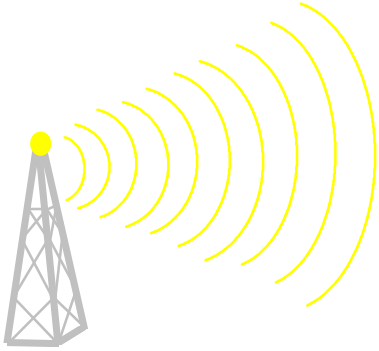
NAVAL AVIATION SYSTEMS TEAM DATAGRAM



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CONFIGURATION MANAGEMENT

LESSONS LEARNED

CONFIGURATION MANAGEMENT - In too many of our military acquisition programs neither the purchaser nor contractor truly understand the concept of configuration management throughout the life cycle of a project, and their resulting efforts may be too little and too late to achieve adequate configuration control. The results can be disastrous relative to operational maintenance, sparing, future design modifications and production. ***The application of configuration control on any acquisition project is essential, and for effective utilization, it must be tailored to fit the size and complexity of the project.*** It is critical that corporate policy recognize the importance of proper configuration management in the development of a new project. It must also emphasize the importance of generating adequate Configuration Management Plans of implementation.

A program manager's CMP must be streamlined, yet it must adequately encompass the entire life cycle, recognizing the requirements and complexity of the project or item involved. As a minimum, it must establish the mode of operation and interface relationship between the contractor, purchaser and/or user. ***In the past, government generated boilerplate policies or the simple invoking of Military Specifications and Standards as a substitute, resulted in overly simplified or overly complex approaches to managing acquisition projects.***

Proper Integrated Product Team (IPT) staffing and reasonable delegation of authority are critical to the success of configuration management programs. The recent practice of staffing configuration management organizations primarily with administrators lacking good technical background, or using configuration management billets as a training ground for new or transient personnel, results in weak configuration management.

In cases where the configuration management organization is subordinate to either engineering or manufacturing, its function will often become less objective and more subjective in nature. As a result, decisions of a controversial nature will tend to be strongly influenced by the wishes of the activity which it is subordinate. Such decisions are often based upon what is best suited to satisfy the short-term cost or schedule requirements rather than what may be conducive to a sound configuration management policy for the overall life cycle of the project.

Program Managers and IPT personnel must recognize that configuration management is a discipline that organizes and implements, in a systematic fashion, the process of documenting and controlling the configuration requirements of a project. Its antithesis is chaos, confusion, crisis and adverse cost and schedule impact. ***Whenever configuration management is perceived to be a roadblock, and methods are improvised to bypass this function to satisfy schedule requirements, it may be construed as an early warning that system design and management integrity has been compromised***.

Premature, unauthorized, unidentified, and uncoordinated engineering change proposals introduced in a project during the transition from development to production are generally the root of spares identification and field maintenance problems, once the system or item is delivered to the field. ***Purging stock of unusable part numbers without issuing new part numbers is shirking responsibility***. Failure to assign new part numbers with each new configuration change will invariably result in the installation of wrong part number in higher assemblies, where rework and reidentification are more costly.

Specifically selected structural or functional detail parts, assemblies and subassemblies which require special control through design, manufacture, test and delivery must be subjected to added controls. These parts will require specific identification to enable them to be tracked through manufacture, procurement, inspection, storage, spare and test history. Over the life of a project, this approach becomes the most cost effective.

Typical indicators of effective configuration management programs are strong Change Control Boards (CCB) and status accounting systems that invoke timely feedback requirements from the contractor(s) and the field. This should enable program managers to avoid the costly efforts required to continuously procure and install retrofit kits which are often not compatible with the actual configuration item(s) requiring modification.

Program Managers and IPT personnel must realize that an adequate configuration management program will help ensure that:

- ***A technical balance is maintained between management and design activities.***
- ***Design maturity will always be known.***
- ***The design will meet contractually specified detail or performance requirements.***
- ***The design will be incrementally certified.***
- ***Design release systems and manufacturing build will be compatible.***
- ***Solutions to surprise problems can be expedited.***
- ***Long lead time items will be available when needed.***
- ***Other Team disciplines will have influenced the final design.***

LOGISTIC ENGINEERING CHANGE PROPOSALS (LECPS) - The LECP process is currently executed by the Naval Inventory Control Point (NAVICP) Philadelphia, PA. through the "Buy Our Spares Smart (BOSS) III" program. By using the LECP program to modify or replace existing items with more reliable ones, the Naval Aviation Systems Team is reaping both near and long term benefits. Unfortunately, there appears to be some confusion throughout the Naval Aviation Systems TEAM with respect to the LECP process. In a nutshell, a LECP is like any other "R"coded (Cost Reduction) Class I ECP. The major difference is that LECPs are largely sponsored and funded by NAVICP and are primarily geared toward Reliability and Maintainability (R&M) improvements that will significantly reduce the life-cycle support costs of NAVICP managed items.

TWO STAGE PROCESS: The LECP program is basically a two-stage ECP process. The first stage addresses how the NAVICP, in conjunction with NAVAIR and its other customers, identifies high potential LECP candidates through R&M data collection and Return-On-Investment (ROI) analysis. The second stage deals with the actual request, receipt, staffing, approval and contractual implementation of approved LECPs. Once a LECP is received at NAVAIR (Configuration and Data Management Division, AIR-1.3.3) and logged in the Modification Management Information System (MODMIS), it is generally processed the same as any other Class I ECP (see NAVAIRINST 4130.1). Although CCB processing time for a LECP, as with any other Class I ECP, may vary depending upon the quality and complexity of the change, it is largely dependent upon the amount of management attention given to it by the cognizant PM. In order to accrue maximum cost savings, LECPs should always be placed high on the PM's ECP priority list. As always, the cognizant Assistant Program

Managers for Logistics (APMLs) must play a key role in the execution of this program.

PROGRAM TEAM AND COMPETENCIES: When processing LECPs, PMs must remember to seek the advice of the TEAM's senior functional competency leaders. This is an essential step toward improving TEAM communications and developing the necessary skills that are necessary for moving us forward into the new acquisition environment.

Note: Information regarding the LECP process is available on internet at URL:

http://www.code05.icpmech.navy.mil/bossiii/homepage.htm

MILITARY SPECIFICATIONS AND STANDARDS UPDATE

MIL-STD-2549 (Configuration Management). This (draft) military interface standard, which establishes common government/industry business rules (conceptual schema) for the DOD Automated CMIS, recently completed the standard DOD review/coordination cycle. As a result, over 1200 combined Industry/Government comments have been collected and dispositioned by the OSD Configuration Management Advisory Group (CMAG). The standard is receiving strong support from both industry and government organizations. It is tentatively scheduled for release early CY-97.

EIA-IS-649 (Industry Standard for Configuration Management). EIA/IS-649 has been prepared in partnership with the DoD Configuration Management Advisory Group (CMAG). Under direction of the DoD Standards Improvement Council, MIL-STD-973 will be canceled only when a non-government standard (Industry Standard EIA 649--the follow-on recommended ANSI version) and a coordinated version of the "Configuration Management Database Interface Standard" are available. The Interface Standard MIL-STD-2549 being prepared by the CMAG, with significant EIA and other industry association participation, addresses the unique DoD CM information requirements, defines the terminology used by DoD, and contains the conceptual schema (business rules view) of the "to be" standard DoD CM Information System (CMIS). The conceptual schema is presented as a relational data model and data dictionary. It standardizes the interface with the CMIS enabling contractors to interface directly and supply information (e.g., engineering change proposals) electronically.

MI**L-STD-973 (Configuration Management).** (***No change since the last Datagram***.) This military standard is still valid for contractual applications with an approved waiver. Is should be used by programs as the primary CM guide document for building complete and comprehensive CM Statements of Work (SOW).

MIL-HDBK-61 (DRAFT) Configuration Management Requirements: This handbook will provide program/project mangers with guidance for implementing adequate CM programs. It is still under development by the OSD CMAG, but it is tentatively scheduled to be released (for formal coordination) concurrently with the release of MIL-STD-2549. (May 97)

***NOTE*:** *The ECP Management guide is currently available from the Configuration and Data Management Division (AIR-1.3.3). However, when using it, particularly in a competitive environment, it is essential that the procurement contracting officer (PCO) be the lead participant when making first contact with the Contractor(s) to ensure that neither the letter nor the spirit of the Federal Acquisition Regulations (FAR) are violated.*

NAVAIRINST 4130.1D (DRAFT) NAVAIR Configuration Management Manual*: (No change since the last Data Gram.)* This Team instruction is currently being updated to reflect the latest acquisition reform and CAO organizational changes. *Unfortunately, this effort is being delayed due to the numerous Configuration Management policy issues still being worked at the higher levels.*

MIL-STD-498 Software Development & Documentation: The U.S. Commercial

standard J-STD-016-1996 was jointly developed by the Electronic Industries Association (EIA) and the International Association of Electrical and Electronic Engineers (IEEE) to provide American Industry the basis to compete nationally and internationally in commercial and government markets. This soon-to-be released standard is the US implementation of the international standard for software life cycle processes, ISO/IEC 12207. It is an expansion of the interim software standard, J-STD-016-1996. The DSIC concurred with ongoing effort to convert MIL-HDBK-498 to a commercial standard. Target completion for this effort is June 1997. Check out the document improvement action web site at:

http://www.acq.osd.mil/es/std/improve.html

MIL-STD-100G: Expected release date June 97. The contractual application of MIL-STD-100 is permissible providing it is required and fully justifiable that a DoD activity be the design activity or the applicable end item requires government logistic support**.**
Y14.100M has a planned release date to coincide with the release of MIL-STD-100G. In order to contractually apply the drawing practice standards the top level document would be:

MIL-STD-100G for DoD unique requirements
ASME Y14.100M Engineering Drawing Practices
ASME Y14.24 Types and Applications of Engineering Drawings
ASME Y14.34 Parts Lists, Data Lists & Index Lists
ASME Y14.35 Revisions of Engineering Drawings and Associated Lists

MIL-DTL-31000A (Technical Data Packages (TDP) Draft) This military detail specification, has been formally reviewed by the DoD components and awaiting approval. After approval a waiver must be granted prior to citing this document on defense contracts.

CCB FORMS

CCB Forms are in Microsoft Word 6.0 and available for download from the NAVLAN. Please follow the steps below for access:
1. Under Windows
2. Open the O Drive on your computer
3. Open the MODMASTER Directory
4. Open the FORMS directory
5. Download to appropriate drive/directory

Note: PMA-205 has developed a new CCB form to address/enhance the implementation of training requirements. The new form is similar to the GFE for SE form and will be included in the new NAVAIRINST 4130.1D

DATA MANAGEMENT (DM)

DoD Data Management: Requiem or Renaissance?

Some in the DoD community are suggesting that DoD data management will soon disappear based on the following rationale:

- contractors will manage all truly necessary contract data,
- contractors will in turn make that data available automatically to their DoD partners on Integrated Product Teams (IPTs), and
- DoD, therefore, will not need to place data requirements on contract or manage data.

Fortunately or unfortunately, however, such rumors of the death of DoD data management are greatly exaggerated. The implementation of acquisition reform and new information technologies will dramatically change, but not eliminate, the way DoD acquires and manages data. DoD will need data management more than ever before, but data managers will need to develop new skills and acquisition approaches.

The following are examples of declining DoD data management functions:

- ***Acquiring large quantities of contract data to allow detailed contractor oversight.*** DoD will reduce its contract

data requirements to the minimum necessary to support new performance-based contract requirements.

- ***Requiring physical delivery of data to government repositories and managing those repositories.*** DoD will instead specify that contractors deliver most contract data requirements "in place" at contractor sites. DoD will access that data via Contractor Integrated Technical Information Service (CITIS). The size and number of DoD data repositories will decrease over time.

The following are examples of ascending DoD data management functions:

- ***Advising program managers regarding how contract data can help manage rather than avoid program risks***. Data managers will help program managers identify *key* contract data that can help manage program risk by providing advance warning of potential problems. Data managers will ensure that this key data will be available by continuing to insert data requirements in contracts.

- ***Serving as the program manager's "gatekeeper" for program data***. Program managers will need some level of control over access to program data to ensure data integrity and adequate program control. Contractors will manage configuration of data they generate, but DoD will need to do the same for the data it generates. Data managers will help set and enforce data access rules in an electronic environment.

- ***Ensure that the right data gets to the right people at the right time to support IPT decision making.*** IPT decisions are highly dependent on accurate and timely information. Someone on an IPT will need to ensure that the right data is available to the right IPT members regardless of data source. That person will be a data manager whether or not he or she carries the title. The data manager should represent DoD program manager rather than DoD and contractor interests.

Admittedly, some data managers have traditionally viewed their jobs as acquiring every piece of data that anyone in the program management office might want and then just putting it all in the repository. Such data managers have not concerned themselves with the ability of data users to access and effectively use data once it hits the repository. Data managers who continue to hold such views are dinosaurs and will certainly go away.

On the other hand, data managers will be in great demand who can:

- critically evaluate contract data requirements in terms of the program's acquisition strategy, risk management, and commercial data practices;

- effectively apply information technology to the digital generation, storage, and exchange of program information; and

- proactively manage the flow of information through the IPT to ensure its effective and appropriate use.

Depending on the size of the program, some of these data managers may be part-time. Whether full- or part-time, however, all data managers will need adequate training in data management, acquisition management, and information technology to successfully fulfill this important function.

Data management in DoD is far from dead -- it is undergoing a renaissance.

DoD Data Manager

Mrs. Linda Burger-Fowble, OSD CALS has been assigned the position of the OSD Data Management Officer. Mrs. Fowble is in charge of the DoD Technical Data Management Program.

Data Management Advisory Group (DMAG). This group has recently been revitalized by the CALS Office to assist in the development of requirements, resolve policy and procedural issues; address problems; work new initiatives, including acquisition reform, training, etc. in the area of technical data. The group is chaired by CALS Office (Mrs. Fowble) and supported

by all Services, several other Government Agencies and industry associations.

The draft Manual DOD 5010.12-M, Procedures for the Acquisition and Management of Technical Data (draft 3 Apr 97) has completed the formal coordination cycle for review and comment. Mrs. Burger-Fowble is eager to get this document released. This document will be issued under the authority of DoD-5000.2-R, it prescribes policies for DoD data acquisition and management and Continuous Acquisition and Life-cycle Support (CALS).

The DMAG is also working on a digital system to review and approve the Data Item Descriptions (DIDs) through the internet using a Web Page. This will be beta tested at selected activities in the near future.

DIGITIZED DATABASE OF STANDARDIZATION DOCUMENTS AND DATA ITEM DESCRIPTIONS

All new military and federal standardization documents listed in the DoD Index of Specifications and Standards and DIDs listed in the AMSDL must be submitted to the DoD Single Stock Point in Portable Document Format(PDF) for indexing, printing, and distribution.

In addition to the PDF format you must also submit a paper copy of the document at the same time. The requirement for a paper copy will disappear in the future once any problems with this process have been resolved.

This policy action is still in **draft** and expected to be approved in May/June 97.

TEAM DID's REVISED

DI-ALSS-80037B - Phased Support Plan
DI-MFFP-81336A - Finish Specification

ACQUISITION MANAGEMENT SYSTEM AND DATA REQUIREMENTS CONTROL LIST (AMSDL) The **AMSDL** lists the data requirements (source documents and data item descriptions (DIDs)) that have been approved for use in defense contracts. ***The restriction of public laws regarding information collection by the Federal Government applies to data acquired under DoD contracts.*** The Office of Management and Budget (OMB) Control Number 0704-0188 has been assigned to all data requirements and source documents listed in the AMSDL.

Onetime DIDs may be developed if an appropriate DID is not contained in the AMSDL. Onetime DIDs are approved and assigned numbers by the AIR-1.3.3 DM office.

DIDs and AMSDL on CD-ROM

DoD Single Stock Point is releasing the DIDs and AMSDL on CD-ROM in the very near future. This office will issue information on this as received. It is the intention once this is released it will be placed on the NAVLAN and incorporated into the Standard Procurement System (SPS). Check with these web sites for up-to-date information.

http://www.dodssp.ddas.mil/news.htm
http://www.abm.rda.hq.navy.mil/sps/welcome.html

APPROVAL OF DON WIDE WAIVERS:

The following 23 documents have been granted DoN wide waivers

MIL-STD-129M	**MIL-STD-331**
MIL-STD-461D	**MIL-STD-462D**
MIL-STD-498	**MIL-STD-704E**
MIL-STD-709	**MIL-STD-882**
MIL-STD-1316	**MIL-STD-1385**
MIL-STD-1388-2B	**MIL-STD-1397**
MIL-STD-1425A	**MIL-STD-1512**
MIL-STD-1751	**MIL-STD-1901**
MIL-STD-1911	**MIL-STD-2105**
MIL-S-901	**MIL-D-23140**
MIL-I-23659	**MIL-M-87268**
MIL-D-87269	

Note: Even though these documents have been granted waivers, they still need the approval of the Milestone Decision Authority (MDA) to be cited in the Request for Proposal/contract.

ACQUISITION REFORM
Getting Acquisition Help FAST!

To assist our readers in finding useful acquisition information, we are providing the following list of Universal Resource Locators (URLs):

Defense Acquisition Revolution (OSD Page)
http://www.acq.osd.mil/ar
(OSD Acquisition Initiatives/Reform)
Navy Acquisition Reform:
http://www.acq-ref.navy.mil/
(Navy Acquisition Initiatives and Policies)

Federal Acquisition Reform Net:
http://www-far.npr.gov/
(Acquisition Best Practices)

To use these listings, you need software such as Netscape or Mosaic.

ACQUISITION REFORM COURSES

1. Introduction to Integrated Process/Product Development (IPPD) an Integrated Process Team (IPT) (2 days) HRC

2. Non-Development Item Acquisition PMQ-202 (2 days) DAIWA

3. Commercial Item Description PQM-203 (1 day) DAIWA

4. Open Systems: The Promises and Pitfalls (3 days) HRC
5. Program Managers Work Station (1/2 day) HRC

6. Performance Based Statement of Work (SOW) (2 1/2 days) HRC

7. Defense Specifications Users Course (5 days) DAIWA

8. Defense Specifications Management (10 days) DAIWA

9. Writing Performance Specifications (1day) HRC

10. Performance Specs: Impact on Life Cycle Supportability (1 day) HRC

11. Converting Military Standards (1 day) HRC

Other Courses of Interest

1. Naval Aviation Configuration Management Expertise Development (NACMED)
Sharpen your expertise in configuration management. AIR 1.3.3 and AIR 3.1.8 are sponsoring the four day NACMED course for government employees of the Naval Air Systems Team. If you are involved with aviation configuration management, or associated in any manner with the processing of Engineering Change Proposals to the Central NAVAIR Change Control Board, or an AIR 1.0 certified de-centralized board, you need to attend this course. **If you are an APML, you are required to have this training to obtain written certification to sign for AIR 3.0 as part of a decentralized CCB.** This course is designed to provide you with a working understanding of aircraft configuration management, to include detailed instruction and workshops in modification planning, budgeting, staffing, approval and implementation processes and procedures employed by NAVAIR.
To attend this course please submit a memorandum to AIR 3.1.8 (or, e-mail to MONTILLAMG.JFK@NAVAIR.MIL), note your supervisor's concurrence in the memo. Concurrently, call (703) 413-4100 to register for a specific class date.

Upcoming course dates are: 12-15 May 97
16-19 Jun 97
25-28 Aug 97 (PAX)

2. NAVAIR Technical Directives System Expertise Development (NTDSED) Course.
This course has been developed to educate NAVAIR TEAM members on the NAVAIR TD

system. A prerequisite for this is the NACMED course.
POC is same as the NACMED course.

3. Management Of the Naval Aviation Acquisition Process (4 days) HRC

4. NAVAIR Procurement Process (4 days) HRC