, non-critical) and failure implications (e.g., safety, performance, mission, etc) and;
- dd. Training and Training Equipment.

5.8.2.1 Revisions to Configuration Documentation

Minor clarifications, such as corrections to functional and allocated configuration documentation, will be made only as an incidental part of the next approved Major (Class I) engineering change.

5.8.3 Integrated Logistics Support Plans and Policies

AIR-6.0 will evaluate the change request package/ECP for impacts on integrated support, including identification of item criticality determinations (i.e., CSI, CAI, non-critical).

5.8.4 Funding Engineering Changes

The cognizant OPR will assure that all the funding necessary to support the implementation of a proposed change is budgeted prior to requesting an ECP to process the change. Due to limited resources, an OPR needs to optimize and prioritize the change(s) being proposed for implementation.

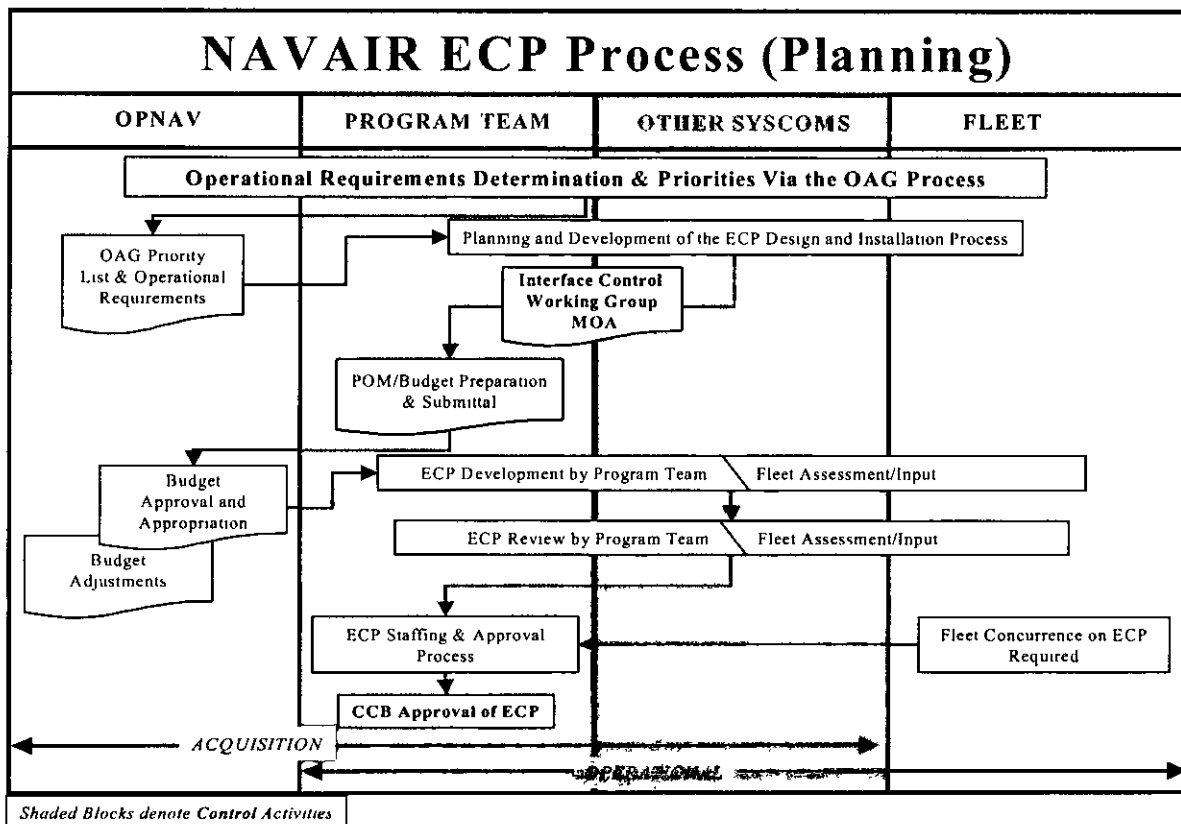


Figure 5-3 NAVAIR ECP Process (Planning)

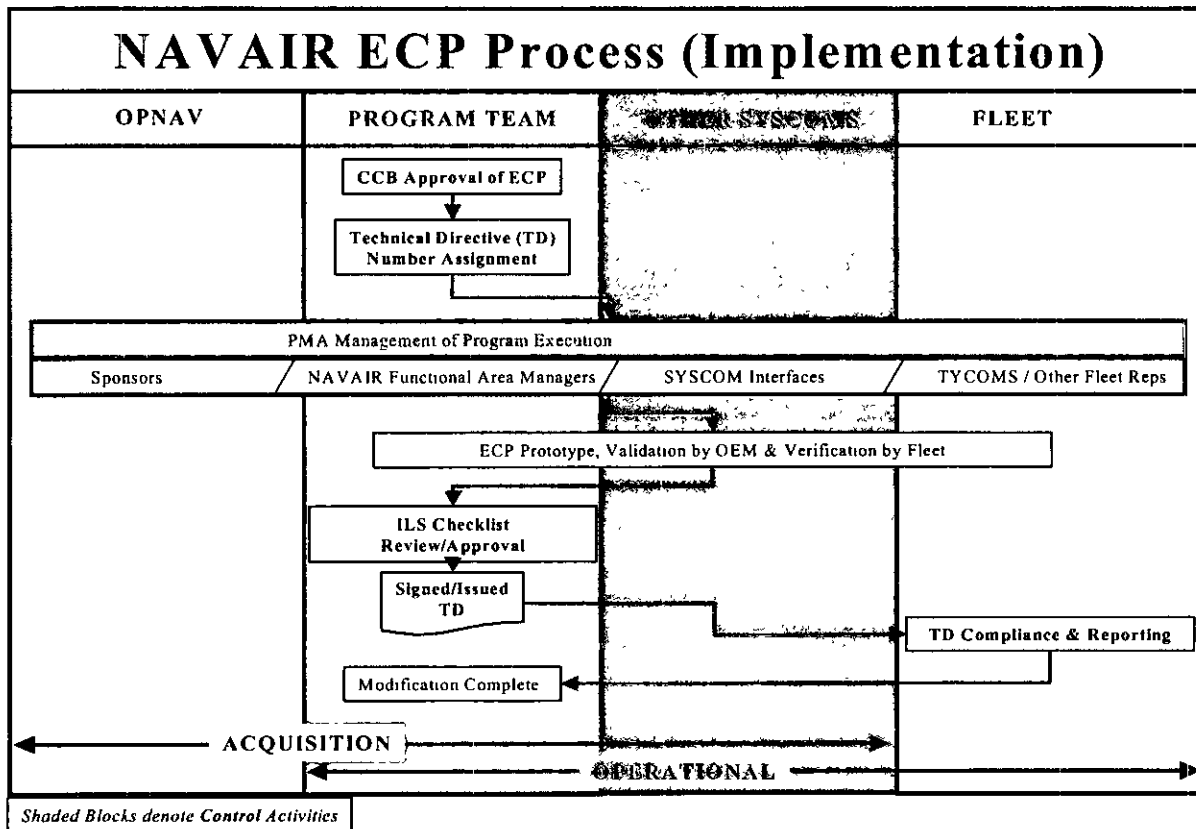


Figure 5-4 NAVAIR ECP Process (Implementation)

5.9 Categories of ECPs

There are two authorized categories of ECPs: solicited and unsolicited

5.9.1 Solicited

Solicited ECPs are submitted in response to a written request made by the PCO. Copies of the ECP request letter will be distributed to all concerned IPT members including Type Commander(s) (TYCOM(s)) (Commander, Naval Air Forces, Commander, Naval Air Reserve Forces/Chief of Naval Air Training), and other cognizant activities. Exhibit 5-2 contains a sample request for an ECP.

5.9.2 Unsolicited ECP

An unsolicited ECP is one which is prepared by an OEM/Contractor or other party, and submitted to the OPR without a formal request (i.e., RFP) being made. Unsolicited proposals are

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discouraged and will be rejected unless they satisfy one or more of the following criteria:

- a. Correct deficiencies;
- b. Make a significant reduction in manufacturing, operational, or logistic support costs;
- c. Prevent slippage in an approved production schedule; and/or
- d. Is a VECP.

5.10 Methods Used To Propose Changes

There are four CM methods normally used to propose Major (Class I) engineering changes to, or deviations from, the contractually specified F³I requirements of a CI. They consist of the ECP, RFD, RFW and RAMEC. It should be noted that the RFW (DD 1694 or equivalent) is no longer authorized for use in new acquisition contracts, having been replaced with the RFD. If RFWs are cited in an existing (active) contract, the requirement is still valid and contractually binding. The OPR should not have to revise the contract, unless of course, there will be significant cost savings to the government. (See paragraphs 5.15 through 5.16.3 for additional information regarding Deviations and Waivers.)

5.11 Types of Major (Class I) ECPs

The different types of Major (Class I) ECPs normally processed by NAVAIR are identified in the following paragraphs:

5.11.1 Preliminary ECP

A Preliminary ECP (PECP) is generally used to help an OPR to determine if a formal ECP is justified. A PECP is not reviewed by the CCB and cannot be used to authorize the contractual implementation of a change in a CI.

5.11.2 Formal ECP

A formal ECP is one which has been engineered, documented, and priced in sufficient detail to support CCB approval and contractual authorization

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5.11.3 Logistics ECP (LECP)

An LECP is reliability or maintainability related ECP for a NAVICP managed item. An LECP is treated like other Class I ECPs and, therefore, must be approved by the designated CCB prior to implementation. An LECP is used to reduce support costs while maintaining or improving safety and performance. For more detailed information, refer to NAVICP Instruction 4105.1A which is available at the NAVICP BOSS III Web site:
<https://www.navsup.navy.mil>.

5.11.4 Two Part ECP

The Two Part ECP process allows PMs to obligate funding for specific non-recurring (NR) services and/or deliverables prior to the actual receipt and approval of a Major (Class I) ECP. Prior to implementation of this process, a complete formal ECP was required to be submitted and approved prior to the release and obligation of any funding. The Two Part ECP process will yield benefits to both government and industry by permitting shorter cycle times through earlier contractual commitment. Early NR activity will also lead to a higher quality formal ECP resulting in fewer changes and quicker processing. Refer to Exhibit 5-3 for Implementation Procedures for the Two Part ECP Process.

5.11.5 VECP

See paragraph 5.7.1.2

5.11.6 Rapid Action Minor Engineering Changes (RAMECs)

The RAMEC process is NAVAIR unique and is designed to accommodate the rapid processing of Fleet proposed Major (Class I) engineering changes of a minor nature, which can be implemented and supported with existing supply infrastructure. RAMECs will only be incorporated at the Organizational "O" or Intermediate "I" maintenance levels. Only Fleet activities or end item users (TYCOMs, controlling custodians, naval aviation depots (future anticipation being known as Fleet Readiness Center (FRC), Fleet support teams, etc.) may initiate and submit RAMECs to the CCB for approval. Approved RAMECs should be coordinated with OEMs for possible production incorporation. If adopted, such changes must be submitted and approved by the CCB as a Major (Class I) ECP prior to incorporation.

5.11.6.1 CCB Processing/Approval

RAMECs will be processed the same as Major (Class I) ECPs. For additional information regarding the RAMEC program, refer to NAVAIR 00-25-300

5.12 Master Government Furnished Equipment List (MGFEL)

A MGFEL is an important CM document. It is prepared and maintained by AIR-1.1 for each fiscal year of an approved aircraft production program or major aircraft modification program. The MGFEL is actually an addendum to the aircraft specification and identifies all approved Government Furnished Equipment (GFE) requirements procured by the Government for production installation by OEMs. The MGFEL cannot be used as an approval document for Major (Class I) ECPs or as authorization to revise the applicable detail/performance specification for an aircraft, weapon system, or CI. Any proposed change to an approved MGFEL, which by this instruction, is defined as a Major (Class I) change, requires the submittal of a formal ECP accompanied by a Notice of Revision (NOR) (DI-CMAN-80642C) and/or Proposed Specification Change Notice (PSCN) (DI-CMAN-80643C) (DD 1696) or contractor equivalent. Refer to Exhibit 5-4 for additional information on MGFEL changes.

5.12.1 MGFEL Changes

MGFEL changes which are not a Major (Class I) ECP as defined by this instruction, do not require the submittal and approval of a formal Major (Class I) ECP. Notwithstanding, an estimated cost (which may or may not require a PSCN or NOR) from the OEM/Contractor is required to be submitted to AIR-1.1 for approval prior to such changes being incorporated.

5.12.2 Miscellaneous Requirements for GFE

ECPs, which identify GFE requirements will be identified in a CCB Change Directive using the Government Furnished Equipment (GFE) Requirements form (NAVAIR 4130/5) and submitted to the CCB as part of the CCB Change Directive.

5.12.3 CCB Processing and/or Approval

MGFELs and subsequent revisions will be approved by AIR-1.1 prior to being contractually invoked in a contract for a CI.

5.13 Software Changes

Engineering changes, which impact mission-critical computer resources or mission-critical computer software (MCCS) requirements, must be reviewed and concurred with by the cognizant software office. AIR-4.1 is the cognizant office for NAVAIR managed programs. Standardized implementing instructions for software changes are located in the NAVAIR 00-25-300.

5.14 ECP Production Approvals

Production approvals (formally referred to as Approval for Service Use (ASU) approvals) are required to ensure that all new or modified equipment is suitable for use and capable of performing their intended purpose under fleet operating conditions. The cognizant program engineer will coordinate all modifications classified as Major (Class I) ECP with Commander, Operations Test and Evaluation Force (COMOPTEVFOR). The Program Manager Air (PMA), Deputy PMA, IPT Leader or Class Desk/Project Engineer will sign the Approved for Full Production Procurement/Operational Test Readiness Review (AFP/OTRR) Requirements form (NAVAIR 4130/12) certifying that such coordination has taken place. The CCB will not approve a proposed Major (Class I) ECP without evidence that all open AFP/OTRR issues have been resolved.

5.15 Waivers and Deviations

A deviation requested during or after manufacture was formerly called a waiver. However, the processing rules for a request for waiver are identical to those for a deviation, and the terms deviation and waiver were often confused. Waivers will not be processed on new acquisition contracts.

5.16 Request for Deviation (RFD)

A RFD is a written authorization, prior to the manufacture of a CI, to depart from a particular performance or design requirement, such as the item(s) specifications or drawings, for a specified number of items or time period. A RFD will be designated as Minor, Major, or Critical following Office of Secretary of Defense (OSD) DID (DI-CMAN-80640C).

5.16.1 Recurring Deviations

RFDs that are of a recurring nature are usually indicative of poor OEM/Contractor performance or overly restrictive government

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performance requirements. Recurring RFDs will not be submitted to the CCB for approval unless the OPR and PCO obtain a satisfactory corrective action plan from the contractor. Generally, if the problem is related to overly restricted government requirements, the OPR will request and process a Major (Class I) ECP for revising the item's contractual performance specifications.

5.16.2 CCB Processing and/or Approval

Major RFDs will be processed and approved the same as Major (Class I) ECPs. RFDs require consideration from the contractor as determined by the PCO. RFDs that involve a departure from a critical characteristic or involve safety must be approved by the cognizant AIR-4.0 Level II engineering technical authority, or their designated representative, in addition to otherwise defined members of the CCB.

5.16.3 Contractual Requirements

OSD DID (DI-CMAN-80640C) will be incorporated in all contracts as a technical data requirement for submission of Major or critical RFDs.

5.17 Request for Waiver (RFW)

A RFW is a written authorization to accept a CI which, during manufacture or after having been submitted for inspection and acceptance, is found to depart from specified performance requirements, but is considered suitable for use as initially planned or after minor rework by a government approved method. RFWs have been replaced by RFDs and, therefore, will no longer be cited as a requirement in new contracts.

5.17.1 Recurring Waivers

RFWs that are of a recurring nature are usually indicative of inherent design problems, poor OEM/Contractor performance or overly restrictive government specifications. Recurring RFWs will not be submitted to the CCB for approval unless the OPR and PCO obtain a satisfactory corrective action plan from the contractor. When such a condition exists, an ECP will be required and processed following this instruction.

5.17.2 CCB Processing and/or Approval

Requests for Major or Critical waivers will be treated and processed the same as Major (Class I) ECPs. RFDs require consideration from the contractor as determined by the PCO.

5.18 Change Submission

Major (Class I) ECP(s) will be submitted electronically in a format as agreed to by the OPR and the ECP Originator (OEM, Contractor, Depot, etc.). DoD Instruction 5000.2 addresses the electronic transmission of ECPs and related CM data in an XML format. OPRs are encouraged to use EIA-836 in support of their CM programs. OPRs should provide copies of EIA-836 to all team members and stakeholders who have a need to know.

5.18.1 Submission of Major (Class I) ECPs by OEMs/Contractors

ECPs should be submitted electronically to all concerned parties or stakeholders, including AIR-1.1.

5.18.2 Multiple Contractors

When there is more than one prime Contractor involved in the acquisition of a CI, the OPR will incorporate an associate Contractor's agreement in the contract to ensure that all proposed ECPs are coordinated with all involved Contractors for concurrence in classification, prior to being submitted. An ECP classified as Major (Class I) by one Contractor may not necessarily be classified as a Major (Class I) by another, and vice versa. Each prime OEM/Contractor (in some cases there are two or more involved) should be contractually required to coordinate all of their engineering changes with each other prior to submitting them to the government.

5.19 Submission of Major (Class I) ECPs by Government Organizations

Government organizations will submit ECPs the same as OEMs/Contractors.

5.20 Change Implementation

Once a Major (Class I) ECP has been approved or disapproved by the CCB, the OPR will notify the OEM/Contractor or change originator of the decision within 48 hours. Such notification is not intended to nor does it constitute contractual authorization for the ECP originator to implement the approved

change. Such authority and direction comes only from the applicable PCO and/or subsequent contract modification. Change status notification is meant as professional courtesy and for future planning purposes, only.

5.20.1 CCB Change Implementing Actions

All implementing actions identified by the CCB directive (Implementing Instructions CCB Change Directive Implementation form (NAVAIR 4130/4)) shall be complied with in accordance with specified schedule. Major (Class I) engineering changes will be implemented as approved by the CCB. The approved CCB directive is viewed as the OPR's acquisition plan used to acquire a modification. When an approved CCB change cannot be implemented as approved by the CCB, the OPR will notify AIR-1.1 who will determine if a revision to the Major (Class I) ECP and/or to the CCB directive will be required.

5.20.2 Implementation Letter

Major (Class 1) engineering changes will be implemented as approved by the CCB. The approved CCB directive is viewed as the OPR's acquisition plan used to acquire a modification. The OPR shall draft an implementation letter tasking all responsible parties to execute the tasks on NAVAIR 4130/4. The implementation letter must specify dates when actions must be completed by. When an approved CCB change cannot be implemented as approved by the CCB, the OPR will notify AIR-1.1 who will determine if a revision to the Major (Class 1) ECP and/or to the CCB directive will be required.

Exhibit 5-1 DCCB Charter Letter

I. Purpose. In accordance with NAVAIRINST 4130.1D, the (program name) Program Office (PMAxxx) is hereby granted the responsibility and authority for management of all (program name) and associated Configuration Items (CIs). This Charter authorizes PMAxxx to establish a (program name) Decentralized Configuration Control Board (DCCB) to evaluate Engineering Change Proposals (ECPs), Software Trouble Reports (STRs), Rapid Actions Minor Engineering Changes (RAMECs), Specification Change Notices (SCNs), and Deviation Requests, and covers approval and disapproval of all CI documentation changes.

II. Expiration Date. This Charter shall be valid for a period of 2 years from the Acquisition Policy and Process Department (AIR-1.1) signature date, or until revision of the supporting Configuration Management Plan (CMP), whichever occurs first.

III. Background. Currently two Type/Model/Series aircraft are utilized for the (program name) mission (AA-00B) and the (FF-00C). The AA-00B aircraft will commence production during FY05 and will enter System Design and Development (SDD) phase in FY04. The first FF-00C aircraft will be delivered in FY07. PMAxxx is responsible for life cycle management and execution of all material acquisition and integrated logistics support functions for (program name) as outlined in the PMA(xxx) CMP.

IV. Interfaces. The (program name) and all interfaces are defined in, and will be controlled to, approved system specifications.

V. Details. Specific CM practices and procedures are provided in the PMAxxx Configuration Management Plan. During the effective period of this Charter, PMAxxx will maintain status accounting of all approved PMA (program name/type model series (TMS)) aircraft and training system changes.

VI. Revisions. Revisions to this Charter will be made only in writing by AIR-1.1.

AIR-1.1

DATE

DECENTRALIZED CONFIGURATION CONTROL BOARD (CCB PROCEDURES)

The following ECP processing/implementation procedures have been developed as an interim measure to support the decentralization of the NAVAIR CCB Process, and to maintain the accuracy and integrity of the Command's Modification Management Information System (MODMIS). MODMIS was developed by NAVAIR to provide the Program Managers (PMs) with better insight into ECP product development and delivery schedules. It has since been selected by the Joint Logistics Support Center (JLSC) to become part of the new Department of Defense (DoD) Configuration Management Information System (CMIS). Many of the requirements described below will also become decentralized once the necessary automated tools are made available to the PMs.

1. AIR-1.1 shall continue to be added to all NAVAIR contract ECP distribution lists (i.e., CDRL, DD 1423s) for Class I ECPs and requests for Major/Critical Deviations against configuration items that have established product baselines. Where contract distribution lists do not exist, such as in the case of RAMECs, changes may be hand carried or electronically forwarded to the AIR-1.1 Secretariat.

2. Upon receipt, the AIR-1.1 Secretariat will log the ECP(s) into MODMIS. A Document Tracking Number (DTN) will be assigned to each change.

3. Within 30 days after being logged in, the PM, or their respective designee, will notify the AIR-1.1 Secretariat whether the ECP has been accepted or rejected for processing. When accepted, a projected CCB target date must be supplied. When rejected, a justification for the rejection must be supplied. As a program support function, AIR-1.1 and/or Configuration Management, Logistics (AIR-6.8.5.2) will continue to provide PMs with ECP status reports which are designed to preclude excessive ECP backlogs and approval times that delay obligation rates and product delivery cycles. They are also useful for identifying internal ECP processing problems.

4. Once a change has been approved by the cognizant PM, the Configuration Manager will provide (within 10 working days) a copy of the CCB directive to the AIR-1.1 Secretariat who will log in the approval date. That action will result in a permanent CCB number being assigned to the change. When retrofit is involved, the Logistics Manager will also obtain the applicable Technical Directive (TD) Number from the Naval Aviation Technical Data and Engineering Services Command

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(NATEC). Please note that NATEC will not assign a TD number to a change that has not been approved or assigned a permanent CCB number by AIR-1.1. NATEC will be responsible for logging all assigned TD numbers into MODMIS. The Logistics Manager must also provide an approved copy of the CCB directive to the AIR-6.8.5.2 Secretariat who will enter the ECP product delivery cycle development data into MODMIS. This action is necessary to assure the uniformity and accuracy of ECP implementation data.

5. Once chartered by AIR-1.1, PMs will have complete management responsibility for the CCB operations. That will include such tasks as scheduling the boards, preparing and distributing agendas and minutes, and archiving of all dispositioned CCB directives that are 3 years old or older.

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Exhibit 5-2 Request for ECP

IN REPLY REFER TO
Ser AIR-2.3.3.1/XXXX
December xx, 2006

From: Contracting Officer, Naval Air Systems Command
To: Modern Corporation, Aircraft Systems Division
1001 South Main Street
Suite 101
Airplane, USA 10001

Subj: REQUEST FOR ENGINEERING CHANGE PROPOSAL, FUEL SURGE
VALVE, CONTRACT N00019-XX-C-XXXX

Ref: (a) Change Review Board Minutes of 30 Nov 2006
(b) Change Package ECP X-12-500 dated 30 Nov 2006

Encl: (1) Statement of Work

1. As per discussions rendered in reference (a), Modern Corporation is hereby requested to submit a fully supported Engineering Change Proposal (ECP) under the subject contract for the production and retrofit incorporation of the subject change contained in reference (b) as modified in enclosure (1). The proposal shall be distributed in accordance with Contract Data Requirements List (CDRL) A009 of the subject line contract and MIL-HDBK-61A, inclusive of a schedule of implementation and Statement of Work.

2. It is the Program Office's understanding that the non-recurring cost for the incorporation of a Fuel Surge Valve is approximately \$1,000,000. The retrofit price per ship is \$50,000. Notify the program office prior to proposal submission in the event firm pricing drastically exceeds these estimated values.

3. Modern Corporation is requested to provide the ECP no later than 90 days after receipt of this letter. Assume contract award 120 days after receipt of proposal.

4. Please distribute in accordance with CDRL A009 and in addition, one (1) hard copy and one (1) electronic copy (CD-ROM) to the X-12 Air Vehicle IPT Lead and two (2) copies each to the cognizant Modern Corporation DCMA offices.

5. This letter provides direction for proposal purposes only, and does not make changes to the subject contract. If you disagree, please contact the undersigned in writing prior to proceeding. Questions relating to this request can be directed to: Joe Murphy (Contract Specialist) at (XXX) XXX-XXXX, or the undersigned at (XXX) XXX-XXXX.

L. Y. Smith
Contracting Officer
Naval Air Systems Command

Distribution:
AIR-1.1
(**Appropriate Codes XXXX)

Exhibit 5-3 Procedures for Implementation of the Two Part ECP Process

This new ECP process differs significantly from the existing ECP process that first requires government approval of a Class I ECP prior to obligating funding for Non-Recurring (NR) efforts.

APPROVAL OF NR SERVICES AND DELIVERABLES

PART I - Obligating Funding For NR Services and Deliverables.

Step 1 - The PMA/IPT must first request an advance ECP number from the ECP originator. It does not matter if the ECP originator is a defense contractor or government organization. The advance assignment of the ECP number will ensure that all contractual activities associated with the early NR related efforts remain linked together with the formal Class I ECP that follows for proper management oversight at the NAVAIR/DoD acquisition and comptroller levels.

Step 2 - The PMA/IPT must first develop a NR Statement of Work (SOW) which meets criteria specified by DoD Financial Management Regulation (FMR) Volume 2A. The ideal scenario is for the government and contractor to start preparing the NR SOW prior to the receipt of funding. The final NR SOW shall be limited to the following services and/or deliverables:

- Kit prototype design and manufacture/procurement installation
- Installation equipment prototype manufacture/procurement
- Testing of kit prototype and associated equipment
- Technical support associated with the prototype kit and installation equipment
- Formal Class I ECP and validated proposed technical directive that describe the final modification and installation including logistics support

Although funding documents for the NR SOW tasking may be issued prior to receipt of the formal ECP, PMS must still comply with the DoD FMR Volume 2A guidance which defines efforts properly financed from procurement (e.g., Aircraft Procurement Navy (APN)-5) appropriations. Engineering development efforts to determine what a modification will ultimately be or to determine how to satisfy a deficiency are not considered proper activities to be charged to procurement funding, and, therefore, should be

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properly funded from development (i.e., Research, Development, Test & Engineering, Navy (RDT&E, N)) appropriations.

Step 3 - A draft NAVAIR CCB directive shall be prepared and must include the CCB Change Request/Directive form (NAVAIR 4130/1), the Cost and Funding Summary form (4130/2), the Milestone Chart form (4130/3) and the Implementing Instructions CCB Change Directive Implementation form (4130/4). The four page CCB directive will serve as the acquisition requirements and authorization document for Contracts (AIR-2.0) and Comptroller (AIR-10.1) competencies. The NR services and/or deliverables identified and funded by the CCB directive must be limited to those identified in Step 2 above and must be consistent with the final NR SOW. Once the CCB directive has been staffed and approved by the PMA/IPT and AIR-10.1, it shall be staffed to AIR-1.1 for a final technical assessment and assignment of a NAVAIR CCB tracking number. These procedures have been carefully designed to ensure that they do not violate existing DoD financial regulations and that all NR activities and/or deliverables are properly identified, priced, and funded.

APPROVAL OF FORMAL ECP DEVELOPED UNDER PART I

PART II - Staffing, approval and implementation of the formal Class I ECP.

Step 1 - Once the formal ECP has been prepared and submitted to the government PMA/IPT as a NR product deliverable under Part I, the existing NAVAIR ECP/CCB staffing/approval procedures outlined in this instruction will be followed. It is anticipated that the improved quality of the formal ECP developed jointly by contractor and government under Part I of this process will significantly shorten the current ECP staffing, approval and implementation time by approximately 5 to 8 months.

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Exhibit 5-4 Master Government Furnished Equipment List

1. Purpose. This exhibit sets forth processes and procedures for the preparation and use of the Master Government Furnished Equipment List (MGFEL) to support the Configuration Control Process for production, commercial modification/ conversions, and trainer weapon systems programs. Once established, the MGFEL identifies total Government Furnished Equipment (GFE) delivery/installation requirements and GFE procurement plans.

2. Objective. The MGFELs are designed to provide:

a The necessary procedures for the identification and listing of the GFE to be installed in a weapon system or subsystem.

b. The procurement information for:

(1) determining production weapon system GFE installation requirements (i.e., spares, aircraft, missiles, trainers, etc.);

(2) establishing long lead time funding (budget) and procurement of GFE requirements;

(3) planning and coordinating GFE requirements with other agencies.

c. The management oversight of PIDs, specifications, contracts, and related configuration CCB actions.

d. GFE procurement metrics.

e. Status accounting data (i.e., configuration changes which may be needed to support program reviews, cost summaries, audits, etc.).

3. Definition. The weapon system MGFEL is a primary CM document and appendix to the weapon system specifications. MGFELs are maintained for each FY for all production, commercial modification/conversions, and trainer weapon system programs. The MGFEL including all changes authorized is referenced in weapon system specifications cited in the contract. Subject to applicable limitations or qualifications contained in program directives, the approved MGFEL constitutes authority to procure the GFE specified. Similarly, no GFE provisioning for a specific weapon system program will be executed until the MGFEL is approved.

4. Responsibility. It is the PM/OPR responsibility to incorporate in all weapon systems, the most suitable equipment that will fulfill their missions as dictated by operational requirements while being consistent with reliability, maintainability, supportability, standardization and economy to the end item. Also, the PM/OPR will not expend APN or Other Procurement Navy (OPN) funds for procurement of GFE unless Approval for Production/Limited Production requirements have been met. MGFELs are to be prepared for all new and commercially modified weapon systems programs procured by NAVAIR including those for the USN, USMC, USAF, USA, USCG, and FMS.

5. MGFEL Format. A MGFEL is established for each FY for each type/model/series of production, commercial modification/conversions, and trainer weapon system programs. It generally consists of five parts:

- a. Signature/approval page;
- b. Directory of management/cognizant activity codes;
- c. Contingency items;
- d. Planned delivery schedule(s); and
- e. Weapons Replaceable Assembly (WRA) GFE listed in Service Identification Number (SIN) (internal tracking number) order.

6. MGFEL Database Support. The approved MGFEL is maintained by the AIR-1.1 utilizing an unclassified Web-based system. The real time computer database system known as the Integrated Production Management System (IPMS) is accessible with User Identification and password credentials. Information available and maintained will provide advance planning for GFE procurements, PID and contract numbers assigned to procure GFE, program long lead budgeting, logistic support requirements, contractual GFE delivery information from contractual documents as well as prime contractors receipts, aircraft BUNO, and financial planning execution data. The approved MGFEL is kept current by numbering consecutively all changes which includes both administrative and CCB approved actions. Based on the approved MGFELs, GFE procurement plans indicating delivery dates for first delivery, contract awarded PID release will be developed and initially distributed by November. Updates will be provided/available on an "as needed" basis to all groups directly related to the program and the associated GFE procurements. Current approved MGFELs are stored in Portable

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Document Format (PDF) and available through the AIR-1.1 Web site <https://home.navair.navy.mil/pmcwebtool/> with the appropriate User Identification and password.

7. MGFEL Maintenance. Changes to the approved MGFEL, which are Class 1 as defined in Chapter 5 and MIL-HDBK-61A, including changes in quantity per weapon system and changes in specifications or drawings as appropriate, shall be submitted on the CCB Master Government Furnished Equipment List (MGFEL) Change form (NAVAIR 4130/6) and approved by the appropriate AIR-1.1 representative prior to approval by the CCB/DCCB. Once approved, changes will be incorporated into the applicable MGFELs and distributed via hardcopy, e-mail, and posted to the AIR-1.1 Web site. When appropriate, (i.e., not part of an ECP), MGFEL changes may be submitted for approval to the CCB/DCCB as an omnibus/administrative change request.

8. Action. Using dates in terms of months prior to the start of the planned FY, the following actions must be taken by the respective Naval Aviation Systems team (NAST) action code to facilitate an executable program:

a. Comptroller (AIR-10.0). Twenty-seven months prior to execution FY (July). As directed by OSD, update the Future Year Defense Program (FYDP). The updates will reflect the Congressional Budget, Congressional Authorization Request, and OSD approved outyear quantities for the weapon system.

b. Program Manager/Office of Primary Responsibility (PM/OPR)

(1) Twenty-five/twenty-six months prior to execution FY (August-September). Review planning MGFELs and ensure that breakout lists (CCB formats) have been completed and approved.

(2) Twenty-four months prior to execution FY (October). Co-chair conferences with AIR-1.1 to review and update planning MGFELs for each planned weapon system program including FMS. The findings of these reviews provide the basis for approving and publishing MGFELs.

(3) Twenty-three months prior to execution FY (November). Review and approve MGFELs.

(4) Twenty-two months prior to execution FY (December). Draft necessary planning program directives authorizing actions for GFE advance procurement including training equipment requirements within limitations as considered appropriate.

c. Acquisition Policy and Processes Department (AIR-1.1)

(1) Twenty-six months prior to execution FY (August). Publish and distribute planning MGFELs to PM/OPRs, Class Desk, Assistant Program Manager for Logistics (APML), support personnel, etc.

(2) Twenty-five months prior to execution FY (September):

(a) Establish Production Lead Times (PLT) with GFE buyers;

(b) Establish Installation Lead Times (ILT) in coordination with Tasking Activity (PM/OPR)/Performing Activity (Prime Contractor);

(c) Establish ALTs in coordination with contracting activity;

(d) Review and code MGFEL items for transfer of procurement cognizance from NAVAIR to the procuring activity (NAVICP Philadelphia and other activities); and

(e) Develop and distribute MGFEL conference schedule.

(3) Twenty-four months prior to execution FY (October). Convene and serve as Chairperson or Co-Chairperson for MGFEL configuration conferences and make a record of any decision relative to:

(a) planned weapon system delivery schedule;

(b) lead times for all phases of GFE procurement cycle;

(c) RTD&E studies required and funding authorizations;

(d) prototype and flight test requirements;

(e) contingency items due to breakout, obsolescence, upgrades, etc.;

(f) GFE breakout proposals (approved by CCB Chairperson and PM/OPR); and

(g) training requirements.

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(4) Twenty-three months prior to execution FY (November). Prepare final MGFEL and obtain functional signatures (AIR-1.1, PM, CM Manager, APML, Class Desk, GFE Coordinator).

(5) Twenty-two months prior to execution FY (December). Publish and distribute approved MGFEL.

d. Assistant Commander for Research and Engineering - Class Desk (AIR-4.0)

(1) Twenty-five/twenty-six months prior to execution FY (August-September). Compile/analyze data for updating additions/changes to MGFELs; data will include, but not be limited to:

(a) studies and prototypes;

(b) contingency items;

(c) corrections to specification number, nomenclature, equipment weights, lead times, etc.;

(d) prepare CCB worksheets for CFE to GFE breakout;

(e) originate changes, as required, for consideration by appropriate CCB; and

(f) flight test requirements, ground support, and test equipment requirements.

(2) Twenty-four months prior to execution FY (October). Class Desk and Project Engineers attend MGFEL conferences.

(3) Twenty-three months prior to execution FY (November). Class Desk and Project Engineers review and sign final MGFELs.

e. Assistant Commander for Contracts (AIR-2.0)

(1) Twenty-four months prior to execution FY (October). Provide information as to contract administrative lead time (ALT) and advise on any other relevant contractual matters.

(2) Twenty-three months prior to execution FY (November):

(a) Assist in finalizing GFE lead time requirements;

and

(b) Begin preparation and processing of GFE requirements.

f. Systems Training Program Office - PMA205

(1) Twenty-six months prior to execution of FY (August):

(a) Assist in finalizing ALT requirements; and

(b) Initiate action to determine trainer equipment requirements.

(2) Twenty-four months prior to execution FY (October):

(a) In conjunction with AIR-6.0, submit MGFEL worksheets for training requirements; and

(b) Attend MGFEL conference.

g. Assistant Commander for Logistics and Industrial Operations (AIR-6.0)

(1) Twenty-six months prior to execution FY (August)

(a) Assist in finalizing ALT requirements; and

(b) In conjunction with PMA205, initiate action to determine trainer and training equipment requirements.

(2) Twenty-four months prior to execution FY (October):

(a) APMLs and Logistic Element Managers (LEMs) attend MGFEL Conference; and

(b) Coordinate attendance of NAVICP personnel at the MGFEL Conference.

(3) Twenty-three months prior to execution FY (November). APML review and sign concurrence with MGFEL.

(4) Twenty-two months prior to execution FY (December).

(a) Initiate actions to develop requirements for provisioning documentation service repair parts, technical manuals, for the GFE to be procured;

(b) Initiate actions to develop requirements for provisioning support material documentation, service repair parts, technical manuals and support material lists for the ground support and test equipment required in support of the GFE to be procured; and

(c) In conjunction with NAVICP, initiate development of requirements for maintainability, support analysis, reliability improvements, demonstrations, interfaces and spare support.

CHAPTER 6 CHANGE PROCESSING AT NAVAL AIR SYSTEMS COMMAND

6. CHANGE PROCESSING AT NAVAL AIR SYSTEMS COMMAND

6.1 Purpose

To provide information and guidance for processing a proposed change to a CI within NAVAIR.

6.2 Application

The procedures in this chapter shall be followed when processing Major (Class I) ECPs including RAMECs as well as Major (Class I) or critical Deviations and Waivers.

6.3 Office of Primary Responsibility (OPR)

The OPR is the program office or code that has overall management responsibility for one or more CI(s). The OPR is responsible for preparing, staffing, implementing and archiving all configuration changes in accordance with this instruction and the OPR's approved CMP.

6.3.1 Dedicated Configuration Manager

Each OPR shall designate a Configuration Manager responsible for all aspects of CM for assigned programs.

6.3.2 OPR Implementation of Major (Class I) Engineering Changes

With the exception of Compatibility Changes, as described in Table 6-3 and Table 6-4 of MIL-HDBK-61A, Major (Class I) engineering changes and major or critical deviations or waivers shall not be implemented prior to NAVAIR CCB/DCCB approval. Compatibility changes do not preclude the requirement for the formal submission of a Major (Class I) ECP.

6.4 e.Power

The NAVAIR SIGMA e.Power workflow ECP approval tool and CyberDOCs document repository system shall be used by all OPRs to prepare, coordinate, approve, and archive all Major (Class I) ECPs. RAMECS, waivers, and deviations will continue to be processed outside of e.Power pending updates to the ECP e.Power tool to facilitate specific business rules associated with those types of engineering changes. The SIGMA Program Office (PMA203) assigns e.Power access levels for each of the tool's functions.

Each function differs by role. Requests to process Major (Class I) ECPs outside of e.Power must be approved by the NAVAIR Centralized CCB Chairperson (AIR-1.1) using specific procedures. These procedures apply to all Major (Class I) ECPs processed through both the NAVAIR CCB and the DCCBs chartered by AIR-1.1. Each non-urgent ECP to be processed for CCB review/approval outside of the e.Power ECP tool must be brought to the Centralized CCB Chairperson accompanied by a memorandum signed by the PMA or his/her Deputy requesting processing outside of e.Power. This memo shall state the reason(s) why the ECP cannot be processed using the SIGMA e.Power ECP approval tool. Upon receipt of the PMA Memo and the CCB Request, the CCB Chairperson will determine if hand carry procedures should be authorized. If hand carry is approved for the CCB request, he/she will sign a CCB Hand Carry Approval Sheet, which is initiated by AIR-1.1. The PMA representative will then hand carry the ECP to the appropriate CCB members for review as annotated on the Hand Carry Approval Sheet. In the case of non-urgent ECPs, the requirement to complete hand carry staffing actions within 2 working days as annotated on the approval sheet does not apply, however, the CCB request should be staffed as quickly as possible. Urgent ECPs will continue to be hand carried using the procedures provided in paragraph 6.7.11.1 of this instruction. Additionally, the PMA representative must ensure that the CCB member signs both the NAVAIR 4130/1 and the Hand Carry Approval Sheet. Signatures by CCB members on only NAVAIR 4130/9 will not be considered sufficient. The original copy of all changes approved by the hand carry process shall be provided to the Centralized CCB Secretariat and the OPR should retain a copy for their records.

6.4.1 e.Power Point Of Contact (POC)

Each OPR must identify an internal CM POC who has completed the e.Power Role Based Training (RBT), to manage the implementation of the e.Power ECP workflow tool and coordinate applicable requirements with AIR-1.1. This CM POC is responsible for:

a. Ensuring the OPR Administrator(s) and IPT functional members (i.e., APML/LEM, Class Desk, etc.), who will be responsible for reviewing and/or approving Major (Class I) ECP(s) and other changes in e.Power are role mapped to appropriate roles. Prior to being role mapped, all IPT members must have completed the e.Power Computer Based Training (CBT) to gain access to the e.Power workflow tool. Those mapped to the CCB administration or CCB approval roles must also complete the ECP RBT and be role mapped and identified in e.Power as CCB

voting members. Refer to Exhibit 6-4 for details regarding ECP e.Power Role Mapping;

b. Determining OPR specific business rules which tailor the e.Power process to the OPR's business practices. These business rules shall be published in the configuration control section of the OPR's CMP;

c. Assuring competency and OPR business rules are implemented by auditing e.Power results;

d. Assigning alternates when necessary, periodically validating the user access list, assuring timely updates of role/personnel changes, and ensuring team members are role mapped and trained; and

e. Assigning a trainer for e.Power/CyberDOCs who has completed the required RBT and certification to monitor and communicate updates of the workflow tool and train any personnel on the PMA team who require RBT.

6.5 ECP NAVAIR-1.1/6.8.5.2 CCB Secretariat OPR Administrator Role

This role is performed by AIR-1.1/AIR-6.8.5.2 personnel. AIR-1.1/AIR-6.8.5.2 personnel will assign the DTNs in e.Power, schedule the Centralized CCB, and assign all CCB numbers. AIR-1.1 and AIR-6.8.5.2 have access to all ECP master Workfolders. Deletion of any ECP master Workfolder after DTN assignment can only be accomplished by AIR-1.1.

6.6 e.Power ECP Workflow Process Roles

There are four e.Power ECP roles assigned by the e.Power POC. They are:

a. ECP/CCB Administrator, hereafter referred to as the OPR Administrator;

b. ECP Review;

c. CCB Review; and

d. CCB Approval.

6.6.1 e.Power ECP/CCB e.Power OPR Administrator Role

The OPR Administrator(s) responsibilities include:

- a. Creating the ECP Workfolder and the routing and tasking of the ECP and CCB request to the IPT members via e-Power;
- b. Determining ad hoc staffing requirements, overall coordination (ensuring system accessibility of users), document control/management and resetting of document security throughout the process; and
- c. Providing specific directions to all who review/approve and comment on the ECP/CCB documents and directing preparation of the CCB request.

The OPR Administrator should be the person or persons on the program who manages the configuration change control process. This role is empowered to record and make decisions for the program office with regard to the management of configuration control in the e.Power ECP workflow approval process. In addition, the OPR Administrator complies with the OPR's local and competency business rules for e.Power ECP processing and identifies issues for OPR POC resolution.

6.6.2 ECP e.Power Review Role

This role is performed by the functional IPT members (logistics, engineering, training, safety, contracts, supply, etc.) identified by the CM POC that are responsible for reviewing the technical adequacy of the ECP(s) and supporting documentation. Those performing this role may sub route Workfolders for more detailed review. They may also add and edit documents in the Workfolder as allowed by OPR business rules.

6.6.3 CCB e.Power Review Role

This role is performed by the functional IPT members (NAVICP, Training, Logistics, Engineering, Contracts, Safety, Supply, etc.) identified by the POC who are responsible for reviewing the technical adequacy of the ECP(s) and supporting documentation post Decision Memorandum (DM). Those performing this role may sub route Workfolder for more detailed review.

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6.6.4 CCB e.Power Approval Role

This role is performed by the CCB voting members who review, provide comments and approve/disapprove CCB requests.

6.7 e.Power ECP Processing Steps and Corresponding Roles

The following paragraphs contain the basic practices for processing ECPs using the e.Power tool. For more specific information, see the Business Process Overview Training (BPOT) and the participant's guide. For additional information refer to Career Development link under <https://mynavair.navair.navy.mil>

6.7.1 Creation and Release of the ECP Workfolder

Once the proposed ECP is received at NAVAIR by the OPR, the OPR Administrator role creates the ECP Workfolder, inserts required metadata, and uploads associated documentation to the folder. When the Workfolder is ready for processing, the OPR Administrator role will release for DTN assignment.

6.7.2 Document Tracking Number (DTN) Assignment

Once a work item is received by AIR-1.1/AIR-6.8.5.2, the Secretariat will:

- a. verify that the metadata and documentation is complete, and the ECP is locked;
 - b. enter the DTN in the Workfolder metadata; and
 - c. release or reject the Workfolder to the OPR for action.
- The OPR Administrator must insert the DTN onto all applicable CCB forms.

6.7.3 Initiate ECP Evaluation and Planning Conference

The OPR will conduct an evaluation and planning conference by circulating the Workfolder using advanced offline ad hoc routing in the e.Power workflow tool to determine if the change meets the requirements as stated in the request for proposal. Based on local OPR business rules, the OPR will establish the required routing to ECP reviewers identified by competency and code in the "Description" field of the advanced offline assignment tasking. The OPR Administrator may elect to use a standard

template. Refer to the ECP Workflow Participants Guide for further information on routing templates.

6.7.4 ECP Evaluation and Planning Conference Concurrence

ECP reviewers will indicate concurrence by returning the Workfolder to the OPR. The reviewer must enter his/her name and any comments in the comments box prior to releasing the Workfolder. This is necessary to identify all reviewers. The Workitem History of the ECP Workfolder documents the concurrence. The ECP evaluation and planning conference will include, as a minimum, representatives from the following functional areas:

a. AIR-2.0 will determine the method of contracting and if a justification and approval or certificate of urgency is required, etc. The cognizant PCO will represent AIR-2.0.

b. AIR-6.0 will determine if the change is supportable and ensure that all issues regarding retrofit have been addressed.

c. AIR-4.0 has overall technical responsibility and authority to:

(1) Ensure a formal technical review by the Performance Monitors from all engineering disciplines for flight clearances and ECP.

(2) Ensure that Assistant Program Managers for Systems Engineering (APMSEs) make comprehensive assessments for risk factors, performance predictions, item criticality determinations (i.e., critical safety, critical application, or non-critical), and effectiveness/cost analyses.

(3) Ensure the Technical Review process is applied appropriately to baseline configuration changes.

c. PMA205 will determine if training curriculum and equipment requirements have been identified and addressed.

d. Other Program Management and Functional Support Personnel, as required, will conduct a thorough review of the proposed change when it may affect more than one CI.

6.7.4.1 Change Rejection/Cancellation Letter

If it is determined, as a result of the change proposal evaluation and planning conference, that the change should not be accepted, the OPR will draft a rejection letter (via the PCO) to the originator within 30 days citing the reasons for rejection. The OPR Administrator will upload an electronic copy of the letter into the ECP Workfolder, the folder metadata will be updated, and all of the ECP documents in the folder will be locked down. A for your information (FYI) copy of the Workfolder should be forwarded to the NAVAIR CCB Secretariat (AIR-1.1/AIR-6.8.5.2) and all other concerned parties via offline ad hoc routing with a release selection and comment indicating that the change is canceled. Exhibit 6-1 is a sample rejection letter. Upon receipt of the Workfolder, FYI copy containing the rejection letter, the NAVAIR CCB Secretariat (AIR-1.1/AIR-6.8.5.2) will verify the documents are locked and the metadata updated. Refer to the ECP Workflow Participants Guide for further guidance.

6.7.4.2 Minor Revisions to ECPs

Minor revisions to an ECP (such as those which correct errors, add or delete information, or provide clarifications) may be made by attaching new or revised pages to a new Page 1 of the ECP form. An electronic copy of the document authorizing Minor revisions must be placed in the ECP Workfolder.

6.7.4.3 Major Revisions to ECPs

If the change is to be accepted, but is determined to be technically inadequate, the OPR will draft a letter to the originator requesting an appropriate revision, via the PCO. An electronic copy of this letter will be inserted in the ECP Workfolder and the documents in the folder will be locked. A FYI copy of the folder should be provided to the NAVAIR CCB Secretariat (AIR-1.1/AIR-6.8.5.2) and all other concerned parties with a release comment indicating that the revision has been requested amendment pending is selected in e.Power. Exhibit 6-2 is a sample letter requesting an ECP revision. Revisions will be in accordance with the following:

Major (Class I) revisions to an ECP will be made as a complete revised package of DD 1692-1692/6 or contractor equivalent and attachments.

6.7.4.4 Revision Information

In all cases of revision, the information that differs from the original ECP will be clearly identified. The ECP submittal letter should include information as to whether the revision replaces the prior/existing ECP in its entirety, or provides only change/slip pages. The first revision to an ECP will be identified by entry of "R1" in the revision block of the ECP form. Further revisions of the same ECP will be identified by entry of "R2", "R3", etc. The date of the ECP will be the submission date of the revision. A revision requires complete re-staffing.

6.7.4.5 Initiating an ECP in e.Power

The OPR Administrator role will establish a new Workfolder for the revised ECP and related documentation. The new Workfolder must be sent to AIR 1.1/AIR-6.8.5.2 for Assignment of the Document Tracking Number Revision (DTNR).

6.7.5 Decision Memorandum (DM)

Once the decision has been made to process the change, the OPR will issue a DM within 60 days. The DM provides guidance, establishes the staffing schedule, and documents all agreements reached and actions assigned during the change proposal evaluation and planning conference. It contains applicable cost and funding data and milestone information. All Major (Class I) ECPs, requests for Major (Class I) or critical deviations and waivers, MGFEL changes, and CCB Supplemental Procurement Request/Program Managers Implementation Directive (SPR/PMID) actions require a DM prior to processing. The DM will be inserted in the ECP Workfolder. The OPR Administrator will enter the DM date and update the metadata, as required. The OPR has the option of sending FYI copies of the workitem via off line ad hoc routing to AIR-1.1, AIR-2.0, AIR-4.0, AIR-6.0, Assistant Commander, Corporate Operations (AIR-7.0), PMA205 and all other concerned parties. See Exhibit 6-3 for a sample DM.

6.7.6 Preparation and Assembly of NAVAIR CCB Package

The OPR Administrator will be responsible for preparation and administration of the CCB package to completion, ensuring all inputs received from the IPT review are included. Exhibit 6-5 indicates which of the following CCB forms must be completed and included in the final CCB package submitted to AIR-1.1/AIR-6.8.5.2 in the ECP Workfolder. Official CCB request forms are

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available electronically from the NAVAIR Directives Web site <http://directives.navair.navy.mil/> under "NAVAIR Forms". Only the most current version of the forms may be used. Tailoring/modification of these forms is prohibited.

a. **CCB Change Request/Directive (NAVAIR 4130/1)**. This form provides program management personnel and CCB members with essential information regarding proposed engineering changes.

b. **Cost And Funding Summary (NAVAIR 4130/2)**. This form is used to reflect the total cost of the modification program effort except Operational and Maintenance, Navy (O&MN).

c. **Milestone Chart (NAVAIR 4130/3)**. This form is used to identify the month(s) in which deliveries/implementation is scheduled.

d. **Implementation Instructions CCB Change Directive Implementation (NAVAIR 4130/4)**. This form is used to identify and assign responsibility for all implementing actions resulting from an approved change.

e. **Government Furnished Equipment Requirements (GFE) FY-XX (NAVAIR 4130/5)**. This form is used to identify all GFE required to support an engineering change.

f. **CCB Master Government Furnished Equipment List (MGFEL) Change (NAVAIR 4130/6)**. This form is used when making changes to an approved MGFEL to support an engineering change.

g. **CCB Support Equipment Requirements (NAVAIR 4130/7)**. This form is used to identify support equipment requirements impacted by a change.

h. **CCB System Safety Assessment (NAVAIR 4130/8)**. This form is used to process an engineering change to correct a situation in which there is a potential risk that loss of property or life could occur.

i. **CCB Logistics Staffing Requirements (NAVAIR 4130/9)**. This form is used to certify that a proposed engineering change has been staffed and concurred with by appropriate NAVAIR logistics codes and is ready for approval.

j. **CCB Systems ECP/Flight Clearance Requirement (NAVAIR 4130/9A)**. This form is used to certify that a proposed

engineering change has been staffed and concurred with by appropriate NAVAIR engineering codes and is ready for approval.

k. **CCB Supplemental Procurement Request/Program Managers Implementation Directive (SPR/PMID) (NAVAIR 4130/10 or 10A).**

This form is used to request Follow-on Buy actions for the out years of the modification plan.

l. **CCB Training Systems Requirements (NAVAIR 4130/11).** This form is used to identify all trainer/training systems requirements necessary to support an engineering change.

m. **Controlling Custodian ECP Incorporation Plan (NAVAIR 5215/6).** This form is used to obtain concurrences from the fleet with respect to planned ECP incorporation.

n. **APN-5 Installation Worksheet (InstallDepo Level APN5I Funded Only) NAVAIR 5215/7).** This form shows a detailed breakdown of units to be installed, and the cost and obligation dates for those installations. It is used to compile information for the NAVAIR 4130/2 and 4130/3.

o. **Technical Data Logistic Element Manager (LEM) Engineering Change Proposal Worksheet NAVAIR 4130/13.** This form is required for each change request presented to the CCB. When no technical manuals are affected, this form confirms this. When technical manuals are affected, this form is the single summary of all requirements and funding for all affected technical manuals.

p. **NAVICP ECP Data Sheet NAVICP 4423/39** This form is used to obtain concurrences from NAVICP personnel with respect to effects on configuration and logistics.

6.7.6.1 OPR Final Review and Release for Staffing

At the completion of the staffing described above, the OPR should have the complete documentation for the NAVAIR IPT review. A final assessment of the change proposal will be conducted in light of this review to determine if incorporation of the change is still recommended. The OPR will also obtain appropriate endorsements on the forms from requiring financial managers (RFMs), COs, and all others with implementing actions certifying that the actions are executable. These endorsements must be obtained via advanced offline routing in e.Power.

6.7.6.2 Initiating Final Staffing in e.Power

The OPR Administrator will establish an assignment list for staffing. The description field on the task assignment must show the function and code of the person being assigned a review task. Each reviewer must enter their code and competency and statement of concurrence/non-concurrence for Major (Class I) engineering changes in the release comments when returning the Workfolder to the OPR Administrator.

6.7.7 Staffing of the CCB Package

For staffing process flow chart see BPOT. The DM initiates preparation, assembly, and staffing of the CCB package. In e.Power, this review, comment and concurrence with the change is accomplished by the OPR Administrator routing of the ECP Workfolder to the required reviewers using advanced offline ad hoc routing. The necessary documents are inserted electronically into the ECP Workfolder via CyberDOCs. After reviewing the change documentation, reviewers must enter their functional code and indicate concurrence/non-concurrence in the release comments when they release the folder to the OPR. If approval/concurrence is withheld, the reason for denial should be included in the comments. All non-concurrences must be reconciled prior to CCB submission. The release action comments and the reviewer identity are captured in the e.Power Workfolder history. A Personal Identification Number (PIN) is required from the safety officer, the cognizant engineer, and the logistics certifier upon completion of their review. (Refer to the ECP e.Power Participant's Guide for information regarding the use of PINs.)

6.7.7.1 AIR-2.0 (Assistant Commander for Contracts)

Will determine how the engineering change can best be contractually implemented, ensure implementation schedule is adequate, and adequate funding is available. If a justification and approval (J&A) and/or a certificate of urgency are required, it will be documented in the DM. AIR-2.0 endorsement must be obtained on NAVAIR 4130/9 prior to submitting the final package to the CCB for action.

6.7.7.2 AIR-6.0 (Assistant Commander for Logistics and Industrial Operations)

Will staff the proposed change following AIR-6.0 internal processing procedures. This staffing must be documented and

concurrred to by completing NAVAIR 4130/9 and 9A. The cognizant APML/LEM is normally responsible for completing NAVAIR 4130/2 and NAVAIR 4130/7, when support equipment requirements are impacted, and the NAVAIR 4130/5, if necessary to support the change. If the change requires modification and/or kit installation at the organizational, intermediate, or depot maintenance level, a NAVAIR 5215/6 must be completed. All logistic support inputs must be coordinated with AIR-4.0 prior to being forwarded to the OPR for inclusion with the final CCB change package. e.Power will route all ECP Workfolders to AIR-6.8.5.2, including Workfolders reviewed by certified APMLs/LEMs. In ECP workflow, at the conclusion of the Configuration Control Board Request (CCBR) review by the required staffing matrix, AIR-6.8.5.2 will enter their PIN and release the ECP Workfolder. e.Power routes the folder to the CCB Secretariat (AIR-1.1/AIR-6.8.5.2) for a CCB number. See Exhibit 6-4 to determine which forms must be completed when processing each type of change.

6.7.7.3 AIR-4.0 (Assistant Commander for Research and Engineering)

Will staff the proposed change following AIR-4.0 internal processing procedures. This staffing must be documented and concurrred to by completing NAVAIR 4130/9A. The cognizant engineer is responsible for completing NAVAIR 4130/1 (NAVAIR 4130/6 if a MGFEL is impacted) and the applicable section of NAVAIR 4130/7 when support equipment requirements are impacted. In e.Power workflow, at the conclusion of the CCB review by engineering, the cognizant engineer will enter their PIN and release the ECP Workfolder to the OPR. All engineering inputs must be coordinated with AIR-6.0 prior to being forwarded to the OPR for inclusion in the final CCB change package. See Exhibit 6-4 to determine which NAVAIR CCB forms must be completed when processing a change.

6.7.7.3.1 GFE Requirements

When a change generates new, or modifies existing GFE requirements, the cognizant engineer must coordinate the CCB package with AIR-1.1 prior to Centralized CCB or DCCB approval. AIR-1.1 will determine the impact the proposed change will have on production requirements (GFE/MGFEL, production effectivity, etc).

6.7.7.3.2 Software Requirements

When a change involves mission-critical computer resources or mission critical computer software (MCCS) requirements, the

cognizant engineer must coordinate the CCB package with the cognizant software office. AIR-4.0 is the cognizant software office for all NAVAIR managed programs. Contact the cognizant AIR-4.0 Class Desk/APML/LEM/Project Engineer/Contracts for applicable code/POC name.

6.7.7.4 PMA205

Will staff the proposed change with applicable AIR-6.0 and AIR-4.0 codes prior to forwarding inputs to the OPR for inclusion with the final CCB package.

6.7.8 NAVAIR CCB Number Assignment and Scheduling

After Logistics certification, e.Power routes the ECP Workfolder to the Centralized CCB Secretariat (AIR-1.1/AIR-6.8.5.2) who enters the CCB number in the Workfolder metadata, schedule the CCB date, and enters target CCB date in the metadata. If under a current approved DCCB charter, the ECP Workfolder will be released to the DCCB OPR Administrator for scheduling and entering the target CCB date in the metadata. Once the CCB request is approved, the Workfolder is routed back to AIR-1.1/AIR-6.8.5.2 for CCB number assignment.

6.7.9 CCB Review

When the CCB has been scheduled, the CCB Chairperson routes the CCB Workfolder via e.Power to the CCB voting members for their review.

6.7.10 NAVAIR CCB Approval

The NAVAIR Centralized CCB and DCCBs will approve or disapprove all Major (Class I) ECPs, requests for Major (Class I) deviations or waivers, and RAMECs. CCB members indicate approval or disapproval (with comment), insert their PIN, and return the Workfolder to the Chairperson. The Chairperson indicates approval or disapproval, enters his/her PIN and releases the Workfolder. Upon release, metadata will automatically reflect approval or disapproval. If a TD is required, e.Power will forward the Workfolder to NATEC for TD number assignment. The e.Power system will forward an approved ECP Workfolder to the OPR Administrator if no TD number is required. The OPR Administrator must enter the CCB and TD numbers on each of the NAVAIR 4130 forms and ensure that all forms and ECP documentation are locked. The Workfolder of a disapproved ECP is returned to the OPR by e.Power.

6.7.10.1 NAVAIR CCB Approval Decisions

Decisions rendered by the CCB may be appealed to the Chairperson. However, such action will be undertaken only in writing via a memorandum from the OPR. In the case of a DCCB, the memorandum would be originated by the change request sponsor and forwarded to the Chairperson. The memorandum must include the basis for the appeal. As a result of this memorandum, the Chairperson will determine whether the proposed change will be reconsidered by the CCB.

6.7.10.2 Workfolder Locked

Upon CCB approval and completion of all implementing tasks, the Master Workfolder is locked and the CCB directive is now accessible in read-only format in the document repository.

6.7.11 Special Change Approval

6.7.11.1 Urgent (Priority Processing) Authorization and Approval

When an emergency or urgent (safety related stoppage, etc.) ECP or a request for a Major (Class I)/critical deviation or waiver requires immediate approval, the OPR may request urgent (hand carry) approval authorization from the CCB Chairperson by the following procedures:

a. The OPR must first hold an evaluation and planning conference and prepare an appropriate CCB request package, including a memorandum signed by the cognizant PM or deputy, citing the urgency and the need for urgent (Priority Processing) approval.

b. The OPR must provide these documents to the Centralized CCB Chairperson who will determine if the proposed change should be urgent (Priority Processed). If hand carry is authorized, the CCB Chairperson will sign a CCB Hand Carry Approval Sheet to authorize hand carry of the CCB request to the CCB members for approval.

c. When urgent (Priority Processing) approval is authorized by the CCB Chairperson, the OPR will carry the completed CCB request to all CCB voting members in order to obtain the required signatures. Voting members will not sign an urgent (Priority Processing) action unless they are confident that the

proposed change, as submitted, can be implemented once approved. Once the required signatures are obtained, the proposed CCB request must be returned to the CCB Chairperson for final action. This process must be completed within 2 working days. If a delay is anticipated, AIR-1.1 must be immediately notified. The OPR representative must ensure that each CCB member signs both NAVAIR 4130/1 and the Hand Carry Approval Sheet. Signatures by CCB members on only NAVAIR 4130/9 and NAVAIR 4130/9A will not be considered sufficient.

d. The original copy of all changes approved by the urgent (Priority Processing) process shall be provided to the Centralized CCB Secretariat and the OPR should retain a copy for their records.

6.7.11.2 Safety Related ECPs

A Safety Related ECP is an engineering change designed to achieve a material improvement, the primary purpose of which is to correct a known deficiency that presents a hazard to the system or the operators. The Program OPR shall work with their assigned System Safety representative (AIR-4.1.6) to complete NAVAIR 4130/8. The ECP is eligible to be designated a Safety ECP if the assessment results in a Hazard Risk Index (HRI) of 1-20. The criticality of items included in the Safety Related ECP assessment shall be evaluated for potential identification and recording as Critical Safety Items (CSIs.) Safety ECPs with a HRI of 11-20 (medium/low risk) will have NAVAIR 4130/8 signed by the assigned System Safety representative. Safety ECPs with a HRI of 1-10 (high/serious risk) shall be routed through the System Safety (AIR-09F3/AIR-4.1.6) PM for signature. Emergent Safety ECPs that have been approved by the System Safety PM are authorized hand carry preferred treatment; are considered eligible for immediate implementation; and provide NAVAIR the authority to obligate and expend funds without waiting for the normal Congressional Notification Process for new starts and eliminating the need for Congressional prior approval or mandated waiting periods of 30 days before executing funding. For further information concerning reprogramming for new starts, please go to <http://www.dod.mil/comptroller>, refer to Volume 3, Chapter 6.

* Emergent Safety ECPs are those ECPs not listed/stated in the appropriated President's Budget Request.

6.7.11.2.1 Red Safety Stamp

The OPR may request a "Red Safety Stamp" from the Aviation Safety Department (AIR-09F1) when the Safety Evaluation form is certified by the System Safety PM to be a HRI of 1-5, or if the OPR is convinced that the Safety ECP is time critical, requiring expediting the response to prevent the loss of life or loss of an aircraft. The Red Safety Stamp is a special designation that certifies that the risk of loss of life or an airframe is so severe that the problem must be corrected, even if funding or support from other NAVAIR resources is required. The Red Safety Stamp authorizes priority handling, the reallocation of resources, and streamlining the acquisition/contractual process as appropriate. When the stamp is requested, the OPR shall deliver the completed ECP package to AIR-09F1 for evaluation and stamping. NAVAIR 4130/8 and the DM must stress the program's commitment to executing the ECP as an urgent safety of flight ECP. NAVAIR 4130/1, the DM, and NAVAIR 4130/8 each require a Red Safety Stamp for submission to the CCB.

6.7.11.3 Interim Changes

In urgent situations where safety or operational readiness is a key factor, an Interim TD may be issued without the requirement for a formal ECP. However, an Interim TD does not replace the requirement for a formal ECP and TD. The use of an Interim TD must be authorized by the CCB Chairperson, concurred with by all CCB voting members, and followed up within 180 days by a formal ECP. NAVAIR 00-25-300, Appendix B, provides policy and procedures for the preparation and staffing of Interim TDs.

6.7.11.4 CCB Supplemental Procurement Request/Program Managers Implementation Directive (SPR/PMID)

Approval of a change authorizes the first year of the procurement only. When a change requires supplemental procurement, Follow-on Buy change packages will be prepared and staffed for each subsequent FY. Subsequent FY requirements will be processed as a follow-on (i.e., CCB No. XX-XXXR1, R2, etc.) to the initially assigned Configuration Control Boards number using NAVAIR 4130/10 and NAVAIR 4130/10A as required. Staffing will include the OPR for issuance of an abbreviated decision memorandum notifying matrix personnel of need/intent to process/staff subsequent FY requirements and the concurrence of cognizant requiring financial managers, the APML, the systems project engineer/class desk, and all other functional codes assigned implementing action. Once these concurrences have been

obtained, the follow-on NAVAIR 4130/1 will be accepted by the CCB Secretariat (AIR-1.1/AIR-6.8.5.2) for approval by the CCB Chairperson. Approval actions will be recorded and published in the CCB minutes.

6.7.11.4.1 Use of SPR/PMID Forms

SPR forms are to be used only for supplemental procurements, i.e., Follow-on Buys. Although the original purpose of the SPR form was always limited to supplemental procurements, there have been many instances of programs using the SPR form for changes to a CCB request that are other than supplemental procurements. Any changes, other than a supplemental procurement, to an approved CCB request must be processed as a revision to the original approved CCB request using the NAVAIR 4130 CCB request forms.

6.7.12 Change Implementation

In order to accelerate change implementation, the OPR will notify the originator and all implementing codes of change approval or disapproval within 48 hours. Such notification will follow procedures established jointly by the OPR and cognizant PCO. The OPR is responsible to generate the PID to implement the CCB action.

6.7.12.1 Change Directive

Once the proposed change package is approved by the CCB, the CCB request/directive becomes a directive from the cognizant PM directing execution of the change by his/her team. If it becomes necessary to modify any of the approved implementing actions, such modifications must be concurred with by the CCB Chairperson. Such modifications may entail additional staffing prior to a revised CCB directive/contract modification being issued.

6.7.12.2 Implementing Instructions

Implementing codes and agencies will carry out all actions identified on NAVAIR 4130/4 (or NAVAIR 4130/10, in the case of a Follow-on Buy). The OPR is responsible for executing these actions and monitoring their status to completion.

6.7.12.3 Responsibility to Monitor Implementation Phase

The OPR must ensure that the implementing codes and agencies tasked as responsible via the CCB directive carry out all actions as directed. The OPR must also monitor overall change implementation through an approved program/project management system, and take necessary action to bring the program back in line when schedule deviations become known.

6.7.12.4 CM Process Monitoring

AIR-1.1 is responsible for maintaining an overall picture of the CM and weapon system modification processes for the Naval Aviation Systems Team and to periodically report the status of the various programs to management. The OPR and implementing codes will provide change implementation data as required to support this requirement.

6.13 Change Cancellations

To cancel all or a portion of a CCB approved change, the OPR must issue a DM citing the reason(s) for cancellation, including estimated cost to cancel and cost incurred. A revision to the previously approved NAVAIR 4130/1 (e.g., CCB No. XX-XXXR1) must then be prepared. The CCB Chairperson will then determine what staffing must take place before the cancellation action can be approved. Such actions are normally staffed through all codes having prior implementing action(s). The cancellation action will be brought back before the CCB for formal concurrence. The change package must address or reflect the cancellation of the implementing action from the previously approved change package.

Exhibit 6-1 Sample Rejection Letter

IN REPLY REFER TO
Ser AIR-2.3.3.1/XXXX
December xx, 2006

From: Contracting Officer, Naval Air Systems Command
To: Modern Corporation, Aircraft Systems Division
1001 South Main Street
Suite 101
Airplane, USA 10001

Subj: CONTRACT N00019-XX-C-XXXX; INSTALLATION OF ENGINEERING
CHANGE PROPOSAL (ECP X-12-500), FUEL SURGE VALVE,

Ref: (a) Change Review Board Minutes of 30 Nov 2006

Encl: (1) Change Package ECP X-12-500 dated 30 Nov 2006

1. Engineering Change Proposal ECP X-12-500, "Fuel Surge Valve, Installation of," submitted as enclosure (1) to reference (a) has been considered by the Naval Air Systems Command and is rejected. The improved capability or utility proffered, when weighed against the requirement and/or the service status of the aircraft, does not justify the cost.

2. Your initiative and effort in preparing the engineering change proposal are appreciated. Questions relating to this review can be directed to: Joe Murphy (Contract Specialist) at (XXX) XXX-XXXX, or the undersigned at (XXX) XXX-XXXX.

L. Y. Smith
Contracting Officer
Naval Air Systems Command

Distribution:
AIR-1.1
(**Appropriate Codes XXXX)

Exhibit 6-2 Sample Letter Requesting an ECP Revision

IN REPLY REFER TO
Ser AIR-2.3.3.1/XXXX
December xx, 2006

From: Contracting Officer, Naval Air Systems Command
To: Modern Corporation, Aircraft Systems Division
1001 South Main Street
Suite 101
Airplane, USA 10001

Subj: REQUEST FOR A REVISED ENGINEERING CHANGE PROPOSAL, FUEL
SURGE VALVE, CONTRACT N00019-XX-C-XXXX

Ref: (a) Change Review Board Minutes of 30 Nov 2006
(b) Change Package ECP X-12-500 dated 30 Nov 2006

Encl: (1) Statement of Work

1. As per discussions rendered in reference (a), Modern Corporation is hereby requested to submit a revised and fully supported Engineering Change Proposal (ECP) under the subject contract for the production and retrofit incorporation of the subject change contained in reference (b) as modified in enclosure (1). Your ECP did not address the maintenance tools and tests sets required to service the new fuel surge valve, which you have specified. The proposal shall be distributed in accordance with Contract Data Requirements List (CDRL) A009 of the subject line contract and MIL-HDBK-61A, inclusive of a schedule of implementation and Statement of Work.

2. It is requested that you provide NAVAIR a revised ECP to address the above requirements. Our engineers and logisticians will be available for telephone discussions, of a meeting to discuss the details.

3. Modern Corporation is requested to provide the revised ECP no later than 90 days after receipt of this letter. Assume contract award 120 days after receipt of proposal.

4. Please distribute in accordance with CDRL A009 and in addition, one (1) hard copy and one (1) electronic copy (CD-ROM) to the X-12 Air Vehicle IPT Lead and two (2) copies each to the cognizant Modern Corporation DCMA offices.

5. This letter provides direction for proposal purposes only, and does not make changes to the subject contract. If you disagree, please contact the undersigned in writing prior to proceeding. Questions relating to this request can be directed to: Joe Murphy (Contract Specialist) at (XXX) XXX-XXXX, or the undersigned at (XXX) XXX-XXXX.

L. Y. Smith
Contracting Officer
Naval Air Systems Command

Distribution:
AIR-1.1
(**Appropriate Codes XXXX)

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Exhibit 6-3 Decision Memorandum

MEMORANDUM

From: PMAXXX

To: Distribution

Subj: DECISION MEMORANDUM FOR GRUMMAN ECP NO. GR-EA-6B-270;
CANOPY JETTISON HANDLE SAFETY LATCH DATED 1 NOVEMBER 04

NOTE: Subject matter will be unclassified and must include the name of the ECP OEM/Contractor and the configuration item affected.

Ref: (a) NAVAIRINST 4130.1D

Encl: (1) Draft Milestone Chart

1. The purpose of the subject Engineering Change Proposal (ECP) is to prevent inadvertent jettison of the EA-6B canopy during normal flight operations.
2. As required by reference (a), an ECP evaluation/planning conference was held on 1 October 2004 with representatives from the Contracts Division (AIR-2.X.X), the Training Systems Program Office (PMA205.X.X.X), the Logistics Management Division (AIR-6.X.X and the Systems Engineering Division (AIR-4.X.X).
3. As a result of this ECP evaluation/planning conference the following actions were assigned:
 - a. PMAXXX will also be responsible for preparing the draft Justification and Approval (J&A) in narrative form and monitor its approval status. Technical program personnel will assist the program office as may be required.
 - b. AIR-2.X.X will prepare the smooth J&A utilizing the draft inputs provided by the program office. AIR-2.X.X will also assist PMAXXX in obtaining the required approvals.
 - c. AIR-6.X.X will staff the change following Assistant Commander, Logistics and Industrial Operations' (AIR-6.0) internal procedures and will prepare and provide PMAXXX the applicable Cost and Funding Summary and Milestone Chart for inclusion into the formal Configuration Control Board (CCB) Change Request/Directive (NAVAIR 4130/1). The Assistant Program Manager for Logistics (APML) will also coordinate the proposed

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change with Support Equipment Program Office (PMA260) and Systems Training Program Office (PMA205).

d. AIR-4.X.X will staff the change following the Assistant Commander, Research and Engineering (AIR-4.0) internal procedures and will prepare and provide PMAXXX the NAVAIR 4130/1. AIR-4.0 will coordinate all significant engineering changes with Commander Operational Test and Evaluation Force (COMOPTEVFOR) and will complete a CCB Systems Engineering ECP/Flight Clearance Requirement certification form (NAVAIR 4130/9A) as may be required. AIR-4.X.X coordination with AIR-6.X.X, Acquisition Policy and Processes Department (AIR-1.1) and PMA205 will also be required.

e. PMA-205.X.X.X will coordinate and provide all aviation training inputs to AIR-6.0.

f. AIR-1.1 will coordinate with AIR-4.X.X to complete the CCB Master Government Furnished Equipment List (MGFEL) Change form (NAVAIR 4130/6) for supporting the proposed change.

4. The staffing and implementation of the subject ECP will be based on the following guidance:

- a. NAVAIR Routing Priority: Routine;
- b. Desired Production Effectivity: Serial No. X-XX; and
- c. Funding identified and reserved:

APN-1 thru 4	\$ XXX,XXX.XX
APN-5	\$ XXX,XXX.XX
APN-6	\$ XXX,XXX.XX
O&MN	\$ XXX,XXX.XX

5. This change will be presented to the NAVAIR Centralized CCB or Program Office Decentralized CCB on XX/XX/XX. Staffing of the subject ECP must be completed and all inputs provided to PMAXXX by XX/XX/XX.

6. A draft milestone chart (NAVAIR 4130/3) identifying the planned implementation of the change is provided as enclosure (1).

I. MANAGE
PMAXXX

Distribution:

NAVAIRSYSCOM (AIR-1.1, 2.XX, 4.XX, 4.1.F, 6.0, 6.XX, 10.X,
PMA205, PMA209, PMA260 if applicable)

(NOTE: Minimum recommended distribution codes).

AIR-1.1	(Acquisition Policy and Processes Department)
AIR-2.X.X	(Cognizant Contracting Officer/Contract Specialist)
AIR-6.X.X	(Cognizant APML)
AIR-4.X.X	(Cognizant Engineer/Class Desk)
PMA205X	(Training Systems Program Office)
AIR-10.X	(Program and Budget Policy)

ENDORSEMENTS:

Exhibit 6-4 SIGMA e.Power ECP Workflow Role Mapping and Training Process

SIGMA e.Power ECP WORKFLOW ROLE MAPPING PROCESS

1. Role mapping for all SIGMA roles must be done by the person's supervisor using the SIGMA automated role-mapping process.
2. All SIGMA ECP role mapping requests will be verified by the cognizant PMA's CM manager & approved by AIR-1.1 via e.Power.
3. IMPORTANT: Role mapping should be completed prior to training to ensure training certification can take place in order to grant user access for the assigned role.

SIGMA ePower ECP WORKFLOW TRAINING PROCESS

1. Training requirements are determined by the individual's approved SIGMA ECP role.
2. Depending on the role, training consists of CBT and a combination of CBT and "Over the Shoulder" RBT. RBT is taught by certified instructors in each PMA.

SIGMA ePower ECP WORKFLOW ROLES and required training

1. CCB ADMINISTRATION ROLE
 - a. Responsible for managing and tracking the ECP. Prepares the ECP for the CCB process.
 - b. The CCB Administration Role requires both CBT and "Over the Shoulder" RBT
2. ECP REVIEW ROLE
 - a. Reviews the ECP and provides comments.
 - b. The ECP Review Role requires only CBT.
3. CCB REVIEW ROLE
 - a. Reviews the CCB request package.
 - b. The CCB Review Role requires only CBT.

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4. CCB APPROVAL ROLE. Approves the ECP and CCB request after it has been prepared, reviewed, and comments reconciled.

a. Requires both CBT and "Over the Shoulder" RBT

b. Only a member of the NAVAIR Centralized CCB or a member of a DCCB identified as a CCB voting member in the PMA's CMP may be mapped to this role.

SIGMA e.Power ECP WORKFLOW TRAINING CERTIFICATION

1. CBT certification occurs when the trainee successfully completes the CBT and faxes his/her certificate of completion to their site training coordinator.

2. RBT certification occurs when the PMA certified trainer notifies AIR-1.1 that the person has demonstrated the understanding and ability to perform the required tasks in e.Power and advises AIR-1.1 of this. AIR-1.1 certifies the person as trained to the Patuxent River site training coordinator.

Exhibit 6-5 CCB Forms Matrix

		TYPE OF CHANGE							
FORM NUMBERS	Configuration control Board (CCB) Change Request Forms/Documents	Formal Engineering Change Proposals (ECPs)	DT / OT	RF D* ** *	R F W	R A M E C	S P R / S P I D F O B		
		ECP ¹	2 Part						
			Part 1	Part 2					
	Request for Proposal (RFP) Letter	√	√	*√					
	Statement of Work (SOW)		√						
	Decision Memorandum/Document	√	√ ⁴	√		√	√ ⁵ √ ²		
NAVAIR 4130/1	CCB Change Request/Directive	**√	√	√	√	√	√		
NAVAIR 4130/2	Cost and Funding Summary	√	√	√	√	*√	*√		
NAVAIR 4130/3	Milestone Chart	√	√	√	√	√	√		
NAVAIR 4130/4	Implementing Instructions CCB Change Directive Implementation	√	√	√	√	√	√		
NAVAIR 4130/5	Government Furnished Equipment (GFE) Requirements	*√		*√	*√				
NAVAIR 4130/6	CCB Master Government Furnished Equipment List (MGFEL) Change	*√		√					
NAVAIR 4130/7	CCB Support Equipment Requirements	*√		√	*√		*√		
NAVAIR 5215/6	Controlling Custodian ECP Incorporation Plan ((Type Commanders (TYCOM) Concurrence)) O & I Level Installations Only	√	*	√	*√		N o t e ⁶ *√		

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NAVAIR 4130/8	CCB System Safety Assessment	*√	*	*√					
NAVAIR 4130/9	CCB Logistics Staffing Requirements	√		√	√	√	√	√	* * * √
NAVAIR 4130/9A	CCB Systems Engineering ECP/Flight Clearance Requirement	√		√	√	√	√	√	√
NAVAIR 4130/10	CCB Supplemental Procurement Implementation Directive								√
NAVAIR 4130/10A	CCB Supplemental Procurement Implementation Directive (Continuation Sheet)								√
NAVAIR 4130/11	CCB Training Systems Requirements	• √	*	*√	*√			•√	* √
NAVAIR 5215/7	APN-5 Installation Worksheet (InstallDepot Level APN5I Funded Only)	* √	•	*√	*√				• √
NAVAIR 4130/12	CCB Operational Test Readiness Review (OTRR) Requirements	• √	*	*√					
NAVAIR 4130/13	Technical Data Logistic Element Manager (LEM) Engineering Change Proposal Worksheet	• √	•	*√	*√			•√	* √
NAVICP 4423/39	NAVICP ECP Data Sheet	* √	*	•√	•√			*√	* √

* If Applicable ** Includes Admin Change ***
Optional ****N/A on New contract

1. LECP and VECF are included in the Formal ECP column.
2. May use block 2 Correspondence # of 4130/10 in lieu of a separate decision memo.
3. New or revised implementing instructions, use Blk 18 of 4130/10.
4. Specific evidence representing PMA's intent to execute the ECP.
5. Represents the TYCOM concurrence message.
6. This form may be used for note 5.

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Exhibit 6-6 CM Logistics Information Systems and Functions**RAMP Resource Allocation Management Program**

Provides a common information utility to support long range planning of aircraft inventory requirements, configuration and warfighting capability, unit operating schedules and depot workload, resulting in an improved budget submission and execution. Used for aircraft scheduling. Requires manual input of data from Aircraft Engine Management System (AEMS) and TDSA systems. Used by PMA/IPT, Fleet and TYCOM personnel. Provides the 'AS IS' of Selected Tracked Weapon Replaceable Assemblies (WRA) and Subassemblies (SRAs) whose current configurations are impacted by an approved TD. In-addition, provides a common utility to support the long range planning of actual inventory requirements, identifies the current War fighting capability of a specific weapon system by providing a complete listing of both incorporated and non-incorporated TD changes, allows the scheduling and milestone assignments of incorporations needed to support the units operating schedule, and provides a complete depot workload scheduler.

CMIS Configuration Management Information System

NAVAIR's authoritative source for Work Unit Codes (WUCs) and provides as is configuration identification function as Optimized Organizational Maintenance Activity (OOMA) data is entered by baseline managers. Used by Fleet Service Teams (FST), NAVAIR and NATEC to update aircraft WUC Manuals. This system has other capabilities that are being used by other services (CMIS is a purple - tri-service system). This system could, for example, absorb TDSA and Kit Management Inventory System (KITMIS), but would require additional funding to do so. The funding has been identified in the Navy Program Related Logistics (NPRL) budgets. Long range plans include migrating all these systems into Enterprise Resource Planning (ERP) or deckplate.

TDSA Technical Directive Status Accounting

TDSA database includes incorporated and unincorporated TDs and kits lists. It also contains the NA 500C, a Technical Directive Index that displays all currently applicable TDs for all TMS aircraft.

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KITMIS Kit Management Information System

The KITMIS database is used by the TD Kit Managers to manage and provide visibility to TD kit transactions including, kit shipments, receipts, requisition status, inventory levels and reclamation actions.

KITMIS Kit Management Inventory System

Modification kit inventory and tracking. Used by the Fleet and NAVAIR kit managers when the Fleet orders modification kits.

CHAPTER 7 CONFIGURATION STATUS ACCOUNTING

7. CONFIGURATION STATUS ACCOUNTING (CSA)

7.1 Definition of CSA

CSA is the process of creating and organizing the knowledge base necessary for the performance of CM. In addition to facilitating CM, the purpose of CSA is to provide a highly reliable source of configuration information to support all program/project activities including program management, systems engineering, manufacturing, software development and maintenance, logistic support, modification and maintenance. CSA includes the reporting and recording of the implementation of changes to an item's configuration.

7.2 Purpose of CSA

The purpose of CSA is to:

- a. Assist the OPR in the management of the acquisition process, including design development, technical reviews, configuration audits, tests and evaluation, production, and planned integrated logistic support;
- b. Provides current change implementation status; and
- c. Provides accurate and expeditious updating of the current configuration identification of an item for assuring adequate support.

7.3 Implementation of CSA

7.3.1 CSA Recording

The OPR will ensure that the CSA data necessary to manage configuration identification effectivity is reported and recorded during all acquisition phases in a structure or format consistent with MIL-STD-482B and this instruction.

7.3.2 Data Item Description (DID) (DI-CMAN-81253A)

This DID shall be invoked as a technical data requirement for CSA reports in all PEO/NAVAIR contracts.

7.4 Mission Essential Subsystems Matrices

The OPR will ensure that the Mission Essential Subsystems Matrices established for each model, type, or series of aircraft are updated within 30 days of approval of an engineering change.

7.5 Joint Service Programs

A NAVAIR OPR participating in joint service programs will maintain CSA following the mutual CMPs and/or agreements approved for those programs..

7.6 Technical Directive Status Accounting (TDSA)

The TDSA system provides on-line CSA for naval aircraft, engines, support equipment, maintenance trainers, and serial numbered weapon system components. The TDSA system gathers TD application and compliance data on individual equipment items and provides that data in the form of tailored automated reports, to operating and management activities. The TDSA databases reside within the Naval Aviation Logistic Data Analysis (NALDA) system. The data is accessible through the NAVAIR NALDA Web site: <http://logistics.navair.navy.mil/TDSA> and provides the Incorporated/Not-Incorporated (INC/NINC) status of TDs applicable to each trackable equipment item (airframes, engines, support equipment, and maintenance trainers) and incorporation data for TDs which apply to components. TDSA also provides projected modification man-hour requirements and summary reports for modification management and budgeting. For further information refer to NA 00-25-300 (NAVAIR TD System) manual.

APPENDIX-A ACRONYMS

ABL	Allocated Baseline
ACB	Allocated Configuration Baseline
ACD	Allocated Configuration Documentation
ACO	Administrative Contracting Officer
AEMS	Aircraft Engine Management System
ALT	Administrative Lead Time
ANSI	American National Standards Institute
APML	Assistant Program Manager for Logistics
APMSE	Assistant Program Manager for System Engineering
APN	Aircraft Procurement Navy
BOSS	Buy Our Spares Smart
BUNO	Bureau Number
CAI	Critical Application Item
CBT	Computer Based Training
CCB	Configuration Control Board
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CILOP	Conversion in Lieu of Procurement Program
CKA	Central Kitting Activity
CI	Configuration Item
CLIN	Contract Line Item Number
CM	Configuration Management
CMIS	Configuration Management Information System
CMP	Configuration Management Plan
COMNAVFOR	Commander, Naval Air Forces
COMNAVAIRESFOR	Commander, Naval Air Reserve Force
COMOPTEVFOR	Commander, Operational Test and Evaluation Force
COTS	Commercial Off the Shelf Item
CSA	Configuration Status Accounting
CSCI	Computer Software Configuration Item
CSI	Critical Safety Item
DCCB	Decentralized Configuration Control Board
DCMA	Defense Contract Management Agency
DRRB	Data Requirements Review Board
DFARS	Defense Federal Acquisition Regulation Supplement
DID	Data Item Description
DLA	Defense Logistics Agency
DM	Decision Memorandum
DoD	Department of Defense
DSPO	Defense Standardization Program Office
DRRB	Data Requirements Review Board
DTN	Document Tracking Number
DTNR	Document Tracking Number Revision
ECN	Engineering Change Notice
ECO	Engineering Change Order

ECP	Engineering Change Proposal
EIA	Electronic Industries Association
ELIN	Exhibit Line Item Number
ERP	Enterprise Resource Planning
FAA	Federal Aviation Administration
FBL	Functional Baseline
FCA	Functional Configuration Audit
FCB	Functional Configuration Baseline
FCD	Functional Configuration Documentation
FMS	Foreign Military Sales
FRC	Fleet Readiness Center
FY	Fiscal Year
FST	Field Service Team
FYDP	Future Year Defense Program
F3I	Form, Fit, Function, and Interface
GFE	Government-Furnished Equipment
HTML	Hypertext Mark-up Language
INC	Incorporated
IPT	Integrated Product Team
ISO	International Standardization Organization
J&A	Justification and Approval
KIN	Kit Identification Number
KITMIS	Kit Management Information System
LECP	Logistics Engineering Change Proposal
LEM	Logistics Element Manager
LOA	Letter of Agreement
LRIP	Low Rate Initial Production
MCN	Modification Change Notice
MGFEL	Master Government Furnished Equipment List
MIL-STD	Military Standard
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
NACMED	Naval Aviation Configuration Management Expertise Development
NALCOMIS	Naval Aviation Logistics Command Management Informations System
NALDA	Naval Aviation Logistic Data Analysis
NAMP	Naval Aviation Maintenance Program
NAST	Naval Aviation Systems Team
NAVAIR	Naval Air Systems Command
NAVAIRINST	Naval Air Systems Command Instruction
NAVICP	Naval Inventory Control Point
NATEC	Naval Air Technical Data and Engineering Command
NAWC	Naval Air Warfare Center
NDI	Non-Developmental Item
NINC	Not Incorporated
NOMMP	Naval Ordnance Maintenance Management Program

NOR	Notice of Revision
NPRL	Navy Program Related Logistics
NUCALTINST	Nuclear Alteration Instruction
NWS	Naval Weapons Station
OAG	Operations Advisory Group
OEM	Original Equipment Manufacturer
O&MN	Operation and Maintenance, Navy
OOMA	Optimized Organizational Maintenance Activity
OPN	Other Procurement, Navy
OPNAV	Office of the Chief of Naval Operations
OPNAVINST	Office of the Chief of Naval Operations Instruction
OPR	Office of Primary Responsibility
ORD	Operational Requirements Document
OSD	Office of the Secretary of Defense
O&S	Operational & Support
OSIP	Operational Safety Improvement Program
OTRR	Operational Test Readiness Review
PBL	Product Baseline
PCA	Physical Configuration Audit
PCD	Product Configuration Documentation
PCO	Procurement Contracting Officer
PDM	Program Decision Memorandum
PEO	Program Executive Office
PEO(A)	PEO Air Anti-Submarine Warfare, Assault and Special Mission Program
PEO(JSF)	PEO Joint Strike Fighter Program
POE(T)	PEO Tactical Air Program
PEO(W)	PEO Strike Weapons and Unmanned Aerial Vehicles
PID	Procurement Initiation Document
PIN	Personal Identification Number
PLT	Production Lead Time
PMA	Program Manager Air
PMCS	Program Management community Support Department
POC	Point of Contact
POM	Program Objective Memoranda
PSCN	Proposed Specification Change Notice
RAMEC	Rapid Action Minor Engineering Change
RAMP	Resource Allocation Management Program
RBT	Role Based Training
RDT&E	Research, Development, Test and Engineering
REM	Remanufacture
RFD	Request for Deviation
RFM	Resource Financial Manager
RFP	Request for Proposal
RFW	Request for Waiver
SCN	Specification Change Notice

SDD	System Design and Development
SIGMA	Site Information Generation and Material Accountability Plan
SLEP	Service Life Extension Program
SPR	Supplemental Procurement Request
SPR/PMID	Supplemental Procurement Request/Program Managers Implementation Directive
SOW	Statement of Work
STR	Software Trouble Reports
SYSCOM	Systems Command
TCTO	Time-compliance Technical Order
TD	Technical Directive
TDP	Technical Data Package
TDSA	Technical Directive Status Accounting
TYCOM	Type Commander
UAV	Unmanned Aerial Vehicle
VAL/VER	Validation/Verification
VECP	Value Engineering Change Proposal
WRA	Weapons Replaceable Assembly
WUC	Work Unit Code
XML	Extensive markup Language

APPENDIX-B TERMS AND DEFINITIONS

Allocated Baseline (ABL)

The approved allocated configuration documentation.

Approval

The agreement that an item is complete and suitable for its intended use.

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, etc.

Computer Database

See "Database".

Computer Software

See "Software".

Computer Software Configuration Item (CSCI)

A configuration item that is computer software.

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.

Configuration

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

Configuration Audit

See: "Functional Configuration Audit (FCA)" and "Physical Configuration Audit (PCA)".

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Configuration Baseline

1. An agreed-to description of the attributes of a product, at a point in time, which serves as a basis for defining change.
2. An approved and released document, or a set of documents, each of a specific revision; the purpose of which is to provide a defined basis for managing change.
3. The currently approved and released configuration documentation.
4. A released set of files comprising a software version and associated configuration documentation. See: "Allocated Baseline (ABL)", "Functional Baseline (FBL)", and "Product Baseline (PBL)".

Configuration Control

1. A systematic process that ensures that changes to released configuration documentation are properly identified, documented, evaluated for impact, approved by an appropriate level of authority, incorporated, and verified.
2. The CM activity concerning: the systematic proposal, justification, evaluation, coordination, and disposition of proposed changes; and the implementation of all approved and released changes into (a) the applicable configurations of a product, (b) associated product information, and (c) supporting and interfacing products and their associated product information.

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.

Configuration Control Board Directive (CCB/Directive)

The document that records the ECP approval (or disapproval) decision of the CCB and that provides the direction to the contracting activity either to incorporate the ECP into the contract for performing activity implementation or to communicate the disapproval to the performing activity.

Configuration Documentation

Technical documentation, the primary purpose of which is to identify and define a product's performance, functional, and physical attributes (e.g., specifications, drawings) (Also known as: Allocated Configuration Documentation [ACD], Functional Configuration Documentation [FCD], and Product Configuration Documentation [PCD].)

Configuration Identification

1. The systematic process of selecting the product attributes, organizing associated information about the attributes, and stating the attributes.
2. Unique identifiers for a product and its configuration documents.
3. The CM activity that encompasses 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.

Configuration Item (CI)

Any hardware, firmware, or software, or combination of that satisfies an end use function and is designated for separate CM. CIs are typically referred to by an alphanumeric identifier which also serves as the unchanging base for the assignment of serial numbers to uniquely identify individual units of the CI. (Also known as: Product-Tracking Base-Identifier.) Note: The terms "CI" and "Product" are identified as aliases in ANSI/EIA 649 and are used interchangeably within this handbook.

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.

Configuration Management Plan (CMP)

The document defining how CM will be implemented (including policies and procedures) for a particular acquisition or program.

Configuration Status Accounting (CSA)

The CM activity concerning capture and storage of, and access to, configuration information needed to manage products and product information effectively.

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 (e.g., buyer) and a performing activity (e.g., seller).

Critical Application Item (CAI)

An item that is essential to weapon system performance or operation, or the preservation of life or safety of operating personnel, as determined by the military Services. The subset of CAIs whose failure could have catastrophic or critical safety consequences (Category I or II as defined by MIL STD 882) is called CSI.

Critical Characteristic

Any feature throughout the life cycle of an item, such as dimension, tolerance, finish, material or assembly, manufacturing or inspection process, operation, field maintenance, or depot overhaul requirement that if non-conforming, missing, or degraded may cause the failure or malfunction of the item.

Critical Safety Item (CSI)

A part, assembly, installation equipment, launch equipment, recovery equipment, or support equipment for an aircraft or aviation weapons system that contains a characteristic of any failure, malfunction, or absence which could cause a catastrophic or critical failure resulting in the loss or serious damage to the aircraft or weapons system, an unacceptable risk of personal injury or loss of life, or an uncommanded engine shutdown that jeopardizes safety.

Design Change

See: "Engineering change".

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.)

Document

A self-contained body of information or data that can be packaged for delivery on a single medium. Some examples of documents are: drawings, reports, standards, databases, application software, engineering designs, virtual part-models, etc.

Engineering Change

1. A change to the current approved configuration documentation of a CI.
2. Any alteration to a product or its released configuration documentation. Effecting an engineering change may involve modification of the product, product information and associated interfacing products.

Engineering Change Proposal (ECP)

The documentation by which a proposed engineering change is described, justified, and submitted to (a) the current document change authority for approval or disapproval of the design change in the documentation and (b) to the procuring activity for approval or disapproval of implementing the design change in units to be delivered or retrofit into assets already delivered.

Fit

The ability of an item to physically interface or interconnect with or become an integral part of another item.

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Firmware

Firmware is software (programs or data) that has been written onto Read-Only Memory (ROM) and is a combination of Software and hardware. ROMs, Programmable Read-Only Memory (PROMs) and Erasable Programmable Read-Only Memory (EPROMs) that have data or programs recorded on them are firmware.

Form

The shape, size, dimensions, mass, weight, and other physical parameters that uniquely characterize an item. For software, form denotes the language and media.

Function

The action or actions that an item is designed to perform.

Functional Baseline (FBL)

The approved functional configuration documentation.

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.

Functional Configuration Audit (FCA)

The formal examination of functional characteristics of a configuration item, or system to verify that the item has achieved the requirements specified in its functional and/or allocated configuration documentation.

Hardware

Products made of material and their components (mechanical, electrical, electronic, hydraulic, and pneumatic). Computer software and technical documentation are excluded.

Interface control

The process of identifying, documenting, and controlling all performance, functional and physical attributes relevant to the interfacing of two or more products provided by one or more organizations.

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Modification Directive

The documentation that indicates the approval of, and direction to implement, a modification request.

Nonrecurring Costs

As applied to an ECP, one-time costs that will be incurred if an engineering change is approved and which are independent of the quantity of items changed, such as cost of redesign or development testing.

Notice of Revision (NOR)

A document used to define revisions to configuration documentation which require revision after ECP approval. (See also "Engineering Change Proposal (ECP)".)

Original

The current design activity's documents or digital document representation and associated source data file(s) of record.

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 CI's PBL.

Product Baseline (PBL)

The approved product configuration documentation.

Product Configuration Documentation (PCD)

A CI's detail design documentation including those verifications necessary for accepting product deliveries (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.

Recurring Costs

Costs that are incurred on a per-unit basis for each item changed or for each service or document ordered.

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Release

The designation by the originating activity that a document representation or software version is approved by the appropriate authority and is subject to configuration change management procedures.

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 and into products already delivered to and accepted by customers.

Retrofit Instruction

The document that provides specific, step-by-step instructions about the installation of the replacement parts to be installed in delivered units to bring their configuration up to that approved by an ECP. (Sometimes referred to Alteration Instruction, Modification Work Order, Technical Directive, or Time Compliance Technical Order.)

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 product-tracking base-identifier.

Software

Computer programs and computer databases.

Specification

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

Specification Change Notice (SCN)

See: "Engineering Change Proposal (ECP)".

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Support Equipment

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

System

A self-sufficient unit in its intended operational environment, which includes all equipment, related facilities, material, software, services, and personnel required for its operation and support.

Tasking Activity

An organization that imposes the requirements contained in a contract or tasking directive on a performing activity (for example: a Government Contracting Activity that awards a contract to a contractor, a Government Program Management Office that tasks another government activity, or a contractor that tasks a subcontractor.)

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.)

Technical Data Package (TDP)

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.

Technical Documentation

See "Technical Data".

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 CI and its documentation has a high probability of meeting contract requirements.

Training Equipment

All types of maintenance and operator training hardware, devices, audio-visual training aids, and related software.

Version

1. One of several sequentially created configurations of a data product.
2. A supplementary identifier used to distinguish a changed body or set of computer-based data (software) from the previous configuration with the same primary identifier. Version identifiers are usually associated with data (such as files, databases and software) used by, or maintained in, computers that are used to train maintenance and operator personnel by depicting, simulating, or portraying the operational or maintenance characteristics of an item or facility; are kept consistent in design, construction, and configuration with such items in order to provide required training capability.

Waiver

See "Deviation".