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This report is an integration of information and references dealing with the Navy system/equipment acquisition process, the Department of Defense (DOD) Planning, Programming and Budgeting System (PPBS), and the Navy Training Plan (NTP) process. It is a guide to Defense System and Equipment Training Management in the Naval Education and Training Command (NAVEDTRACOM). Naval Education and Training Command personnel must be

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20. ABSTRACT (continued)

knowledgeable in these topical areas to successfully manage the development of Instructional Systems.

The Guide also provides a compilation of the information, references, and instructions relevant to the accomplishment of CNET defense system/equipment training responsibilities set forth in OPNAVINST 5450.194.

The material provides guidelines for managing NAVEDTRACOM system/equipment training. Specifically, assistance is provided to Chief of Naval Education and Training (CNET) staff Navy Training Plan Officers (NTPOs) in accomplishing their assigned tasks. The document is a ready source of general information and references to directives and instructions containing detailed guidance on the development of Instructional Systems for operation and maintenance of weapon systems and equipments. For the newcomer, the Guide is also a source of rapid orientation for managing systems/equipments training. Although intended primarily for the NTPO, the Guide provides similar orientation and guidance to all NAVEDTRACOM personnel.

TAEG

TRAINING ANALYSIS AND EVALUATION GROUP

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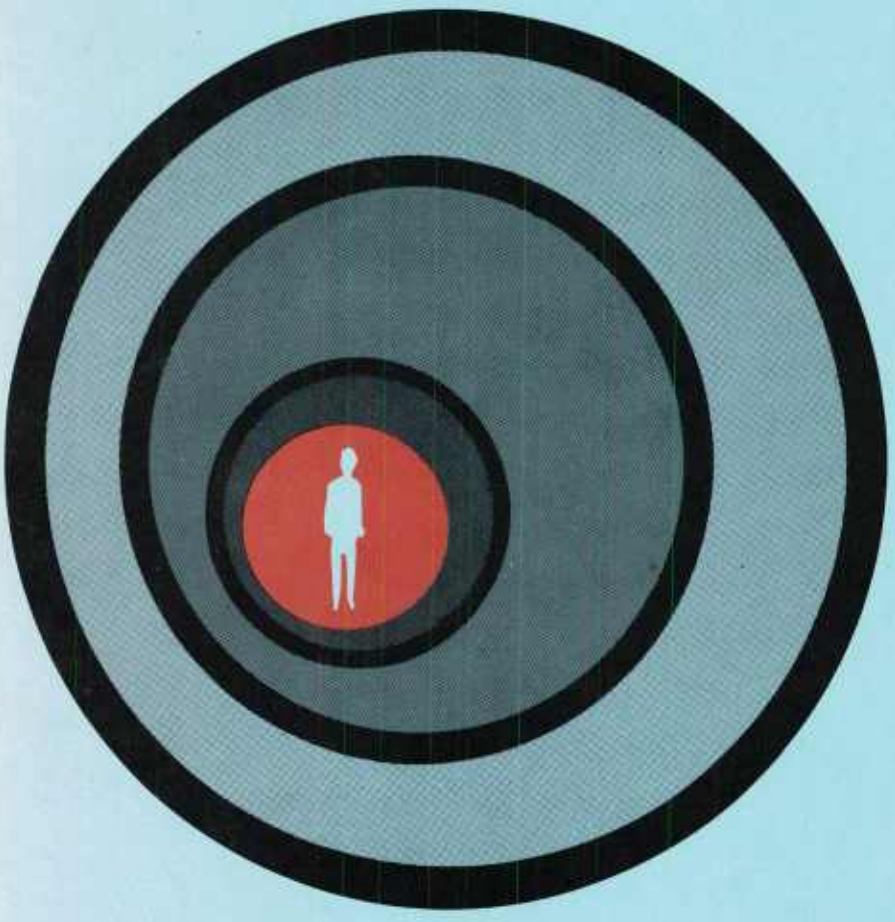

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ORLANDO, FLORIDA 32813

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THE MANAGEMENT OF DEFENSE SYSTEM AND EQUIPMENT TRAINING: A GUIDE FOR THE NAVAL EDUCATION AND TRAINING COMMAND

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The development and preparation of this report has been formidable and inputs from many people have been utilized. Their efforts are gratefully acknowledged.

Various Training Analysis and Evaluation Group (TAEG) personnel have made significant contributions to the Guide, and their dedication has been exceptionally laudable. Without their expertise and concern the Guide would have suffered in breadth and in clarity. Dr. Myron M. Zajkowski contributed considerable technical and editorial assistance in developing the Guide. He has given generously of his time and effort and is in large part responsible for the Guide in its present format. Mr. Morris Middleton provided consistent and wise direction throughout the preparation of the document. Dr. Lysle Mac Keraghan and Mrs. Carol Denton provided technical consultation. The efforts of Miss Ann Caramico are singularly commendable. Hers was the grueling task of editing and preparing the Guide for publication.

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SECTION 1

INTRODUCTION

This report is an integration of information and references dealing with the Navy defense system[1]/equipment acquisition process, the Department of Defense (DOD) Planning, Programming and Budgeting System (PPBS), and the Navy Training Plan (NTP) process. It is a guide to the management of defense system/equipment training in the Naval Education and Training Command (NAVEDTRACOM).

1.1 BACKGROUND

The Chief of Naval Education and Training (CNET), by direction of the Chief of Naval Operations (CNO), is responsible for assigned shore-based education and training of Navy personnel. OPNAVINST 5450.194 details CNET's responsibilities and major functions which include (1) coordination with CNO, the Fleet Commanders-in-Chief, Chief of Naval Material (CNM), and other agencies and activities to insure timely identification of education and training requirements through the review of CNO approved Operational Requirements (ORs) and Development Proposals (DPs) and by participating in the development of the Navy education and training plans, (2) development, acquisition, and provision of education and training material and devices for CNET activities, the Fleet Commanders-in-Chief and others, and (3) assurance that the quality of education and training satisfies and responds to Fleet needs through the use of analysis, feedback systems, and other appropriate methods.

Chief of Naval Education and Training personnel must be knowledgeable in defense systems selection and planning, defense system acquisition, integrated logistic support planning policies, the NTP process, the PPBS, Armed Services Procurement Regulations, and other topical areas to successfully manage the development of Instructional Systems.

The initial opportunity for CNET to estimate education and training requirements for defense system/equipment training is in the ORs, which are prepared in accordance with OPNAVINST 5000.42A. Operational Requirements must give full consideration to manpower costs and to the feasibility of providing personnel with the required skills to operate and maintain the installed system/equipment. Indications of special training support considerations are also included. Additional CNET estimates of training and education requirements can be made for various system alternatives provided by CNM in the DP required by the same instruction.

Subsequent system/equipment related planning documents from which CNET can obtain information to further refine training and education requirements are the Navy Decision Coordinating Paper (NDCP) which is prepared during the preconceptual stage, DCP I which is finalized near the end of the Conceptual Phase, and DCP II which is finalized near the end of the Validation Phase. During Full-Scale Development CNM is required by OPNAVINST 1500.2E to establish and coordinate training programs for the initial cadre of maintenance, operator, instructor, or supervisory personnel. However, regulation and supervision of the Initial Training programs are the responsibility of CNET although such training is normally administered through contracts negotiated by CNM. In such cases, CNET

[1] Defense system, weapon system, and system (when used with system/equipment) are synonymous terms.

is authorized by the Navy Comptroller Manual (NAVSO P-1000) to specify and approve the provisions in the contracts which relate to training of military personnel. The instructional curriculum developed for Initial Training generally provides the core of the curriculum utilized in Follow-on/Replacement Training which is under the cognizance of CNET. Concurrent with the identification of training and education requirements in the Conceptual and subsequent system/equipment acquisition phases, CNET has the opportunity and responsibility to identify required resources for formal Navy School system/equipment training.

1.2 PURPOSE

The purpose of this Guide is to provide a compilation of the information, references, and instructions relevant to the accomplishment of CNET responsibilities which are related to system/equipment training as set forth in OPNAVINST 5450.194.

The material provides guidelines for managing NAVEDTRACOM defense system/equipment training. Specifically, assistance is provided to CNET staff Navy Training Plan Officers (NTPOs) in accomplishing their assigned tasks. The document is a ready source of general information and references to directives and instructions containing detailed guidance on the planning, acquisition, and operation of Instructional Systems for operators and maintainers of defense systems/equipments. For the newcomer, the Guide is also a source of rapid orientation to the managing of systems training. Although intended primarily for the NTPO, the Guide provides similar orientation and guidance to all NAVEDTRACOM personnel.

1.3 ORGANIZATION OF THE GUIDE

As described earlier, this Guide presents a compendium of information concerned with defense system/equipment training management. The interrelationships of the various management functions can best be followed by utilizing the information in the sequence presented. However, the various sections are designed to permit selective use of information relevant to particular aspects of system/equipment training management. Further, the Guide may be utilized as a directory to appropriate official instructions.

Successive sections of the document are devoted to: an overview of defense system/equipment training management, systems/equipments acquisition in the Department of the Navy, integrated logistic support (ILS), training requirements and Navy Training Plans, CNET mission and functions and funding authority related to defense system/equipment Instructional Systems, and NAVEDTRACOM management of defense system/equipment Instructional Systems.

In addition, eight appendices are provided. Appendices A through E give background information on the DOD PPBS. Several appendices (F, G, H) amplify information presented in the text. Appendix F is paragraph 075148, "Training and Instruction of Military Personnel," of the Navy Comptroller Manual. The DCP and Defense Systems Acquisition Review Council (DSARC) are discussed in appendix G, and the overall life cycles of system/equipment and Instructional Systems are depicted in appendix H with keyed references.

1.4 POSTNOTE

The reader is cautioned not to cite the Guide as authority for actions since it is based on instructions applicable at the time of writing. These instructions are notorious for change, and the reader should consult the latest quarterly NAVPUBNOTE 5215, Department of the Navy Directives Issuance System: Consolidated Subject Index, to ensure currency. Notices and staff instructions which are not listed in NAVPUBNOTE 5215 can be obtained from the Directives Control Office of each bureau, agency, office, and command.

SECTION 2

OVERVIEW

2.1 GENERAL

This section presents an overview of the many facets of managing, planning, developing, and operating an Instructional System which provides operators and maintainers for Fleet systems/equipments. Included are Initial and Follow-on Training responsibilities, major directives and instructions, the PPBS, system/equipment acquisition, ILS, NTP, and NTPO responsibilities. This general information provides a prelude to a more complete explication in subsequent Guide sections.

2.2 RESPONSIBILITY FOR SYSTEM/EQUIPMENT DEVELOPMENT

Responsibility for system/equipment development is vested in the Naval Material Command (NMC). The basic concept of the NMC is that of a single, integrated material support agency under the CNO with central responsibility and accountability for total defense/support systems development, procurement, production, and support, including human operator integration, depot maintenance, supply management facility support, and ILS planning.

2.3 TRAINING SUPPORT AGENCY

The NMC is designated as a training support agency (TSA) for the CNO. As such the NMC is responsible for supporting training agencies (TAs) by providing material and other forms of support. That is, NMC is responsible for procurement, installation, removal, and reinstallation of materials for training purposes.

The TSA (NMC) also provides Initial Training (which is performed pending the opportunity for the TA to acquire the capability for training) corollary to the procurement of specialized or technical equipment furnished by the TSA. Procurement appropriations may fund only that part of factory training which is mandatory to instruct an initial cadre of personnel in the techniques of operating and maintaining an equipment under procurement. Normally, this initial cadre is composed of instructional personnel. The scope of Initial Training includes the furnishing for use in schools of those training aids (transparencies, charts, diagrams, films, etc.) or devices normally evolved by the contractor in the course of the following activities:

- production of newly developed end-product equipment
- preparation of technical or instructional publications
- initial instructional training.

(Reference: Navy Comptroller Manual, paragraph 075148)[1]

[1] References which follow paragraphs in this Guide specify instructions and documents from which the information was quoted or derived. For additional information on subjects discussed in the Guide, consult the list of References.

2.4 TRAINING AGENCY

The NAVEDTRACOM is designated as a TA for the CNO. (Other TAs include Fleet Commanders-in-Chief; Cnief, Bureau of Medicine and Surgery; and Chief of Naval Reserve.) As such, NAVEDTRACOM exercises command of and provides support for some major increment of the Department of the Navy's formalized training effort. Initiated after factory training of the nucleus group of personnel for operational training, this effort consists of Navy schooling for personnel to man fleet installations and to replace original personnel (Reference: Navy Comptroller Manual, paragraph 075148).

2.5 DIRECTIVES AND INSTRUCTIONS

Several key directives and instructions provide the basis for the organization of this Guide. Relations between these directives and instructions are illustrated in figure 2.1. Major blocks in figure 2.1 include (1) system/equipment, (2) planning, programming and budgeting, (3) Decision Coordinating Paper/Defense Systems Acquisition Review Council, (4) Integrated Logistic Support, (5) test and evaluation, and (6) training.

Several basic Navy instructions which should be noted include: SECNAVINST 5000.1, OPNAVINST 5000.42A, SECNAVINST 4000.29A, OPNAVINST 4100.3A, OPNAVINST 1500.8H, OPNAVINST 1500.11G, NAVMATINST 4000.20B, and CNETINST 1500.9.

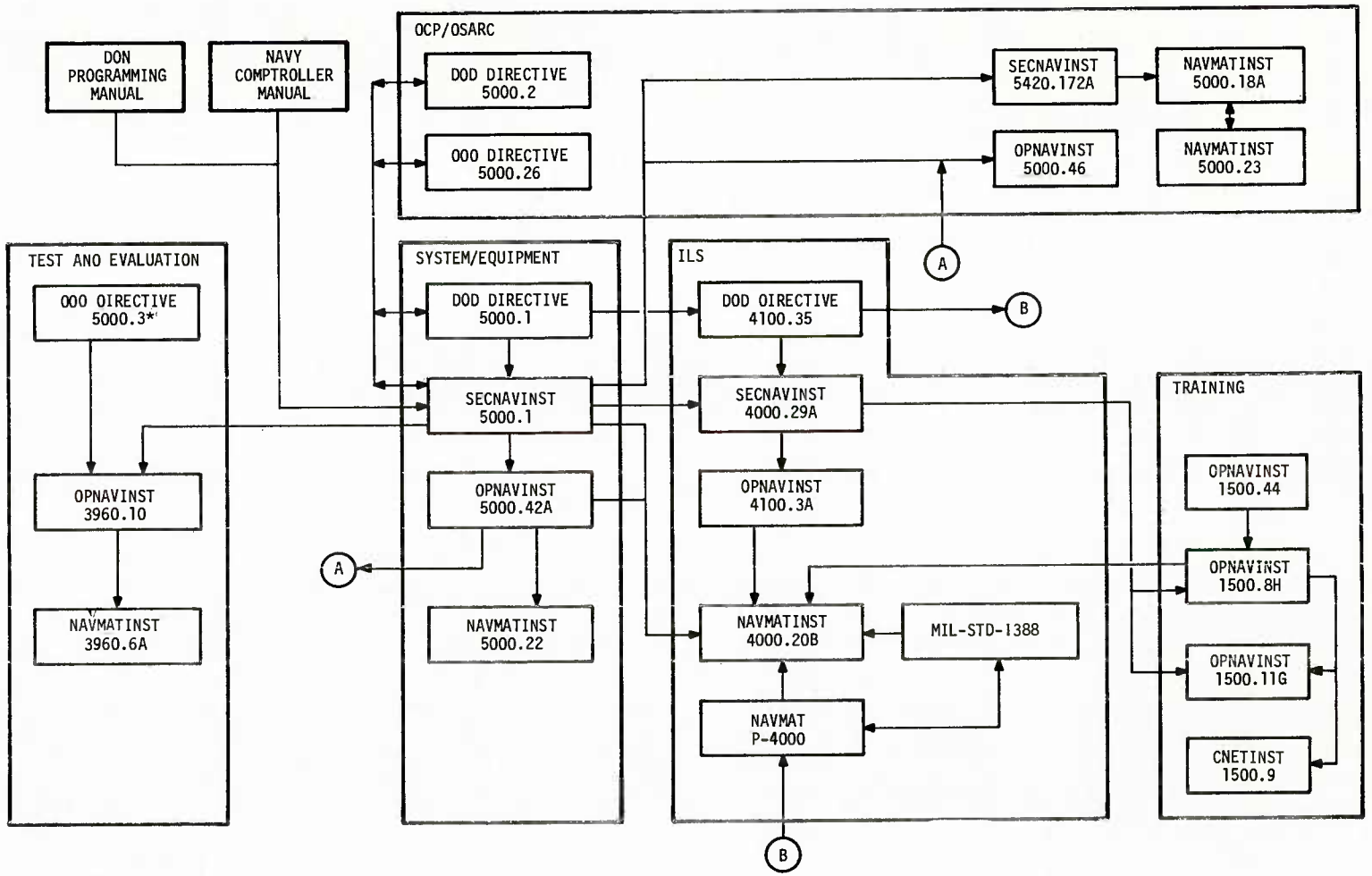
(a) SECNAVINST 5000.1 establishes policy and management principles for requisition of systems/equipments within the Department of the Navy and states that ILS effort will be conducted as an integral part of the acquisition process and pursued to ensure realistic application of ILS.

(b) OPNAVINST 5000.42A establishes a research and development (R&D) planning procedure for all Navy acquisition programs.

(c) SECNAVINST 4000.29A and OPNAVINST 4100.3A promulgate the application of the ILS system within the Department of the Navy and assign CNM responsibility to implement, monitor, and coordinate the application of ILS to all acquisitions of systems/equipments, including whole ship acquisition, developed and/or procured by the NMC.

(d) NAVMATINST 4000.20B establishes NMC policies and principles for the life cycle support of systems/equipments.

(e) OPNAVINST 1500.8H establishes policies and procedures and assigns responsibilities for planning, programming, and implementing actions necessary to provide training support for systems/equipments and non-hardware oriented developments. Organizational actions are set forth. Major purposes of the instruction include (1) coordination of billets, personnel, military construction schedule, training support requirements, and training program planning concurrently with hardware development and production; (2) efficient and adequate training programs phased with the introduction of new developments or modification to existing systems/equipments; and (3) support of the management principles established by SECNAVINST 5000.1 and SECNAVINST 4000.29A for system/equipment acquisition in the Department of the Navy.



*Titles are listed in References

Figure 2.1. Interrelations of Directives, Instructions and Manuals for System/Equipment Acquisition

(f) OPNAVINST 1500.11G establishes policies, responsibilities, and procedures for the Naval Aviation Training Program.

(g) NAVEDTRACOM participation in the NTP process is implemented through CNETINST 1500.9.

2.6 THE PLANNING, PROGRAMMING AND BUDGETING SYSTEM

In the conversion of threats to our nation, planning, programming and budgeting are the basic elements used to determine the required protective forces and equipments. The specific elements of the formal PPBS process are detailed in appendices A through E and can be summarized as follows:

- The STRATEGY is developed in consideration of the THREAT and POLICY
- Force REQUIREMENTS are developed to support the STRATEGY
- PROGRAMS are developed to provide, on an orderly basis, ships, aircraft, weapon systems, and manpower over a period of time, with due consideration of the total cost to the nation
- Lastly, FUNDS must be budgeted in such a manner as to obtain the required forces and weapons systems with the resources that the Nation provides.

The PPBS process is depicted in figure 2.2.

2.7 SYSTEMS/EQUIPMENTS ACQUISITION

Acquisition of systems/equipments from early design trade offs through deployment is a complex process continually affecting NAVEDTRACOM's responsibility to acquire and operate an Instructional System. For example, operator/maintainer tasks are dictated by front panel layout and chassis accessibility; early planning and analysis by NAVEDTRACOM for fleet operator/maintainer training assures that training associated with front panel operation and accessibility for maintenance are attainable at minimum system/equipment life cycle cost. Man/machine design, with expertise from NAVEDTRACOM, should be given the same relative importance as systems engineering, electrical design, mechanical design, manufacturing, quality control, system integration, developmental testing, and operational testing. Operation and maintenance of systems/equipments, the "human subsystem," account for a major portion of the life cycle cost.

NAVMATINST 4000.20B defines acquisition as the process consisting of planning, designing, producing, and distributing a weapon system/equipment. Acquisition in this sense includes Program Initiation (Conceptual/Validation), Full-Scale Development, and Production/Deployment Phases of the weapon system/equipment project. For those weapon systems/equipments not being produced by a Project Manager (PM), acquisition encompasses the entire process from inception of the requirement through the Production/Deployment Phase. Figure 2.3 depicts the acquisition cycle with OSD go/no-go decision events; i.e., DSARC I, II and III, for major systems/equipments.

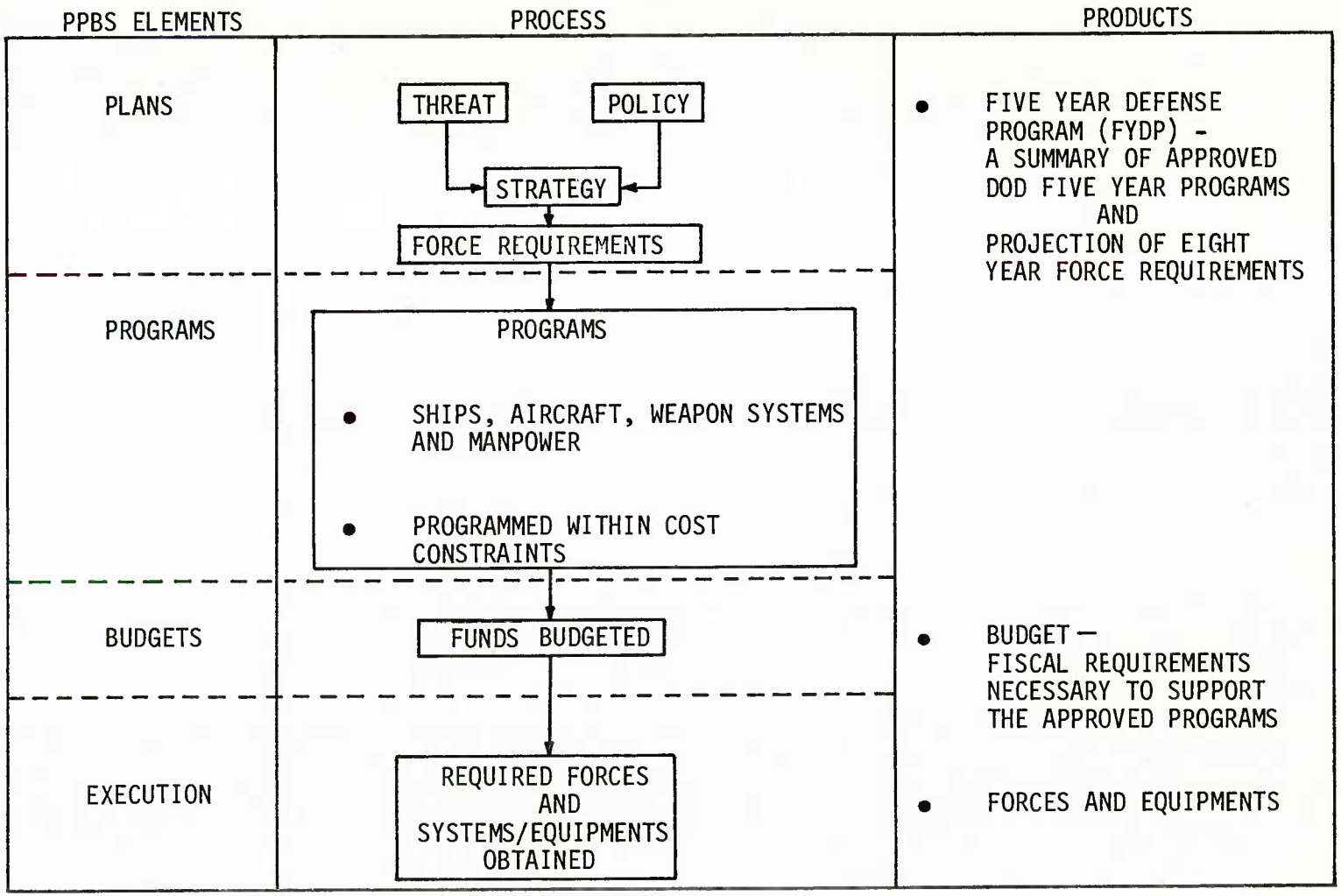


Figure 2.2. Planning, Programming and Budgeting System (PPBS)

MAJOR PROGRAM PHASES	PROGRAM INITIATION		FULL SCALE DEVELOPMENT	PRODUCTION	DEPLOYMENT/ OPERATIONS
	CONCEPTUAL EFFORT	ADVANCED DEVELOPMENT			
DESCRIPTION OF MAJOR PROGRAM ACTIVITY	TECHNICAL, MILITARY, & ECONOMIC BASES FOR AN ACQUISITION PROGRAM ARE ESTABLISHED THROUGH SYSTEM FEASIBILITY STUDIES. MAJOR OUTPUT CONSTITUTES A DECISION ON WHETHER OR NOT A SYSTEM PROGRAM SHOULD BE PURSUED.	PREPARATION OF DEVELOPMENT CONCEPT PAPER (DCP)*. DCP INCLUDES DEFINITION OF SYSTEM NEED AND DEFINES PROGRAM ISSUES, INCLUDING PROGRAM OBJECTIVES, SPECIAL LOGISTICS PROBLEMS, PERFORMANCE PARAMETERS, AREAS OF MAJOR RISK, SYSTEM ALTERNATIVES AND ACQUISITION STRATEGY.	THE SYSTEM (INCLUDING ITEMS NECESSARY FOR ITS SUPPORT) IS DESIGNED AND DEVELOPED. RELIABILITY, MAINTAINABILITY & LOGISTICS ARE MAJOR CONSIDERATIONS IN THE DESIGN PROCESS, ENGINEERING MODELS AND PROTOTYPE SYSTEMS ARE FABRICATED AND TESTED. TEST AND EVALUATION INCLUDES: • DEVELOPMENT TEST & EVALUATION-DEVELOPMENT & ENGINEERING TESTS. • OPERATIONAL TEST & EVALUATION — SUITABILITY TESTS. TESTS ARE CONDUCTED TO DETERMINE: EXPECTED OPERATIONAL EFFECTIVENESS: OPERATIONAL SUITABILITY ORGANIZATION, DOCTRINE, TACTICS FOR SYSTEM DEPLOYMENT	THE SYSTEM INCLUDING ITEMS NECESSARY FOR ITS SUPPORT (SUPPORT EQUIPMENT, TRAINING EQUIPMENT, SPARE/ REPAIR PARTS, SOFTWARE, DATA, ETC.) IS PRODUCED FOR OPERATIONAL USE	THE PRODUCTION SYSTEMS ARE DEPLOYED FOR OPERATIONAL USE AND SUSTAINED BY FIELD OPERATIONAL UNITS.
PRIMARY DECISION POINTS		DSARC I	DSARC II	DSARC III	

(Source: NAVMAT P-4000)

Figure 2.3. Systems/Equipments Development Cycle

*Changed to Decision Coordinating Paper

Section 3 of this Guide provides details of systems/equipments acquisition. The elements of the acquisition process are illustrated in figure H.1 (see appendix H). Table H.1 which accompanies figure H.1 provides references to policy and procedures which control the acquisition process.[2]

2.8 SYSTEMS/EQUIPMENTS INTEGRATED LOGISTIC SUPPORT

Integrated Logistic Support is a concept for developing a composite of all the support considerations necessary to assure the effective and economical support of systems/equipments for their life cycle. Integrated Logistic Support is an integral part of system/equipment acquisition and operation. Integrated Logistic Support is characterized by harmony and coherence among all the logistic elements. The principal elements (as defined in NAVMAT P-4000) are shown in figure 2.4 along with critical factors which must be addressed in DSARC I, II, and III. (See appendix G for DSARC details.)

2.9 NAVY TRAINING FOR SYSTEMS/EQUIPMENTS

2.9.1 General. Chief of Naval Operations approval of an NTP (in accordance with OPNAVINST 1500.8H) to support the Personnel and Training element of ILS establishes a significant impact upon resources available to the CNET. The NTP imposes upon the CNET the responsibility to obtain and provide resources, space, devices, billets and dollars for the implementation and support of an Instructional System. The NTP does not automatically provide these resources from either total Department of the Navy or DOD assets. It is mandatory that sufficient planning be accomplished early enough so that out-year resource requirements can be included in the CNET portion of the Navy's Program Objective Memorandum (POM) in a timely manner (Reference: CNETINST 1500.9).

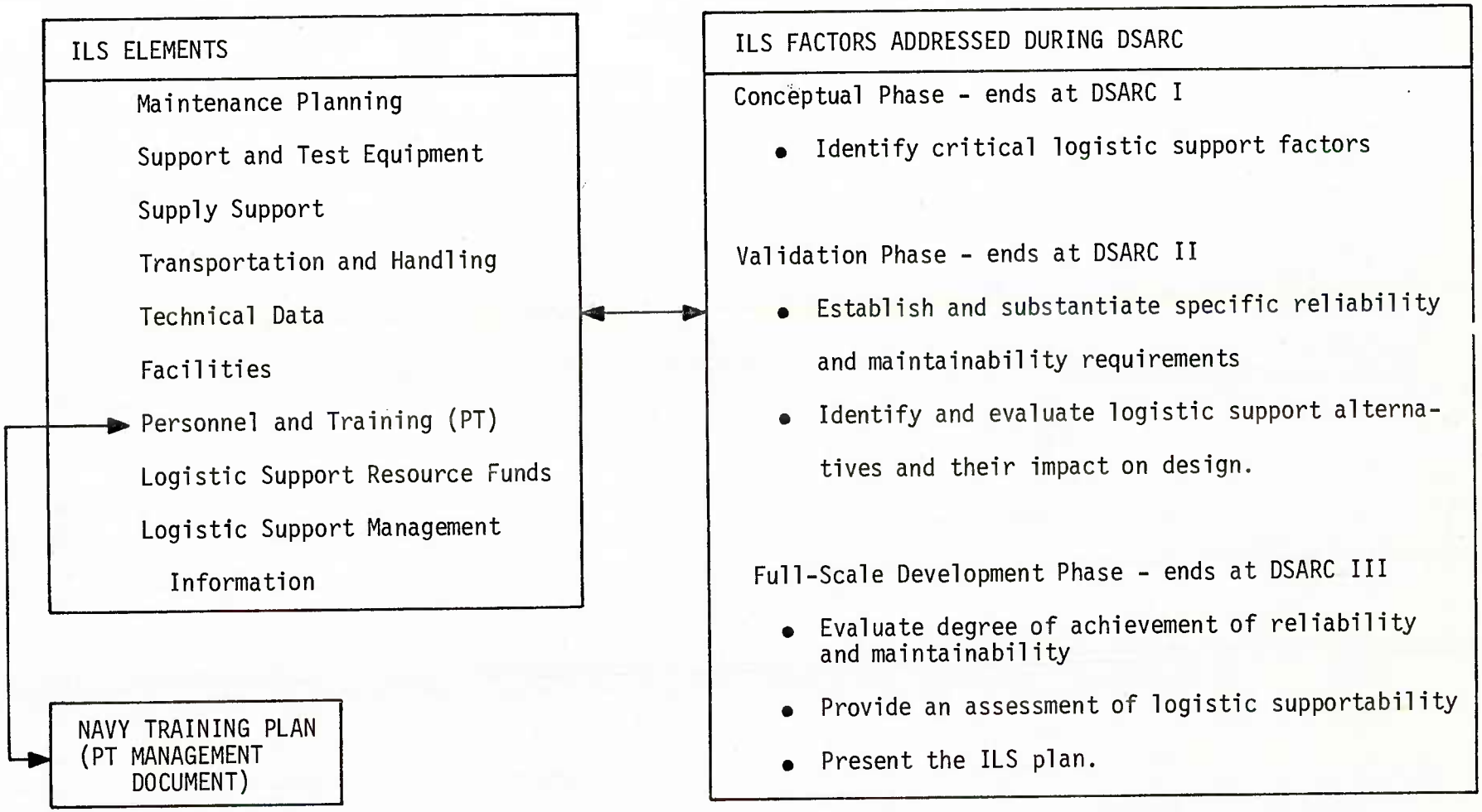
The minimum programming lead time required to meet ready-for-training dates in NAVEDTRACOM schools is 5 years for military construction, 4 years for major training devices, and 3 years for billets and expense dollars (Reference: OPNAVINST 1500.8H).

As set forth in the Navy Comptroller Manual, training is initially vested in the system/equipment contractor pending the opportunity for the TA to acquire the capability to train. The several facets in the training evolution are defined in CNETINST 1500.12 as follows:

- Initial Training for the first cadre, or nucleus group of personnel, as required by Operational Test and Evaluation Force (OPTEVFOR)
- Follow-on Training for additional personnel required to man fleet installations
- Replacement Training for personnel required to replace the original personnel.

The various facets are depicted in figure 2.5.

[2] Figure H.1 referenced throughout this Guide, has been designed as the last appendix to provide easy accessibility.



(Source: DODINST 5000.2)

Figure 2.4. Integrated Logistic Support Factors Addressed During DSARC

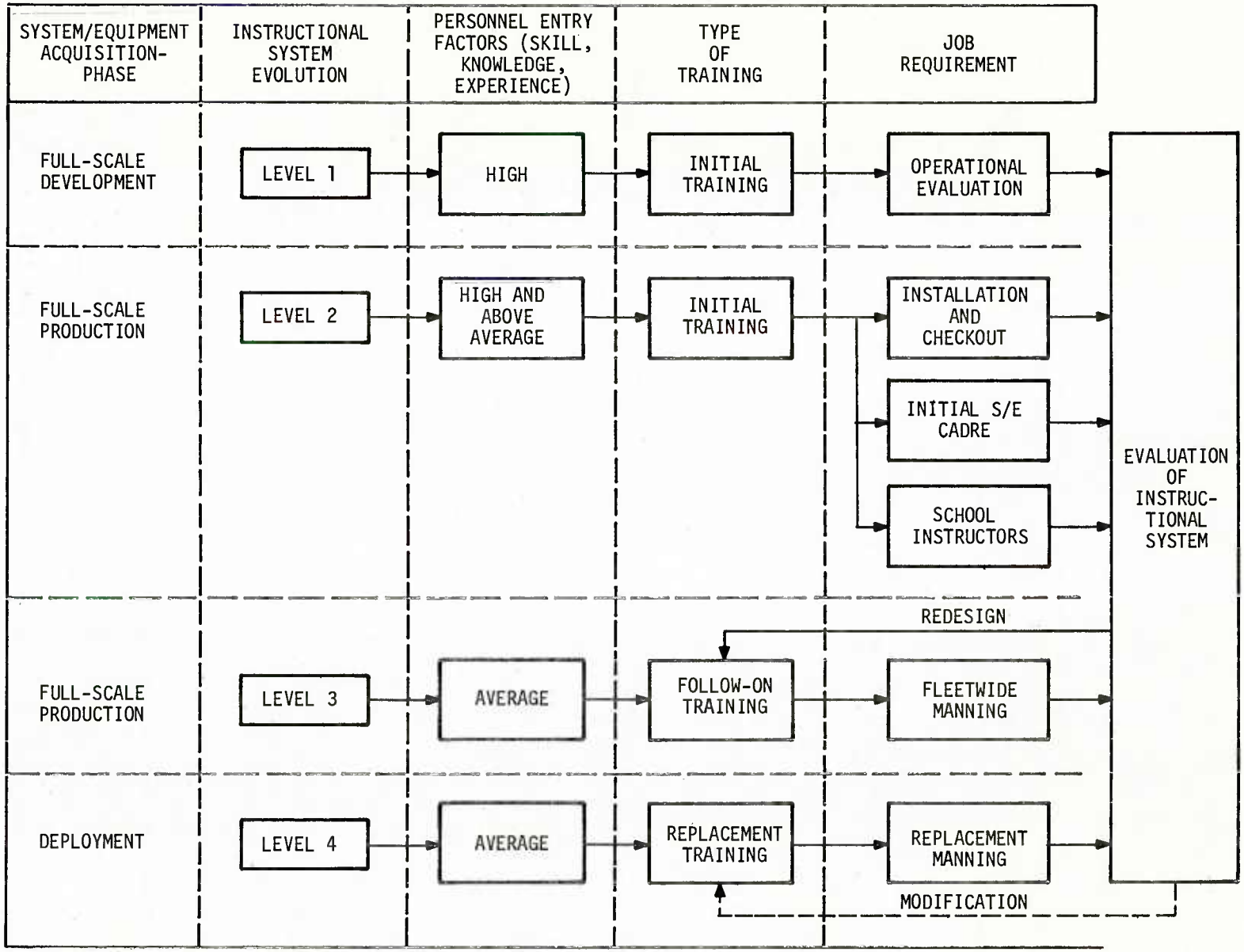


Figure 2.5. Progressive Levels of the System/Equipment Training Evolution

The transition from contractor to Navy School usually occurs during the training of additional personnel required to man fleet installations.

2.9.2 Resource Programming Example. The PPBS integrates DOD resource requirements in regard to weapon system/equipment acquisition, while the DCP/DSARC process focuses on individual systems and equipments acquisition. (DSARC and PPBS processes are detailed in appendices A through G.) However, several points from DODINST 5000.2 are appropriate to show DCP/DSARC and PPBS interaction.

- In the PPBS, Office of the Secretary of Defense (OSD) decision-making on individual defense system programs is keyed to the problem of balancing all programs within the established DOD fiscal limits. The program covered by a DCP must fit into this affordability framework.

- The DCP/DSARC process complements the PPBS by addressing issues related to the progress of individual defense system programs and ensures adequate OSD reviews related mainly to the individual program milestones, rather than to the schedule.

- OSD decisions made through the DCP/DSARC process must be reflected in the FYDP.

DSARC I (Program Initiation Decision), shown in figure 2.3 and figure H.1, is the first major milestone for the OSD to judge the merits of an individual major defense system.

To illustrate the relationship of the DSARC process and programming resources, assume that figure 2.6 shows project activities and events associated with System XYZ. CNO issues the OR in January 1973. In anticipation of an October 1979 Program Initiation go-ahead by SECDEF, the Department of the Navy POM-76 identifies FY 80 RDT&E funds for System XYZs advanced development. System XYZ is deployed in October 1989. A significant event for the NAVEDTRACOM is the NTP issued in October 1984. Ideally, the NTP should precede development of Initial Training for operational evaluation (OPEVAL) personnel which occurs in January 1987. In fact, the principal development activity (PDA) must provide copies to Commander, Operational Test and Evaluation Force (COMOPTEVFOR) of the NTP and the ILS plan before a "Certification of Readiness for OPEVAL" is issued (Reference: OPNAVINST 3960.10). Two years are allowed for Initial Training development and production to meet an October 1986 training deadline for OPEVAL personnel. (Policy outlined in OPNAVINST 1500.8H is to program requirements for Military Construction 5 years and major training devices 4 years prior to ready-for-training; i.e., deployment for System XYZ.)

Table 2.1 provides illustrative long-range resource programming details, while figure 2.6 provides a grasp of the overall planning, programming, budgeting, and program review for system/equipment acquisition. Table 2.1 shows the necessity for long-range NAVEDTRACOM planning and resource programming. It indicates that in anticipation of DSARC I (Program Initiation Decision) go-ahead in October 1979, the Navy POM submission to the Secretary of Defense (SECDEF) in May 1974 is the first possible out-year resource requirement entry for System XYZ including training. The NMC/NAVEDTRACOM planning for System XYZ Instructional

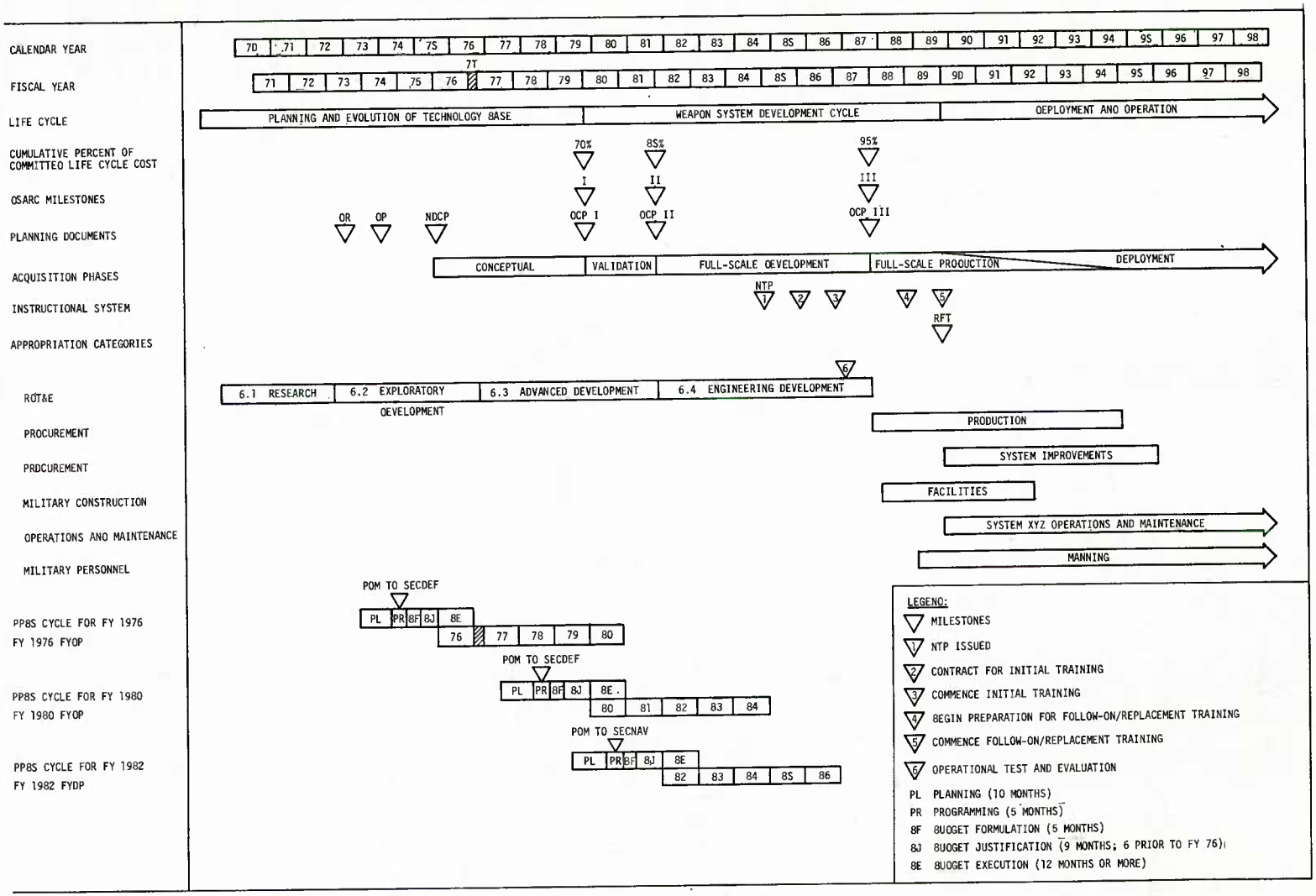


Figure 2.6. System XYZ - An Example of PPBS and Acquisition Highlights

TABLE 2.1. SELECTED SYSTEM XYZ EVENTS

Date	Months After OR Release	Events
January 1973	0	CNO issues Operational Requirement (OR).
Prior to January 1974	-	NMC/NAVEDTRACOM training planning and analysis for System XYZ commences.
January 1974	12	CNM releases the Development Proposal (DP).
May 1974	16	POM submitted to Secretary of Defense (SECDEF) for FY 76 (FYDP FY 76 - FY 80). System XYZ is an out-year program for FY 80.
May 1977	52	SECDEF issues the Joint Strategic Objectives Plan (JSOP) I for FY 80 (FYDP FY 80 - FY 84).
May 1978	64	POM submitted to SECDEF for FY 80 (FYDP FY 80 - FY 84). System XYZ programmed for Validation Phase in FY 80 following anticipated DSARC I approval.
Prior to October 1979 (Pre-DSARC I)	-	SECNAV develops planning and technology basis for System XYZ.
October 1979	81	DSARC I. System XYZ configuration decisions have been made which lock-in-concrete 70 percent of the life cycle cost; e.g., labor costs to operate and maintain System XYZ and material to support System XYZ. SECDEF approved for FY 80 Validation Phase. (See May 1974 and May 1978.)
October 1979 through September 1989	-	System XYZ development cycle
May 1980	88	POM submitted to SECDEF for FY 82 (FYDP FY 82 - FY 86). Resources for System XYZ Initial Training is an out-year resource requirement. Contract to be issued in FY 86.
May 1983	124	POM submitted to SECDEF for FY 85 (FYDP FY 85 - FY 89). FY 89 resources to develop Navy school for System XYZ. Follow-on/ Replacement Training is an out-year resource requirement.
October 1984	141	NTP issued (two years prior to OPEVAL).

TABLE 2.1. SELECTED SYSTEM XYZ EVENTS (continued)

Date	Months After OR Release	Events
October 1985	153	NMC issues Initial Training contract for System XYZ. FY 86 resources utilized. (See May 1980.)
October 1986	165	Conduct System XYZ Initial Training for OPEVAL crews.
January 1987	168	Commence OPEVAL for System XYZ.
October 1988	189	Commence developing Follow-on/Replacement Training for System XYZ. FY 89 resources utilized. (See May 1983.)
October 1989	201	Commence Follow-on/Replacement Training.

System starts prior to the CNM release of the DP in January 1974. This is certainly long-range planning for a NAVEDTRACOM Follow-on Training commencement in October 1989.

2.9.3 NAVEDTRACOM Planning/Programming. While System XYZ's development cycle (October 1979 to October 1989) is longer than the average for system/equipment acquisition, it does highlight NAVEDTRACOM's need for long range planning and programming of resource requirements. Sufficient planning must be accomplished early enough so that CNET out-year resource requirements can be included in the Navy POM in a timely manner. Twenty-nine months elapse from the beginning of a PPBS cycle until budget execution commences; however, 77 months (29 + 48) elapse from the beginning of a PPBS cycle until budget execution commences for the fifth year of the POM. Each new weapon system/equipment must be analyzed carefully to determine the most cost-effective method of formal training and alternatives to formal training to produce an Instructional System which will economically meet the needs of the Fleet.

To develop an NAVEDTRACOM Instructional System concept and to plan for necessary resources, early identification and receipt of system/equipment planning documents and technical data are required. These data are developed slowly by the PDA. "Verified data" are usually not available prior to DSARC I. However, fundamental questions are addressed before DSARC I which greatly impact on the Instructional System; e.g., system/equipment complexity, operating environment, user skill requirements, and maintenance philosophy. During that pre-DSARC I period, system/equipment design and support concepts are formulated which specify alternative approaches to meeting the operational need stated in the OR. The NAVEDTRACOM's in-house efforts to plan and develop an Instructional System concept must be proportional to available technical data on the weapon system/equipment. These data may dictate course estimates of NAVEDTRACOM resource needs; however, as technical data become available, these estimates are refined, providing more accurate resource needs.

2.10 NAVEDTRACOM NAVY TRAINING PLANS OFFICER RESPONSIBILITIES

The CNET staff position designated as Surface Navy Training Plans Officer is typically responsible for Instructional System management required to maximize the utility of system/equipment Initial Training materials produced by NMC to generate a continuous flow of trained operators and maintainers during the system/equipment life cycle. Requirements for the NTPO position are set forth in CNETSTAFFINST 5400.1B.

(a) The NTPO establishes earliest possible liaison with appropriate OPNAV, NAVMAT, SYSCOM, and other applicable offices to identify research and development, operational requirements, and technical development projects which may evolve into systems/hardware production for purposes of ensuring that adequate training resources will be included in the planning and programming process. Close liaison with CNET N-5 RDT&E personnel is maintained in the accomplishment of this task.

(b) The NTPO through consultation with applicable Functional Commanders develops a NAVEDTRACOM position to be pursued at initial and update NTPCs and represents CNET at such conferences.

(c) The NTPO monitors milestone events and other actions assigned to the NAVEDTRACOM in NTPs and the evolution of the total plan to ensure that training resources are provided for and follow-on courses are implemented in a timely and effective manner.

(d) The NTPO maintains liaison with applicable Integrated Logistic Support Management Teams (ILSMTs) to ensure that Follow-on Training will be adequately supported.

(e) The NTPO requests convening of an integrated NTPC for new developments which are not supported by a plan and for update conferences when evolution of an operational plan indicates that changes are required to support NAVEDTRACOM interests.

(f) The NTPO maintains close liaison with applicable OPNAV, NAVMAT, and SYSCOM offices to identify potential procurement of systems or equipments for fleet installation but for which an NTP will not be promulgated. The NTPO initiates a request to the applicable OPNAV office for validation of a training requirement for such items and, when validated, develops and monitors a CNET training plan for resource support and establishment of appropriate training courses.

(g) The NTPO prepares and updates backup documentation (resource requirements requests) for use in planning, programming, budgeting, and reprogramming actions.

SECTION 3

SYSTEMS/EQUIPMENTS ACQUISITION IN THE DEPARTMENT OF THE NAVY[1]

3.1 INTRODUCTION

Successful acquisition and deployment of major systems/equipments require the active participation of many components of the Department of the Navy, each of which must understand the relative priority of those acquisition programs being pursued and must operate with adequate authority and clearly-defined responsibilities. Responsibility and authority for the acquisition of major systems/equipments are decentralized to the maximum practicable extent, consistent with the urgency and importance of each program. The wide variety of acquisition programs mandates flexibility in the management of such programs to meet the specific needs of each. Programs are structured and managed such that constraints are not artificially imposed, nor permitted to unduly affect attainment of program objectives. Overall project management and related responsibilities are in accordance with the DOD PPBS as delineated in the Department of the Navy Programming Manual. Within the Department of the Navy, the Project Management (Major Defense Systems) concept is designed to provide the singleness of purpose required to expeditiously achieve approved project goals. Acquisition Management (other than Major Defense Systems) is also required to ensure the application of major acquisition principles to all programs.[2] (Reference: SECNAVINST 5000.1)

The objective of the weapon system/equipment is a Fleet operational capability, not a hardware acquisition. Timely and complete planning is required to provide the support necessary both to carry out the development of the system/equipment and to achieve its operational potential after deployment.

The elements of the "total system" required to provide an operational capability include:

- Equipment - system hardware
- People - trained crews and maintenance personnel plus the support system required for their continued development and the training of their replacements
- Facilities
- Material - consumables, spares, and others
- Information - technical maintenance data, operating tactics, maintenance procedures, and others.

[1] See figure H.1 for life cycle of major defense systems and equipments

[2] NAVMATINST 4000.20B defines an Acquisition Manager (AM) as an individual charged with the overall responsibility for acquisition of weapons systems, individual items of equipment, and facilities as well as planning for logistic support of these items. Examples of individuals regarded as AMs are: Project managers, system project engineers, and component project engineers.

3.2 MAJOR DEFENSE SYSTEMS/EQUIPMENTS

A defense system/equipment is classified as "major" if it meets one of the following criteria as established by the Secretary of Defense in DODINST 5000.1:

- the estimated research, development, test and evaluation costs exceed $50 million, or estimated procurement costs exceed $200 million
- the system is urgently needed from a national viewpoint
- the head of a military department or defense agency (referred to as DOD Components) or officials of the OSD recommend that the system be classified as "major."

In the Department of the Navy, major defense systems/equipments are designated as Acquisition Category (ACAT) I programs and are discussed below.

3.3 DEPARTMENT OF THE NAVY DEFENSE SYSTEMS SELECTION AND PLANNING

3.3.1 General. OPNAVINST 5000.42A establishes policy and procedure for defense systems selection and planning. The instruction (1) amplifies system/equipment acquisition in the Department of the Navy, (2) establishes a revised R&D planning procedure, and (3) establishes procedures for identifying ORs and conducting management reviews during system acquisition. Figure 3.1 illustrates the planning, documentation, and review procedure flow.

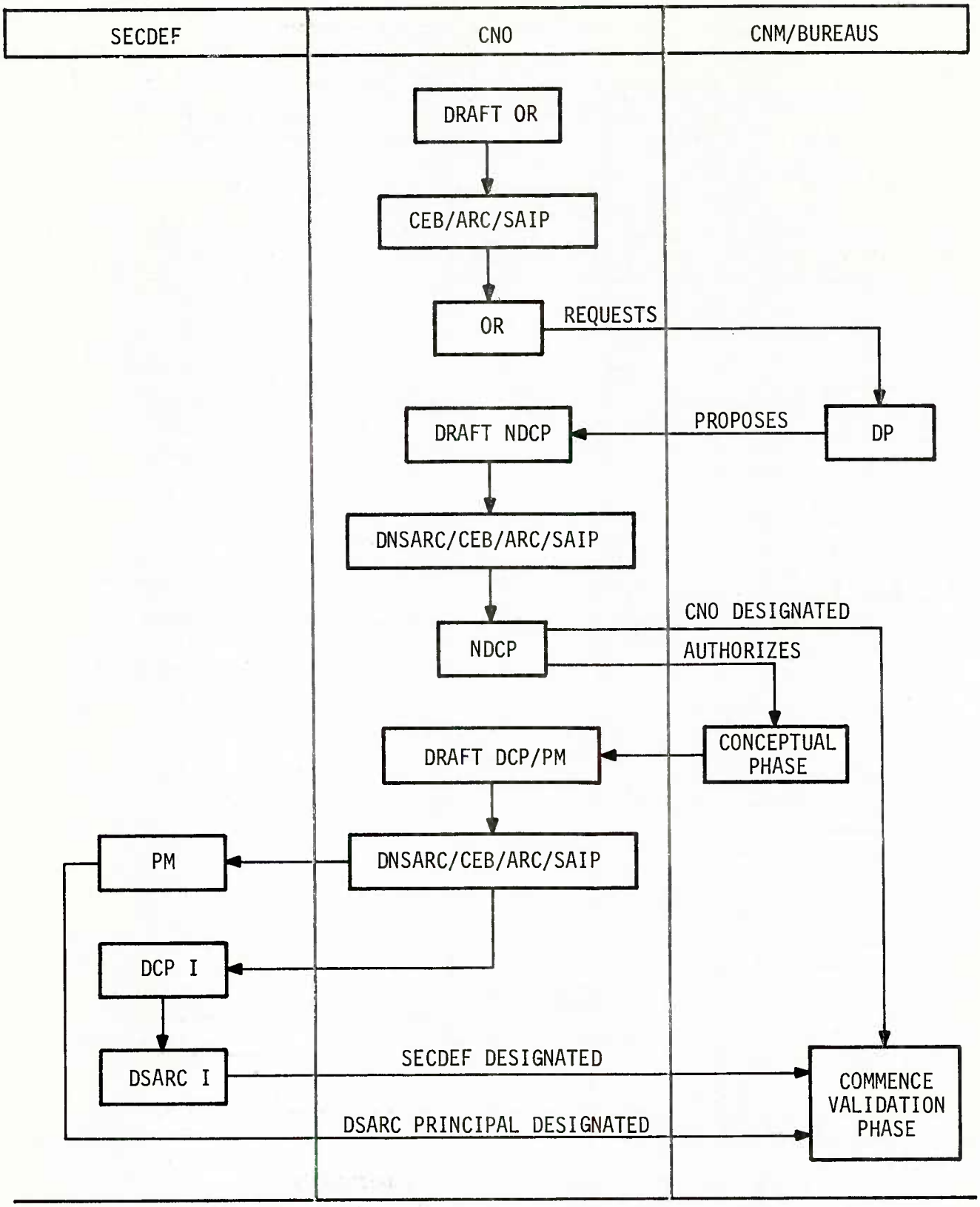
NAVMATINST 5000.22 amplifies guidance set forth in OPNAVINST 5000.42A and establishes NMC R&D planning and review procedures. Figure 3.2, which expands figure 3.1 to the CNM implementation domain, depicts the planning, documentation and review procedures flow commencing with CNO preparation and issue of Science and Technology (S&T) Objectives which describe the Navy's operational needs and problems and which guide Research (RDT&E 6.1) and Exploratory Development (RDT&E 6.2) efforts.

3.3.2 Department of the Navy Acquisition Categories. OPNAVINST 5000.42A also establishes four ACATs which govern acquisition procedures and responsibilities and assign respective decision authority levels. Table 3.1 depicts these acquisition categories.

(a) ACAT I. In accordance with SECNAVINST 5000.1, ACAT I programs are SECDEF/DEPSECDEF designated programs having an estimated Research, Development, Test and Evaluation (RDT&E) cost in excess of $50 million, or an estimated production cost in excess of $200 million, and such other programs as SECDEF/DEPSECDEF designate. Decision authority is the SECDEF/DEPSECDEF. ACAT I programs normally require a DCP and a DSARC to be conducted.

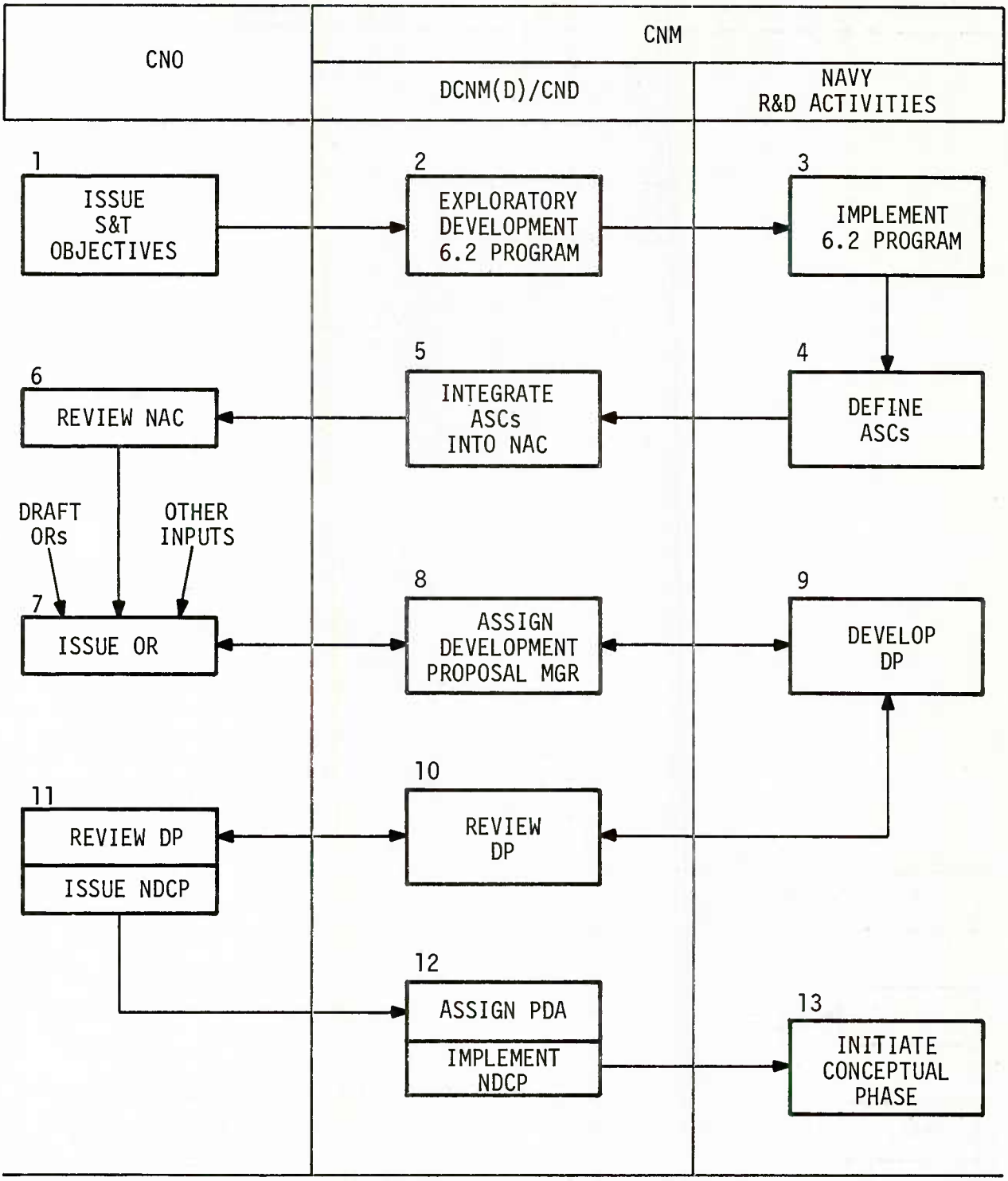
(b) ACAT II. Programs which are designated as ACAT II include:

(1) other than ACAT I programs which are designated by the Director, Defense Research and Engineering, or other appropriate principal on the DSARC. Decision authority is the appropriate DSARC principal. This type of ACAT II program will normally require a Program Memorandum (PM).



(SOURCE: OPNAVINST 5000.42A)

Figure 3.1. Documentation and Review Procedures For System/Equipment Selection and Planning



(SOURCE: NAVMATINST 5000.22)

Figure 3.2. Functional Diagram of Documentation and Review Procedures

LEGEND FOR FIGURE 3.2

1. CNO prepares and issues Science and Technology (S&T) Objectives which describe the Navy's operational needs and problems and which guide Research (6.1) and Exploratory Development (6.2) efforts.

2. Based upon the S&T Objectives, CNO, supported by CMN Project Managers, structures the Navy Exploratory Development Program.

3. Navy Research and Development Activities implement the approved 6.2 program.

4. As 6.2 efforts approach a transition stage, Advanced System Concepts (ASCs) are prepared and submitted in accordance with NAVMATINST 3910.10C.

5. CNO integrates ASCs into the Navy Advanced Concepts (NACs) which is structured in accordance with the RDT&E planning categories noted in enclosure (2) of OPNAVINST 5000.42A.

6. CNO reviews the NAC.

7. CNO promulgates ORs in accordance with OPNAVINST 5000.42A. ORs may be based on draft ORs submitted by other Naval organizations, technological opportunities depicted in the NAC, or other information.

8. Upon receipt of an OR, DCNM(D)/CND assigns a Development Proposal Manager (DPM) to develop a responding Development Proposal (DP) in accordance with OPNAVINST 5000.42A.

9. The assigned DPM develops the DP and submits it to DCNM(D).

10. DCNM(D)/CND, supported by CNM Project Managers, reviews the DP and submits it to CNO.

11. CNO reviews the DP, selects an alternative and issues an NDCP incorporating the program into the budget.

12. DCNM(D) appoints a PDA and implements the approved NDCP. For CNO-designated programs, DCNM(D) submits a draft of a revised NDCP to CNO when the program is ready for transition.

13. The assigned PDA initiates the effort for the NDCP approved program.

Figure 3.2. Functional Diagram of Documentation and Review Procedures (continued)

TABLE 3.1. SYSTEM/EQUIPMENT ACQUISITION CATEGORIES

ACAT	DESIGNATED BY	NOMINAL DOLLAR VALUE THRESHOLD		OTHER CRITERIA	PLANNING DOCUMENTS	PROGRAM REVIEW SEQUENCE	PROGRAM DECISION AUTHORITY
		RDT&E	PRODUCTION				
I	SECDEF or DEPSECDEF	$50M	$200M	Lesser programs designated by SECDEF or DEPSECDEF	OR, DP, NDCP and DCP	CEB, DNSARC, DSARC, and SECDEF	SECDEF/DEPSECDEF
II	DSARC principal, SECNAV or CNO	$20M	$ 50M	Lesser programs recommended by CNM, OP-090, OP-09B, or program sponsor (DCNO/DMSD)	a. OR, DP, NDCP and PM b. OR, DP and NDCP c. OR, DP and NDCP d. OR, DP and NDCP (See OPNAVINST 4720.2D)	a. ARC, CEB and DSARC Principal b. ARC, CEB and SECNAV c. ARC, CEB and CNO d. SAIP, CEB and CNO	a. Appropriate DSARC Principal b. SECNAV c. CNO d. CNO
III[1]	Program Sponsor	$ 5M	$ 20M	Lesser programs recommended by CNM, OP-090, DP-09B, or Developing Agency (DA)	OR, DP and NDCP	OPNAV Review Board and Program Sponsor (DCNO/DMSO)	Program Sponsor (DCNO/DMSO)
IV	CNM (See NAVMATINST 5000.22)	--	--	Includes all programs not designated ACAT I, II, or III	OR, DP and NDCP	CNM	CNM

[1]Programs below the ACAT III dollar threshold will normally be designated ACAT III if:

a. they directly affect the military characteristics of ships, aircraft, or other combatant units; or
b. they require OT&E to support key program decisions; or
c. they require fleet RDT&E support.

(Source: DPNAVINST 3960.1D and 5000.42A)

(2) in accordance with SECNAVINST 5420.172B, such programs as the Secretary of the Navy (SECNAV) may direct. Decision authority is SECNAV. This type of ACAT II program will normally require a Navy Decision Coordinating Paper (NDCP).

(3) other programs below the ACAT I level which have an estimated RDT&E cost in excess of $20 million, or an estimated production cost in excess of $50 million, or other programs so recommended by the CNO, CNM, OP-090, OP-098, or Program Sponsor (DCNO/DMSO). CNO is the decision authority. NDCP required.

(4) all ship acquisition programs not requiring DSARC review in accordance with SECDEF/SECNAV agreements. CNO is the decision authority. (See OPNAVINST 4720.2D)

(c) ACAT III. ACAT III programs are those below the ACAT II level which have an estimated RDT&E cost in excess of $5 million, or an estimated production cost in excess of $20 million, and other lesser programs so recommended by CNO, OP-090, OP-098, or the Developing Agency. The decision authority is the Program Sponsor. Normally programs which will directly and significantly affect the military characteristics of ships, aircraft, or other combatant units and which will require OT&E to support key program decisions or which will require Fleet RDT&E support will be designated as ACAT III programs.

(d) ACAT IV. ACAT IV programs are those not in ACAT I, II, or III. Decision authority is CNM or his designated subordinate. (See NAVMATINST 5000.22)

(References: SECNAVINST 5000.1, OPNAVINST 5000.42A, OPNAVINST 5000.46, NAVMATINST 3960.6A, and NAVMATINST 5000.22).

3.4 LIFE CYCLE OF A MAJOR DEFENSE SYSTEM/EQUIPMENT

Generally speaking, there are five phases in the life cycle of a major defense system. As depicted in figure H.1 (appendix H) these five are the Conceptual Phase, Validation Phase, Full-Scale Development Phase, Full-Scale Production Phase, and Deployment Phase. Initially, an operational need is identified and technological inputs are considered. From this interaction between needs and technological capability, a concept is formulated and evaluated by the DOD Components. Early conceptual effort is normally conducted at the discretion of the DOD Component until it is determined that the acquisition of a major system/equipment should be pursued. DODINST 5000.1 states that it is crucial that the right decisions be made during the conceptual effort because wrong decisions at that time create problems not easily overcome later in the program.

The considerations which support the determination of the need for a system/equipment, together with a plan for the program, are documented in a DCP and reviewed by the DSARC. The DSARC with accompanying DCP provides the management go/no-go decision between Conceptual, Validation, Full-Scale Development, and Full-Scale Production. A delineation of DCP/DSARC content and policy information is contained in appendix G.

3.4.1 Conceptual Phase. This first phase in the defense system/equipment life cycle is conducted at the discretion of the Department of the Navy without specific approval by OSD.

During this phase, the technical, military, and economic bases for an acquisition program are established through comprehensive systems studies and experimental hardware development and evaluation. The Conceptual Phase is highly iterative. Its stages overlap rather than occur sequentially. However, flowing from interacting inputs of operational needs and technology, the following stages generally occur:

(a) analysis (e.g., threat, mission, feasibility, risk, cost, trade offs)

(b) identification and definition of conceptual systems

(c) experimentation and test (of operational requirements, key components, critical subsystems, and marginal technology).

The outputs of the Conceptual Phase are alternative systems (including a preferred system) and their associated program characteristics (cost, schedules, and operational parameters) based on a combination of analyses, experiments, and test results.

The Conceptual Phase generally solidifies with CNO approval of an Advanced System Concept presented by CNM in the Navy Advanced Concepts (see figure 3.2) or with CNO approval of a DP, submitted in response to an OPNAV OR. (See OPNAVINST 5000.42A)

In practical application then, the Conceptual Phase includes the early conception of new systems (which helps provide focus for Exploratory Development planning) and the program execution required to provide the technology necessary to make the concept feasible. This phase terminates at DSARC I.

3.4.2 Validation Phase. This is the phase in which, through extensive analysis and hardware development, the major program characteristics are validated. It is often identified with advanced development prototypes. It is preferred to rely on hardware development and evaluation rather than paper studies, since this provides a better definition of program characteristics, higher confidence that risks have been resolved or minimized and greater confidence in the ultimate outcome. In an idealized case, this phase ends when a "brass board" model has been demonstrated successfully and DSARC II has recommended go-ahead to SECNAV.

3.4.3 Full-Scale Development Phase. During this phase, the defense system/equipment (including all the items necessary for its support; i.e., training equipment, maintenance equipment, handbooks for operation and maintenance, etc.) is designed, fabricated, and tested. The intended output is a "hardware model" whose performance and reliability has been proven experimentally along with the documentation needed to produce systems/equipments for operational use. An essential activity of the Full-Scale Development Phase is Test and Evaluation, both that conducted by contractors (developmental) and that conducted by the Service (operational). This phase terminates when DSARC III is successfully completed.

3.4.4 Full-Scale Production Phase. During this phase the defense system, including training equipment, spares, etc., is produced for operational use.

3.4.5 Deployment Phase. During this phase, the defense system is provided to and used by Fleet operational units.

(References: DODINST 5000.1 and SECNAVINST 5000.1)

SECTION 4

INTEGRATED LOGISTIC SUPPORT

4.1 GENERAL

Integrated Logistic Support is a disciplined approach to the support of a hardware system/equipment throughout its life cycle. Integrated Logistic Support is a concept that is characterized by the total integration of logistic design, development, and acquisition with the system/equipment design, development, production, and the integration of logistic resources. Integrated Logistic Support disciplines are applicable to the NMC and to all program sponsors, program element sponsors, program coordinators, and commands and offices with logistics responsibilities reporting to the CNO. In accordance with SECNAVINST 4000.29A, the ILS concept is applicable to all acquisitions and modifications of systems/equipments within the Navy. (Reference: OPNAVINST 4100.3A)

4.2 RESPONSIBILITIES

General responsibilities of the CNO and the CNM for ILS are listed in SECNAVINST 4000.29A and SECNAVINST 5000.1. Specific responsibilities are assigned in OPNAVINST 4100.3A.

4.2.1 Chief of Naval Operations. The Deputy Chief of Naval Operations (DCNO), Logistics, (OP-04), is responsible for the overall direction and coordination of Navy ILS efforts.

In their area of cognizance other DCNOs (OP-090, OP-094, OP-095, OP-097, OP-098, OP-099, OP-02, OP-03, OP-05 and OP-06)[1] are responsible for ensuring that program sponsors under their cognizance for research and development or procurement of items (see appendix D) are aware of their logistics responsibilities in planning and programming and that the requisite funds are provided to conduct required feasibility and tradeoff studies in ILS planning elements, such as:

- the maintenance plan
- support and test equipment
- supply support
- transportation and handling
- technical data
- facilities
- personnel and training
- logistic support resource funds
- logistic support management information

In their area of cognizance, DCNOs ensure that a broad general plan for ILS is developed during the Conceptual Phase, provide a logistic support summary plan for those systems which require DSARC approval, and ensure that

[1] See CNO organization in OPNAVINST 5430.48.

the ILS system adequately supports development and procurement in documents such as ORs, DPs, and DCPs. Criteria for the logistic support plan summary in preparation for DSARC Milestone III are contained in enclosure (2) to OPNAVINST 4100.3A.

(Reference: OPNAVINST 4100.3A)

4.2.2 Chief of Naval Material. The CNM has been assigned the responsibility to implement, monitor, and coordinate the application of ILS to all acquisitions of systems/equipments (including whole ship acquisitions) developed and/or procured by the CNM. Chief of Naval Material policy and procedure as related to OPNAV instructions are important to understand because the CNM PM/AM has responsibility to develop the entire acquisition including the NTP (which relates directly to CNET responsibilities). That is, CNM produces Instructional Systems used by CNET to provide fleet personnel with necessary skills and knowledges. The CNM accomplishes this by:

(a) developing and prescribing policy for the planning, definition, acquisition, and coordination of logistic support including Initial Training

(b) developing and promulgating techniques for predicting and for optimizing life cycle logistic support costs through analysis of potential trade offs between reliability, maintainability, design and manning interfaces, and other logistic support alternatives

(c) providing staff and technical guidance on a Department of the Navy-wide basis in the development of techniques, specifications, and procedures necessary for full implementation of the ILS system.

(Reference: NAVMATINST 4000.20B)

4.2.3 Chief of Naval Education and Training. The CNET ensures that requisite and responsive training will be provided in conjunction with and beyond that provided by the CNM for all systems/equipments acquired. With respect to Initial Training, he comments on course curricula and instructional material acceptability to meet Follow-on/Replacement Training requirements. He participates in the development of NTPs and is responsible for executing those portions of plans within his purview. (See section 6 for mission and functions.)

(Reference: NAVMATINST 4000.20B)

4.3 WHAT, WHY, WHEN, WHO AND HOW OF ILS

4.3.1 What Is ILS? Integrated Logistic Support is a composite of all support considerations necessary to assure the effective and economical support of systems/equipments for their life cycle.

Integrated Logistic Support can be described as a process which identifies, in a systematic and orderly manner, the functions which must be performed in support of operation and maintenance and the resources needed to accomplish those functions. The process also requires that hardware and system design be

reviewed with a view toward establishing hardware design and configuration which reduces, to the maximum practicable extent, the logistic support burden placed on the operating forces.

4.3.2 Why Have ILS? The delivery of hardware systems and equipments to the Fleet without adequate support will not provide the intended "operational capability."

Personnel trained to accomplish system operations and maintenance, technically valid and verified manuals, prescribed test equipment, spares, repair parts, and bulk consumables, which are defined on a systematic basis and acquired and delivered in a timely manner, will assure that an optimum balance is achieved in resource expenditures. More importantly, the Fleet user's operational and support needs will have been met "in toto" by an ILS package.

4.3.3 When Does One Act to Achieve ILS? Each act and decision made throughout the system/equipment life cycle affects its logistic support requirements. To achieve the requisite operational capability, logistic support planning must begin during the early conceptual portion of the Program Initiation Phase.

Any special logistic support considerations are normally defined in the OR which is approved and promulgated by CNO. Planning proceeds in increasing detail through the Program Initiation, Full-Scale Development, and Full-Scale Production/Deployment Phases.

The level of effort must be in keeping with the phase of the acquisition cycle. Appendix A to NAVMATINST 4000.20B details planning processes for systems/equipments which are (1) subject to all formal acquisition phases, (2) not subject to all formal acquisition phases, and (3) procured to government and commercial specifications.

ILS planning occurs in appropriate detail as system/equipment acquisition progresses.

4.3.4 Who Is Involved In ILS? NAVMATINST 4000.20B sets forth duties for the following key personnel who are involved in ILS:

(a) Acquisition Manager. An AM is designated and assigned the responsibility for each acquisition of a weapon system or equipment and requisite logistic support at the time the PDA is designated by the CNM. He may be a CNM designated Project Manager; Systems Command Project Manager; Program, System, Equipment, or Component Manager. It is important that he have a clear understanding of ILS policies, ILS requirements, what ILS is, and how ILS works. Hardware delivered to the Fleet without adequate logistic support will not provide the operational capability required by the CNO.

(b) Systems Command Designated Project Managers and Other Acquisition Managers. Since all acquisitions do not go through clearly identified phases, the following has been developed to generalize those actions required of all AMs.

The Acquisition Manager will:

- commence ILS planning concurrently with hardware planning
- ensure that appropriate planning documents contain ILS requirements appropriate to the phase of the acquisition
- develop and maintain an ILS Plan
- ensure that all required parties, including representatives of NAVSUP, CNET, NAVFAC, BUPERS, BUMED, and others, as appropriate, participate in the planning process
- ensure that necessary written mutual agreements regarding functions and responsibilities are reached with each organization which is to provide a logistic element manager and appropriate resources.

(c) Integrated Logistic Support Manager (ILSM). An ILSM is designated and assigned to carry out the ILS function for each acquisition at the time the PDA is designated or a decision is made to undertake the development or production of systems or equipment for the Fleet (depending upon individual program requirements).

The ILSM is responsible for developing quantitative and qualitative support system requirements for inclusion in appropriate program/project management and contractual documents and ensuring that these requirements are addressed as an integral part of the design process. The ILSM will:

- assess the logistic development data for system/equipment to be acquired to determine the extent of the required logistic support and develop a plan which will provide this support
- specify the quantitative and qualitative requirements which must be met to achieve the required system support capability
- organize and chair the ILSMT
- act as the agent for the AM in all logistics matters.

(d) Logistic Element Manager. A Logistic Element Manager is responsible for ensuring that adequate planning for and availability of his ILS element (e.g., supply support, facilities, technical data, personnel and training) is accomplished in accordance with milestones reflected in the ILS Plan. In addition, he will maintain close coordination with the ILSM and all other Element Managers and provide appropriate quantitative and qualitative inputs to the ILSM; e.g., repair turnaround time, mean time to repair, automated

versus manual fault isolation, maintenance data display techniques, supply response time, manpower, personnel and training projections, and facilities construction lead time.

4.3.5 How Is ILS Accomplished?

(a) Implementation. Guidance to NMC components responsible for development, modification or acquisition of systems/equipments for operational use which require a new or expanded operator/maintainer training capability is contained in NAVMATINST 1500.2C. The purpose of that instruction is to assign action in the preparation and implementation of NTPs to ensure the involvement of optimum training programs properly time-phased with equipment development and production. (Reference: NAVMATINST 1500.2C)

(b) Integrated Logistics Support Plan. The AM/ILSM must determine details of how to support a system/equipment acquisition very early in the development cycle. An ILS Plan, tailored for the acquisition, provides those details. It provides a comprehensive plan for implementing the logistic concepts, techniques, and policies necessary to assure the effective, economic support of a system/equipment during its life cycle. It is a dynamic document which continually grows with the increased availability of information and provides for integration of logistic elements into program planning, development, test and evaluation, production, and operational processes.

An ILS Plan is developed covering all Government and supporting contractor actions for each weapon system or equipment acquisition. The ILSM ensures that all required parties, including representatives of CNET, Naval Supply (NAVSUP), Naval Facility (NAVFAC), BUPERS, Bureau of Medicine and Surgery (BUMED) and others as appropriate, participate in the planning process and in development of the ILS Plan.

The ILS Plan is based on the information contained in the basic planning documents, is initiated at the outset of a program by the ILSM, and is maintained through the Production/Deployment Phase. The function of the ILS Plan is to identify what ILS tasks will be accomplished, who will be responsible for their accomplishment, and how and when they will be accomplished.

The ILS Plan will initially begin as an outline during the Program Initiation Phase and must be fully developed by the beginning of the Full-Scale Development Phase. It is completed during the Production/Deployment Phase after undergoing evolutionary changes to keep it current, useful, and in balance with the rest of the program. The ILS Plan is a dynamic, detailed management document delineating the AM's plan for ensuring timely, adequate, cost effective logistic support of the system/equipment. (Reference: NAVMATINST 4000.20B)

From OPNAVINST 4100.3A, the requirements for ILS planning for each acquisition phase, generally stated, are as follows:

(1) Conceptual Phase. Only a broad general plan for ILS is needed at this phase, but any special problems should be noted.

(2) Validation Phase. Only special problems of logistics need be addressed at this phase.

(3) Full-Scale Development Phase. An ILS Plan is provided early in full-scale development with appropriate milestones for achievement. The Logistic Support Summary (requirements in enclosure (2) to OPNAVINST 4100.3A) required for DSARC III Milestone must be completed during full-scale development.

(4) Full-Scale Production Phase. The ILS Plan should be fully operational at the time production begins.

(5) Deployment Phase. System oriented ILS has been obtained and is functioning as an element of the total system that meets the capability requirements of the operational mission.

(c) NAVMAT P-4000. The Integrated Logistic Support Implementation Guide for DOD Systems and Equipments, NAVMAT P-4000, provides detailed guidance for implementing ILS on specific programs. It contains "HOW TO" details, formulas, references, sample specifications, and detailed requirements for use by personnel developing the actual ILS elements and tasks. Analytical guidance concerning Logistic Support Analysis is included.

(d) Logistic Support Analysis. The LSA is the controlling analytical effort within the ILS program. It is utilized by ILS management to provide a continual dialogue between the designer and the logistician, which will result in the acquisition of an operationally effective, supportable system/equipment at an optimum life cycle cost. Engineering techniques are applied to determine optimum design characteristics for minimum logistic burden of the end item and its support systems and to identify the total support resources required by the system/equipment. MIL-STD-1388, Logistic Support Analysis, developed under the cognizance of the CNM in cooperation with other military departments, establishes standardized criteria governing performance of an LSA integral to the engineering process. The standard contains a detailed explanation of the LSA, an illustrated portrayal of the LSA process, a sample data system, and standardized data elements. The LSA replaces the Maintenance Engineering Analysis. The LSA process provides for specific consideration of operator as well as maintenance requirements and injects system support criteria into the design process earlier in the acquisition cycle. Table 4.1 shows progressive levels of the LSA process. Naval Material Components, by NAVMATINST 4000.20B, are directed to incorporate the LSA into basic contractual documents.

(Paragraph 4.3 reference: NAVMATINST 4000.20B)

TABLE 4.1. PROGRESSIVE LEVELS OF THE LOGISTIC SUPPORT ANALYSIS PROCESS

Designation	Application Period	Depth of Analysis/Application of Output Data
Level 1	Prior to Full-Scale Development	To a level sufficient to provide cost relatable inputs to logistic simulations, cost effectiveness models, trade off studies, and life cycle cost analysis.
Level 2	Full-Scale Development (system design)	To a depth sufficient to provide inputs to equipment design which optimize support characteristics; input to economic repair/discard analyses, establish baseline maintenance concept for preliminary ILS planning.
Level 3	Full-Scale Development (detail design)	To a depth sufficient to identify logistic requirements, establish detailed maintenance plan, inputs to ILS plan, verify support parameters, and provide logistic support documentation.
Level 4	Production/Deployment	Same depth of analysis as in Level 3 applicable to engineering changes, logistics studies, and major modifications.

(Source: NAVMAT P-4000)

SECTION 5

TRAINING REQUIREMENTS AND NAVY TRAINING PLANS

5.1 GENERAL

Prior to system/equipment Program Initiation - Validation Phase (pre-DSARC I), an orderly process for planning, managing, developing, implementing, and evaluating operator/maintainer Instructional Systems (Initial and Follow-on/Replacement Training) must commence. This insures that personnel are taught knowledges, skills, and attitudes essential for successful job performance. Such an Instructional System requires that (1) human performance job requirements be precisely determined, (2) education and training requirements be identified; i.e., who is to do the job and what education and training is necessary to enable them to do it in an acceptable way, (3) specific behaviorally stated objectives and tests be defined to accomplish these instructional needs, (4) instructional procedures and materials that will develop the skills and knowledges the students need to reach the objectives be designed and validated, and (5) instruction be conducted and evaluated in an appropriate environment which demonstrates the student's ability to perform on the job. As the Instructional System evolves, feedback and interaction among NAVEDTRACOM, NMC, and BUPERS result in an integration of billets, personnel, and training with systems/equipments to achieve and maintain Fleet operational readiness.

The basic OPNAV instructions which establish training responsibilities are OPNAVINST 1500.44 and OPNAVINST 1500.8H. Further amplification, at the OPNAV level, is promulgated for aviation training in OPNAVINST 1500.11G. These instructions should be convenient for referral while using this Guide.

5.2 TRAINING REQUIREMENT RESPONSIBILITIES

At the OPNAV level, systematic management and planning for training are assigned to the Director, Naval Education and Training (DNET OP-099). Specifically, DNET coordinates the actions of the Deputy Chiefs of Naval Operations (DCNO); Directors, Major Staff Offices (DMSO); bureaus; commands; and offices to identify education and training requirements and to prepare instructional program plans to meet these requirements.

Each DCNO and DMSO has a direct responsibility for the substance and support of training in areas under his cognizance. Thus, each DCNO and DMSO must assure that:

- training programs satisfy identified training needs of the operational environment based on appropriate validation, test, and evaluation of the Instructional Systems
- training activities receive proper resource support in terms of manpower, funding, facilities, and equipment
- training priorities are identified and documented.

(Reference: OPNAVINST 1500.44)

5.3 TRAINING REQUIREMENT CATEGORIES

Training requirements fall into two categories (I and II). According to OPNAVINST 1500.44, training requirements are defined as being limited to the numerical and qualitative needs for trained personnel (except for undergraduate flight training which is governed by OPNAVINST 1542.2A).

5.3.1 Category I. Category I provides the continuing need for the supply or replacement of trained personnel. Based on estimates of needs for trained personnel to fill established billets, in relation to projected inventory, as calculated by the Chief of Naval Personnel (CHNAVPERS) and/or the appropriate DCNO/DMSO, OP-099 prepares student input requirements plans. These are coordinated with representatives of the Warfare DCNOs and other DCNOs or DMSOs, as appropriate, and the CNET. These coordinated plans are provided in the form of Training Input Plans to CNET as guidance in the execution of training programs.

5.3.2 Category II. Category II provides new needs identified in relation to new developments in hardware, operating techniques, or human resources programs.

(a) OPNAVINST 1500.8H provides guidance and establishes responsibilities for the preparation and implementation of NTPs for new developments. The appropriate DCNO or DMSO is responsible for those items assigned to the CNO by OPNAVINST 1500.8H. Definition of such qualitative considerations as job functions and personnel/billet identifiers (rank, rating, NEC) together with supporting information such as time schedules and special training facilities/equipment needed is an integral part of this responsibility. This responsibility is not limited to the training divisions of the Warfare DCNOs, but applies to all training needs foreseen or generated by any office of any of the DCNOs or DMSOs.

(b) Based on the determination of training input requirements by offices of the DCNOs and DMSOs, as indicated above, OP-099 integrates new training input requirements into the coordinated plans identified under Category I.

(c) The construction of a training course, encompassing the subject matter to be presented, is the responsibility of the implementing training organization, the NAVEDTRACOM, or other TA. However, a DCNO or DMSO will provide definitive guidance which identifies:

(1) the minimum personnel performance standards required to operate and maintain new systems at operationally acceptable readiness and utilization levels

(2) the number and quality by rank, rating, NEC, code category or other specification estimated to be required

(3) the timing of the initial supply of trained personnel required

(4) any special operational problems which may require new training, equipments, devices, facilities, or techniques for the training.

(d) DCNOs and DMSOs provide for manpower adjustments necessary for training programs they sponsor through formal submissions via the annual POM, which is the primary vehicle for proposing changes to the FYDP.

(e) Appendix C of OPNAVINST 1500.8H provides a recommended NTP outline. Use of pertinent parts of it by the DCNO or DMSO who sets forth a new training requirement will facilitate the incorporation of the requirements into the OP-099 training requirements plans and its implementation by the CNET.

(Reference: OPNAVINST 1500.44)

5.4 NAVY TRAINING PLANS

The CNO approved NTP is the official statement of personnel and training required to support the introduction and operational use of new systems, equipments, and other non-hardware oriented developments to ensure:

(a) coordination of billets, personnel, military construction schedule, training support requirements, and training program planning concurrently with hardware development and production

(b) efficient and adequate training programs phased with the introduction of new developments or modification to existing systems or subsystems

(c) support of the policy and management principles established for system acquisition in the Department of the Navy.

5.4.1 Chief of Naval Education and Training Role in the NTP. The CNET's responsibilities in the preparation and implementation of NTPs are the following:

(1) participate as the TA in the development of the NTP in support of new systems, equipments, or other developments which impact on training activities and programs within the NAVEDTRACOM

(2) provide planning, programming, and budgetary data which form the basis for manpower and other resource requirements for the NAVEDTRACOM activities and programs

(3) establish manpower and other resource requirements and their priorities to support the training activities and programs involved within the NAVEDTRACOM

(4) establish and conduct training based on requirements approved by the Fleet Commanders-in-Chief in accordance with OPNAVINST 1500.19C

(5) for training within NAVEDTRACOM cognizance, designate the appropriate activity which will participate in the review of, and provide comments on, contractor furnished and Initial Training materials to ensure Initial Training format is adequate and compatible with Follow-on and/or Replacement Training.

(6) review and provide comments concerning contractor furnished or other Initial Training course curricula and instructional materials

(7) program, budget, allocate, and employ training resources to participate in Initial Training and to implement Follow-on and/or Replacement Training as set forth in approved NTPs

(8) identify need for changes to NTP and advise the CNO of the circumstances and need for the recommended change

(9) participate in NTPC.

Responsibilities of other NTP process principals should be obtained from OPNAVINST 1500.8H, paragraph 8. (Paragraph 5.4.1 reference: OPNAVINST 1500.8H.)

5.4.2 Chief of Naval Education and Training NTP Implementation Concepts. CNETINST 1500.9 provides guidance to carry out the policies and procedures which are set forth in OPNAVINST 1500.8H, and assigns Functional Command responsibilities.

The CNET planning process includes the following concepts to be implemented within the NAVEDTRACOM:

(a) CNO approval of NTP establishes a significant impact upon resources available to the CNET. The NTP imposes upon the CNET the responsibility to obtain and provide resources (space, devices, billets, dollars) for the implementation and support of training courses. The NTP does not automatically provide these resources from either total Department of the Navy or DOD assets. It is mandatory that sufficient planning be accomplished early enough so that out-year resource requirements can be included in the CNET portion of the POM in a timely manner. Since the POM submission is prepared early in a current fiscal year, resource requirements must be defined a minimum of 3 years in advance of the year they will be required.

(b) Availability of CNET resources must be considered in defining the number and kind of training programs (Instructional Systems) to support new developments during the planning process described in OPNAVINST 1500.8H. Such consideration not only includes the minimum amount of formal training to satisfy the needs of the user (the Fleet) but also extends to (1) training aids or devices vice actual hardware and (2) onboard training packages in lieu of or as a supplement to formal training.

(Reference: CNETINST 1500.9)

5.4.3 Chief of Naval Education and Training Planning Policy. The following policies are to be supported within the NAVEDTRACOM in planning for new training programs:

(a) Accomplish necessary planning sufficiently in advance of training program implementation so that resources required for the program can be included in the appropriate year of the POM submission.

(b) Each new training program will be analyzed carefully to determine the most cost effective (in terms of equipment, aids, devices, space, billets, and dollars) method of formal training and alternatives to formal training that will meet the needs of the Fleet. In the event that formal courses are selected as the appropriate training method, the analysis will also consider the minimum number of sites at which the training will be conducted.

(c) A NAVEDTRACOM position will be established prior to each NTPC convened in accordance with OPNAVINST 1500.8H. This position will be supported by the NAVEDTRACOM representative attending the NTPC. The CNET, or a formally designated representative, will represent the views of the NAVEDTRACOM in conferences, correspondence, and other matters related to OPNAVINST 1500.8H.

(Reference: CNETINST 1500.9)

5.4.4 Navy Training Plan Responsibility Matrix. NTP responsibilities for various Navy organizations are shown in tables 5.1 through 5.4. This information is derived from OPNAVINST 1500.8H with comments added. The circles under TA in each table highlight potential NAVEDTRACOM responsibilities.

TABLE 5.1. NAVY TRAINING PLAN RESPONSIBILITY MATRIX
PHASE 1 - PLANNING*

TRAINING SUPPORT ACTIONS	ORGANIZATIONS						COMMENTS/REFERENCES**
	CNO	DCNO/DMSO	CNM	PDA	TA	CNP	
1. Identify operational requirement		1	1	1	(1)	1	1. OPNAVINST 5000.42A OPNAVINST 5000.46 NAVMATINST 5000.22
2. Approve development	2						2. Same as 1. above.
3. Assign PDA or PM responsibilities			3				3. SECNAVINST 5000.1 NAVMATINST 4000.20B
4. Provide technical info to DCNO/DMSO and recommendations whether a NTP/NTPC is required				4			
5. Coordinate with ILSM				5			5. NAVMATINST 4000.20B
6. Determine if NTP applicable and delegate authority, if applicable		6					
7. Provide inputs to PDA of appropriate elements of NTP when requested					(7)	7	7. NAVMATINST 4000.20B CNETINST 1500.9
8. Prepare draft NTP and forward to ALCON 40 calendar days prior to convening an NTPC				8			
9. Submit comments and recommendations on draft NTP to PDA at least 10 calendar days prior to NTPC		9	9	9	(9)	9	
10. Announce and host NTPC				10			10. A formal approved NTP is required at least 3 years in advance of manned Fleet introduction.
11. Convene and chair NTPC		11					
12. Participate in NTPC		12	12	12	(12)	12	
13. Prepare proposed NTP				13			13. OPNAVINST 1500.2E NAVMATINST 1500.2C NAVMATINST 4105.1A NAVMATINST 4000.20B
14. Within 30 working days after completion of NTPC forward proposed NTP to CNO (OP-099) for approval and promulgation via the appropriate DCNO/DMSO				14			
15. Promulgate approved NTP within 30 days after receipt		15					
16. Include pertinent info from NTP in applicable planning and programming documents		16	16	16	(16)	16	16. DON Programming Manual OPNAVINST 5000.42A OPNAVINST 5000.46 CNETINST 7000.2 CNETINST 7100.2A
17. Program and budget resources required		17	17	17	(17)	17	
18. Recommend update to NTP		18	18	18	(18)	18	
19. Recycle to #6		19					

* Source: OPNAVINST 1500.8H
** Refer to figures H.1 and H.2 for overall system/equipment and Instructional System life cycles.

TABLE 5.2. NAVY TRAINING PLAN RESPONSIBILITY MATRIX
PHASE 2 - DEVELOPMENT*

TRAINING SUPPORT ACTIONS	ORGANIZATIONS						COMMENTS/REFERENCES**
	CNO	DCNO/DMSO	CNM	PDA	TA	CNP	
1. Identify and arrange for availability of long lead time items				1	①	1	1. OPNAVINST 4490.2B NAVMATINST 4490.1B
2. Coordinate with ILSM				2			
3. Recommend revisions to NTP		3	3	3	③	3	
4. Refine and update NTP				4			
5. Develop procurement specification for Initial Training and training material, when appropriate				5	⑤		5. OPNAVINST 1500.2E NAVMATINST 4000.20B NAVMAT P-4000 Navy Procurement Directives Armed Services Procurement Regulations
6. Provide OPEVAL/TECHEVAL training, if required				6			6. OPNAVINST 3960.10 NAVMATINST 3960.6A
7. Revise and validate program and budget submissions		7	7	7	⑦		7. Same as table 5.1, item 16.

* Source: OPNAVINST 1500.8H
** Refer to figures H.1 and H.2 for overall system/equipment and Instructional System life cycles.

TABLE 5.3. NAVY TRAINING PLAN RESPONSIBILITY MATRIX
PHASE 3 - PROOUCTION* (PRE-FLEET INTROOUCTION)

TRAINING SUPPORT ACTIONS	ORGANIZATIONS						COMMENTS/REFERENCES**
	CNO	OCNO/OMSO	CNM	POA	TA	CNP	
1. Review training material for technical accuracy				1			1. OPNAVINST 1500.2E NAVMATINST 4000.208
2. Review and recommend approval/ disapproval of training material					②		2. NAVMATINST 4000.208 OPNAVINST 1500.2E
3. Administer training provisions of contract				3			3. Armed Services Procurement Regulations Navy Procurement Oirectives
4. Assign personnel into training activities. This action includes initial and follow-on requirements.						4	
5. Provide Initial Training operations (factory and other, as required)				5			5. NAVMATINST 1500.4A OPNAVINST 1500.2E
6. Monitor effectiveness of Initial Training operations		6	6	6	⑥	6	
7. Deliver equipment to training activities			7	7			
8. Install equipment at training activities				8	⑧		
9. Commence Navy training				9	⑨		9. When assigned or tasked.

* Source: OPNAVINST 1500.8H
** Refer to figures H.1 and H.2 for overall system/equipment and Instructional System life cycles.

TABLE 5.4. NAVY TRAINING PLAN RESPONSIBILITY MATRIX
PHASE 4 - OPERATIONAL* (POST-FLEET INTROOUCTION)

TRAINING SUPPORT ACTIONS	ORGANIZATIONS						COMMENTS/REFERENCES**
	CNO	DCNO/OMSO	CNM	POA	TA	CNP	
1. Conduct Follow-on Training at activities					①		
2. Program, budget, and accomplish equipment/mods/maintenance/overhaul at training activities.		2	2	2	②		2. If modification, recycle to Phase 1 or Phase 2, as appropriate.
3. Monitor effectiveness of Follow-on Training		3	3	3	③	3	3. CNETINST 1550.4A NAVMATINST 1550.28
4. Provide corrective support required			4	4	④	4	

* Source: OPNAVINST 1500.8H
** Refer to figures H.1 and H.2 for overall system/equipment and Instructional System life cycles.

SECTION 6

CHIEF OF NAVAL EDUCATION AND TRAINING MISSION AND FUNCTIONS AND FUNDING AUTHORITY RELATED TO DEFENSE SYSTEM/EQUIPMENT INSTRUCTIONAL SYSTEMS

6.1 MISSION AND FUNCTIONS

Chief of Naval Education and Training mission and functions related to system/equipment acquisition are delineated in OPNAVINST 5450.194.

6.1.1 Mission. The CNET, under the CNO, is responsible for: assigned shore-based education and training of Navy, certain Marine Corps, and other personnel in support of the fleet, Naval Shore Establishment, Naval Reserve, Interservice Training Program, and Military Assistance and Foreign Sales Programs; developing specifically designated education and training afloat programs for the fleet; acting as DOD agent for the Defense Activity for Non-Traditional Education Support (DANTES); executing the Navy's responsibility for dependents education; administering Navy support for youth programs; and participating with research and development activities in the development and implementation of the most effective teaching and training systems and devices for optimal education and training.

6.1.2 Functions. CNET functions which relate to system/equipment Instructional Systems include:

(a) Coordinating with CNO, CMC, the Fleet Commanders-in-Chief, CHNAVPERS, CHNAVMAT, CHBUMED, CNAVRES, and other agencies and activities to ensure timely identification of education and training requirements by participating in the review of development proposals and CNO approved ORs, and by participating in the development of the Navy education and training plans.

(b) Developing short, mid, and long-range plans for acquisition of total resources (manpower, facilities, and materials) to support CNET education and training requirements. Participates with OP-099, other CNO offices, and fleet commands in developing the Training Sponsor Program Proposal for the POM.

(c) Identifying and defining requirements that lead to long-range planning, programming, and budgeting for education and training research, development and studies through interaction with functional commands, Fleet activities, and warfare sponsors. Maintains a continuous and close liaison with the Navy RDT&E community to insure that CNET requirements are being met. Conducts and directs studies as appropriate to the needs of the CNET.

(d) Proposing Navy-wide policy and developing implementing policy, procedures, and techniques for the operation of assigned education and training programs. Budgets for, establishes, and operates such programs, including those in support of new requirements, using the most effective methodology.

(e) Maintaining liaison with CNO offices, Fleet Commanders, and other organizations regarding education and training.

(f) Ensuring the maximum productivity, efficiency, and effectiveness of assigned education and training programs. Develops and maintains methodology for reviewing and displaying training efficiencies on a continuing basis.

(g) Ensuring that the quality of education and training satisfies and responds to Fleet needs through the use of analysis, feedback systems, and other appropriate methods.

(h) Developing, acquiring, and providing education and training material and devices for CNET activities, the Fleet Commanders-in-Chief, Marine Corps, Naval and Marine Corps Reserves, Army, Air Force, and certain foreign nations. Serves as Inventroy Manager for Cognizance "20" material. Provides life cycle support of education and training material.

(i) Developing, coordinating, and executing plans for orderly and timely activity collocations, relocations, establishments, and disestablishments to achieve improved economies and effectiveness.

(j) As directed by CNO, develops and provides education and training materials and programs for unit and activity onboard education and training. Assists in the identification of requirements for onboard education and training.

(k) Directing or conducting inspections and investigations of components of the CNET to determine and maintain efficiency, discipline, effectiveness, and economy.

(Reference: OPNAVINST 5450.194)

6.2 FUNDING FOR SYSTEM/EQUIPMENT TRAINING (INSTRUCTIONAL SYSTEMS)

Chief of Naval Education and Training funding responsibilities are set forth in the Navy Comptroller Manual and include:

6.2.1 Funding Authority. The Navy Comptroller Manual, NAVSO P-1000, Volume 7, paragraph 075148, sets forth the definition and duties of the TA and TSA. The TA is an office, bureau, command, or headquarters exercising command of and providing support to some major increment of the Department of the Navy's formalized training effort. A TSA is an office, bureau, command, or headquarters responsible for supporting the TA by providing material and other forms of support within the cognizance of the office, bureau, or command involved. Paragraph 075148 is provided as appendix G, herein, for ready referral.

6.2.2 Initial Training Funding. The TSA provides Initial Training (that training performed pending the opportunity for the training agency to acquire the capability for training) corollary to the procurement of specialized or technical equipment furnished by TSAs. Procurement appropriations may fund only that part of Factory Training which is mandatory to instruct an initial cadre of personnel in the techniques of operating and maintaining an equipment under procurement. Normally, this initial cadre is composed of instructional

personnel. The scope of Initial Training includes the furnishing for use in schools of those training aids (transparencies, charts, diagrams, films, etc.) or devices normally evolved by the contractor in the course of the following activities:

(a) production of newly developed end-product equipment

(b) preparation of technical or instructional publications

(c) initial instructional training.

(As an example of Initial Training for systems/equipments, NAVELEXINST 1500.3 schedules the following types of courses:

- Checkout and Maintenance Courses for operational and technical evaluation personnel who must be capable of setting up, checking out, operating, and maintaining the system/equipment for evaluation purposes.

- Operation and Maintenance Courses for:

  (1) maintenance and operation instructors who must assist in establishing Follow-on Training for personnel for the first operational installations,

  (2) an initial cadre of maintainers and operators for whom training must be accomplished before Follow-on Training becomes available, and

  (3) industrial personnel who must perform depot level maintenance.

Follow-on operator and maintainer training must be established so that trained operators and maintainers will be on site or aboard ship by the time the system/equipment becomes operational.)

6.2.3 Training Contract Funding. The financial responsibility for items assigned to the TSA is normally administered through negotiated contracts. However, the regulation and supervision of training programs for military personnel are the responsibility of the TA. In the exercise of that responsibility, the TA specifies and approves the provisions in the contracts which relate to training. When mutually agreeable to the TSA and TA, the TA may enter into separate contracts exclusively related to training, citing funds made available by the TSA. Nothing contained in the Navy Comptroller Manual impinges upon the responsibility of the TSA for Factory Training of civilian personnel. When courses are considered suitable, military personnel may be assigned to them, but the administration of such courses remains with the TSA.

6.2.4 Funding Coordination. The TAs must furnish their requirements to the appropriate TSA for timely insertion into the programming and budgeting system for appropriate action. In addition, the training requirements stated in OPNAVINST 1500.8H and OPNAVINST 1500.11G provide a basis for budgetary action in planning the procurement and installation of newly developed equipment.

Where budgetary or planning decisions result in a change in programmed training requirements, other component organizations affected by the change must be advised by the TAs at the earliest possible opportunity so that they may adjust their programs accordingly. Likewise, it is axiomatic that the TSAs must provide timely notice to the TAs of (1) budgetary and/or reprogramming decisions which affect training support capability and (2) the development of new weapons systems or equipment, planned procurement schedules, and other pertinent data regarding such new developments, in order that the TA may develop the requirements indicated in the Navy Comptroller Manual.

(Reference: Navy Comptroller Manual, NAVSO P-1000)

SECTION 7

NAVAL EDUCATION AND TRAINING COMMAND MANAGEMENT OF DEFENSE SYSTEM/EQUIPMENT INSTRUCTIONAL SYSTEMS

This section presents summaries of the NAVEDTRACOM Instructional System Development (ISD) model and application of ISD principles to defense system/equipment training, develops techniques for NAVEDTRACOM to utilize in the management of defense system/equipment Instructional Systems over their life cycle, and identifies Instructional System tasks keyed to defense system/equipment acquisition phases.

7.1 INTRODUCTION

Trends in the field of education and instructional technology during the past decade have increasingly pointed the way for improving the development of training and instructional programs/systems through the stringent adherence to structured procedures based upon systems engineering design theory.

The following definitions are given to provide a common perspective for this approach.

- A defense system/equipment is a composite of hardware, skills and techniques capable of performing and/or supporting an operational role. A complete system includes all hardware, related facilities, materials, software services, and personnel required for its operation and support. The system is the means of accomplishing an operational requirement. It is the product of the acquisition process.

- Systems engineering can be defined as the application of scientific and engineering principles to (1) transform an operational need into a system configuration, (2) integrate related technical parameters and assure compatibility of all physical, functional and technical program interfaces in a manner which optimizes the total system definition and design, and (3) integrate the efforts of all engineering disciplines and specialties into a total engineering effort.

- Instructional System is the total effort, distinct from the operating system by location, authority, or mission, that is concerned with the preparation of individuals to serve the operating system (NAVEDTRA 106A).

- Instructional System management encompasses the process and the integration of all resources activities, events and technical aspects from receipt of a defense system/equipment OR through planning, acquisition, operation (implementation) and deactivation of the Instructional System.

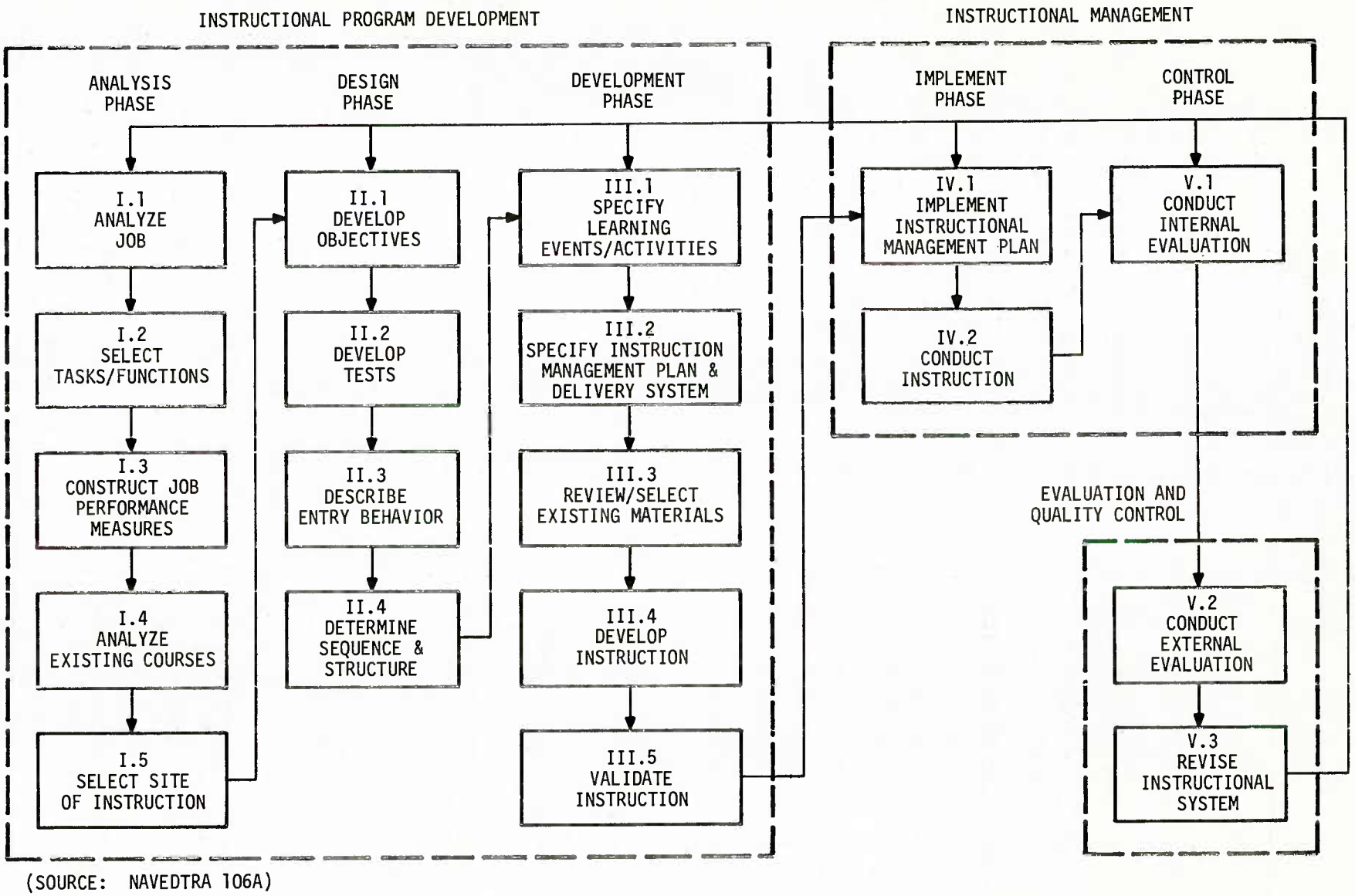
7.2 INSTRUCTIONAL SYSTEM DEVELOPMENT (ISD)

The systems approach to analysis, design, development, implementation, and control of Instructional Systems provides for an orderly process of gathering and

analyzing job data, developing instructional aids and materials, conducting training, and evaluating and improving the effectiveness of instructional program/systems. It is based upon the requirement that each task/behavior performed on a job be identified and analyzed and that appropriate learning objectives, and instructional strategies to achieve these learning objectives, be developed and structured so that training can be most efficiently and effectively conducted.

The application of the systems approach to instructional development ensures that all interrelated factors are considered and that the students, if the instruction is appropriately delivered, will reach performance standards required for specific job entry level proficiency. NAVEDTRA 106A establishes the ISD procedural model which is required for design and development of instructional systems/programs and provides guidance and procedures to assist in the implementation of Instructional Systems (Reference: CNETINST 1500.1A).

The basic ISD model, set forth in NAVEDTRA 106A, consists of five phases: analysis, design, development, implementation, and control. Major steps within the ISD model are depicted in figure 7.1 and expanded in table 7.1.



(SOURCE: NAVEDTRA 106A)

Figure 7.1. Task Flow for Instructional Systems Development

TABLE 7.1 MODEL FOR INSTRUCTIONAL SYSTEM DEVELOPMENT TASKS AND OUTCOMES*

	TASK	OUTCOME
I.	ANALYZE	
I.1	Analyze job	a list of tasks performed in a particular job.
I.2	Select tasks/function	a list of tasks selected for training.
I.3	Construct job performance measures	a job performance measure for each task selected for instruction.
I.4	Analyze existing courses	an analysis of the job analysis, task selection, and performance measure construction for any existing instruction to determine if these courses are usable in whole or in part.
I.5	Select instructional setting	selection of the instructional setting for task selected for instruction.
II.	DESIGN	
II.1	Develop objectives	a learning objective for and a learning analysis of each task selected for instruction.
II.2	Develop tests	test items to measure each learning objective.
II.3	Describe entry behavior	a test of entry behaviors to see if the original assumptions were correct.
II.4	Determine sequence and structure	the sequencing of all dependent tasks.
III.	DEVELOP	
III.1	Specify learning events/activities	the classification of learning objectives by learning category and the identification of appropriate learning guidelines.
III.2	Specify instruction management plan and delivery system	the media selections for instructional development and the instructional management plan for conducting the instruction.
III.3	Review/select existing materials	the analysis of packages of any existing instruction that meets the given learning objectives.

*Source: NAVEDTRA 106A

TABLE 7.1. MODEL FOR INSTRUCTIONAL SYSTEM DEVELOPMENT TASKS AND OUTCOMES (continued)

TASK		OUTCOME
III.4	Develop instruction	the development of instruction for all learning objectives where exisitng materials are not available.
III.5	Validate instruction	field tested and revised instructional materials.
IV.	IMPLEMENT	
IV.1	Implement instructional management plan	documents containing information on time space, student and instructional resources, and staff trained to conduct the instruction.
IV.2	Conduct instruction	a complete cycle of instruction with information needed to improve it for the succeeding cycle.
V.	CONTROL	
V.1	Conduct internal evaluation	data on instructional effectiveness.
V.2	Conduct external evaluation	data on job performance in the field.
V.3	Revise system	Instructional System revised on basis of empirical data. Recycle to task I through V.

7.3 RELATING ISD PROCEDURES TO SYSTEM/EQUIPMENT TRAINING (INSTRUCTIONAL SYSTEMS)

Documents which translate the advantages of the systems approach to system/equipment training are summarized in this paragraph.

7.3.1 NAVMATINST 4000.20B. NAVMATINST 4000.20B provides a vehicle to transfer the systems approach benefits to system/equipment training by (1) providing guidance for AMs to ensure that all required parties, including specifically CNET, participate in the training planning process and (2) specifying that an LSA process tailored to the procurement be incorporated into basic contractual documents.

7.3.2 MIL-STD-1388. LSA data requirements set forth in MIL-STD-1388, Logistic Support Analysis, include the identification of personnel, training, and training material required for the support of the system/equipment. Coordination is maintained with cognizant design activities so that applicable design changes are reflected in the Personnel and Training Plan. Analysis provides identification of the requirements for trained operators, support and instructor personnel at all organizational levels. Personnel and training data resulting from the LSA include personnel quantities needed, skill levels, skill specialties, training requirements, training facilities, and training materials.

7.3.3 MIL-STD-1379A. MIL-STD-1379A, Contract Training Programs, establishes procurement requirements which, when set forth by contract, specify that the development of the training program follows a systems approach. This standard establishes the requirement for preparing, validating, verifying, conducting, and revising training programs acquired to qualify military and civilian technicians, instructors, or other personnel to operate, program, maintain, repair, overhaul, and instruct on the system/equipment. Courses required to support a training program are conducted by a contractor or his subcontractor at a military installation, the contractor's facility, or other designated activity. The contractor is required to develop and conduct training courses, as specified in the contract schedule, which are based on task, skill and training analyses. The contractor designed/developed training program must be suitable for use by the Government to conduct any required Follow-on/Replacement Training throughout the life cycle of the system/equipment.

7.3.4 NAVSEA OD 45519. NAVSEA OD 45519, Submarine Training Materials Development and Production Specifications, is intended for use as the standard specification for development, production, and support of submarine training materials, and as a tool in the review and approval of those materials. It is used by Materials Preparing Activities for development and production of training materials, Materials Support Activities for surveillance of training materials, the Personnel Program Coordinator for review of training materials, and the TA and TSA for the review and approval of training materials.

7.3.5 NAVORD OD 45260. The Strategic Systems Project Office has promulgated NAVORD OD 45260, Training System Development General Description, which contains policy and procedure to operationalize the advantages of systems engineering practices in the planning, acquisition and operation of Instructional Systems. NAVORD OD 45260 accomplishes the following:

- describes the tasks necessary to establish and maintain a total training system
- identifies the development activities or agencies responsible for the performance of each task, and provides the criteria for determining the training techniques and hardware to be used in the training system
- provides guidance for personnel who manage the acquisition of Fleet Ballistic Missile training systems
- provides the needed information and planning techniques that enable the training system development manager to (1) bring into existence a training system that adequately prepares Navy personnel to operate and maintain Fleet Ballistic Missile tactical systems and (2) maintain the training systems at a high level of readiness and cost effectiveness.

7.4 MANAGEMENT OF THE INSTRUCTIONAL SYSTEM

7.4.1 General. As has been highlighted in this Guide, the NAVEDTRACOM must produce a training pipeline which provides personnel with knowledges and skills in the operation and maintenance of systems/equipments. NAVEDTRACOM Instructional Systems management responsibilities commence before system/equipment alternatives have been finalized and continue throughout the system/equipment life cycle. Interface with CNO, CNM, CNP and others, ensures that Initial Training hardware, software and courseware provide a basis for Follow-on/Replacement Training. Management responsibilities also include (1) planning, programming and budgeting for needed NAVEDTRACOM resources and (2) ascertaining that NMC resource requirements are programmed and budgeted to support Follow-on/Replacement Training.

CNO, CNM, CNET and Fleet dialogue begins at OR release. All participants endeavor to maximize efficiency and effectiveness of manpower, materials and facilities. System/equipment planning and acquisition are tailored to fit (1) the warfare area (air, surface or subsurface), (2) acquisition category (ACAT I, II, III and IV), and (3) hardware status (new, updated or modified). Training planning and acquisition must be considered an integral component of the total system/equipment acquisition process. To achieve a near automatic schoolhouse opening, however, a systems approach must be applied to the Instructional System management process.

7.4.2 Management Components. This paragraph identifies resources, tasks, events, and activities and provides techniques appropriate to the establishment, monitoring, or control of NAVEDTRACOM training processes or products. Included are descriptions of a management breakdown structure, cost categories, resource categories, function categories, function events, and tasks. The paragraph and section concludes with an illustration which integrates the components, demonstrates the use of selected information, and provides the baseline for a management information system.

7.4.2.1 Management Breakdown Structure. A management breakdown structure (MBS) is a products and services classification schema comprising the entire work effort which must be accomplished to plan, acquire and operate an Instructional System. Level of detail presented in an MBS should be appropriate to the

system/equipment life cycle status and degree of complexity. A typical MBS is shown in figure 7.2 with five breakdown levels. Each successive level of that structure corresponds to a more finite level of management. Information from which NAVEDTRACOM can develop MBSs for specific Instructional Systems is contained in work breakdown structures and associated cost breakdown structures. The latter structures are NMC management techniques used during planning and acquisition which are prescribed by DOD and are discussed below.

Although the MBS is based on a "Total System/Equipment," the responsibility for establishing and controlling the planning and acquisition of "Training" is shared by OPNAV, NMC and NAVEDTRACOM, while the operation of the Follow-on/ Replacement Training is normally the responsibility of NAVEDTRACOM. Products and services, other than training, associated with the management elements identified in figure 7.2 establish the form, substance and constraints under which the Instructional System is developed and, therefore, must be closely monitored.

The traceability and collation of task, event, activity and funding information over the life cycle of the Instructional System can be enhanced through the use of an MBS. Profiles of typical tasks, phased to coordinate with the system/equipment life cycle, are presented in tables 7.3 through 7.7. Each of the tasks in the tables are also keyed to the MBS to further illustrate the utility of this approach.

(a) Work Breakdown Structure. Information from work breakdown structures (WBSs) should be utilized to develop the specific MBS. WBSs are mandatory for Defense Material Items (systems/equipments) as described in MIL-STD-881A. As with other system/equipment data, NAVEDTRACOM must receive the specific WBS from NMC.

The WBS is a product oriented network composed of hardware, services and data which (1) result from project engineering efforts during the development and production of a defense material item and (2) completely defines the project/ program. A WBS displays and defines the product(s) to be developed or produced and relates the elements of work to be accomplished to each other and to the end product.

(b) Life Cycle Cost. Another information source for developing specific MBSs is life cycle cost (LCC) analysis results. LCC is an acquisition or procurement technique which considers operation, maintenance, and other costs of ownership, as well as acquisition price, in the award of contracts for hardware and related support.

LCC analysis is a basic tool used in the evaluation of logistics resource requirements, and is employed in conjunction with other parameters much as system effectiveness and technical performance in determining cost effectiveness. LCC introduces the economic data necessary for the comparison of various system/ equipment design and support alternatives and allows for the assessment of risk in the decision making process.

LCC results are developed and presented in a cost breakdown structure (CBS). Examples of CBSs are found in NAVMAT P-4000. CBSs must be compatible

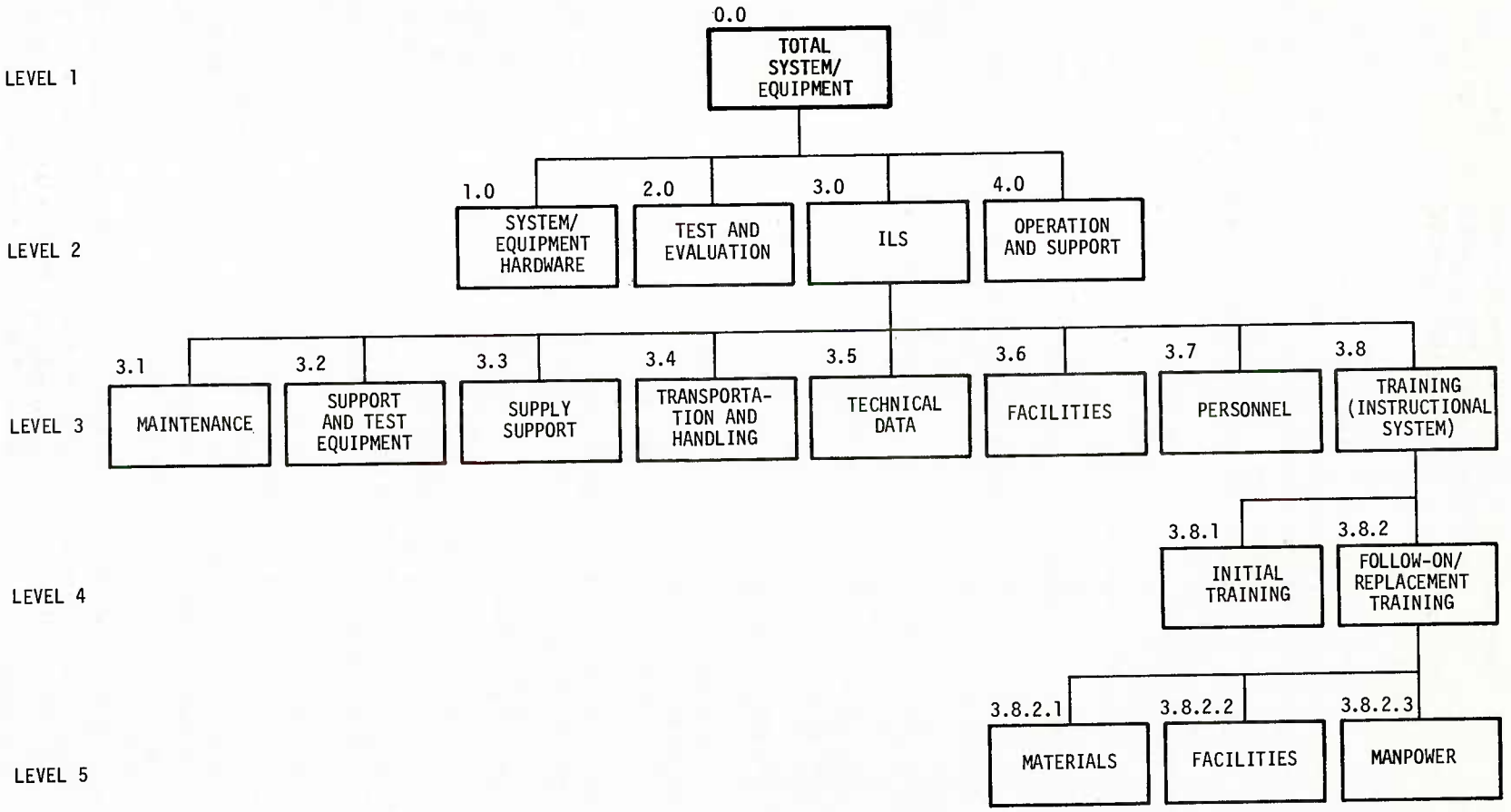


Figure 7.2. System/Equipment Management Breakdown Structure (MBS)

with system/equipment WBSs, contract cost reporting requirements, and must be sensitive to analysis objectives. NAVMATINST 4000.20B, appendix F, stipulates that "acquisition managers are encourged to apply the technique (LCC) to the maximum number of procurements."

7.4.2.2 Cost Categories. Managers should have the capability to track all costs associated with the Instructional System whether contractor or in-house, regardless of how costs are funded, and regardless of which Navy organization has responsibility for the cost items. Cost categories are broken down as they relate to the time-phased life cycle of a typical defense system/equipment and include:

1 - Research and Development
2 - Investment
3 - Operating and Support (Expense).

These cost categories are discussed in appendix D.

7.4.2.3 Resource Categories. Resource categories, funding types, or appropriations (equivalent terms) are listed in the Department of the Navy Programming Manual and are discussed in appendix E. Each resource category is a homogeneous grouping of ralated procurement, manpower, or construction items and includes:

Research, Development, Test and Evaluation, Navy (RDT&EN)
Aircraft Procurement, Navy (APN)
Shipbuilding and Conversion, Navy (SCN)
Weapons Procurement, Navy (WPN)
Other Procurement, Navy (OPN)
Military Construction, Navy (MCON)
Military Personnel, Navy (MPN)
Operation and Maintenance, Navy (O&MN)

The Instructional System life cycle cost should be allocated by fiscal years in terms of these resource categories.

7.4.2.4 Function Categories. Each element of the MBS shown in figure 7.2 has functions which when completed will contribute to accomplishment of a required objective. That is, Follow-on/Replacement Training produces operators and maintainers with required system/equipment skills and knowledges. Ten functions are listed below for Training (Instructional Systems). Additional functions may be required for NAVEDTRACOM to monitor other MBS "elements" as the management process evolves.

F1 Management. This function encompasses the management of the Instructional System process and the integration of all activities and technical aspects of the Instructional System from receipt of a system/equipment OR through planning, acquisition, operation (implementation) and deactivation of the Instructional System.

F2 Planning. This function encompasses the Planning process in the PPBS which establishes, maintains and reviews the POM, FYDP and the DOD budget. Additionally, planning consists of setting goals and determining the best way of arriving at them. An NTP would be a product of planning.

- F3 Analysis. This function encompasses the qualitative and/or quantitative evaluation of information requiring technical knowledge and judgement to plan, program and budget for an Instructional System or portion thereof.

- F4 Programming/Budgeting. This function encompasses (1) the Programming process in the PPBS which translates planned military force requirements into time-phased manpower and material resource requirements and (2) the Budgeting process in the PPBS which translates approved resource requirements (manpower and material) into time-phased financial requirements.

- F5 Procurement. This function encompasses the process of committing resources contained in the approved budget. For procurement of Instructional Systems or portions thereof, procurement includes pre-contractual efforts, contract award and contract monitoring/control.

- F6 Design/Development. This function encompasses the process of designing and developing Instructional Systems or portions thereof which ensure that personnel are taught the knowledges, skills, and attitudes essential for successful job performance. This function includes the analysis, design, and development phases of Instructional Program Development shown in figure 7.1 for Instructional Systems or portions thereof procured or produced in-house.

- F7 Implementation. This function encompasses the process of utilizing an Instructional System to teach knowledges, skills, and attitudes which are essential for successful job performance.

- F8 Evaluation. This function encompasses the process of testing and analyzing an Instructional System or portion thereof to determine whether or not it produces personnel to operate/maintain defense systems/equipments. This process continues through the life of an Instructional System.

- F9 Support. This function encompasses all activities, other than funding, required to install, operate, and maintain the Instructional System throughout its programmed life cycle.

- F10 Modification. This function encompasses the process of changing an Instructional System to reflect system/equipment changes, to implement audit recommendations, to increase efficiency, and to increase effectiveness. Modifications can cause an iteration of Planning, Analysis, and so forth.

Table 7.2 illustrates activities and events which could occur under each function. Tasks in the table are sequentially and arbitrarily numbered.

Figure H.1, appendix H, depicts these function categories over the life of an Instructional System.

Table H.1 provides Instructional System references related to these function categories.

TABLE 7.2. INSTRUCTIONAL SYSTEM FUNCTION EVENTS AND ACTIVITIES

MBS No.	Function Category	Task No.	Typical Events and Activities
			Management
3.8.	F1	1	Prepare NAVEDTRACOM Instructional System Management Plan
3.8.	F1	2	Forward NAVEDTRACOM Instructional System Concept to NMC
0.0.	F1	3	CNO release OR
3.8.	F1	4	NAVEDTRACOM monitor programming
			Planning
3.0.	F2	5	ILSM prepare ILS Plan
3.8.	F2	6	NMC prepare NTP
3.8.	F2	7	NAVEDTRACOM prepare input to NTP
			Analysis
3.8.	F3	8	NAVEDTRACOM begin analysis of system/equipment data
3.8.	F3	9	NAVEDTRACOM identify training requirements
3.8.	F3	10	NMC determine resource requirements
			Programming and Budgeting
3.8.1.1	F4	11	NMC prepare resource requirements for instructional materials
3.8.2	F4	12	NAVEDTRACOM prepare resource requirements for instructors and support personnel
3.8.	F4	13	OPNAV prepare POM submission which includes Instructional System requirements
			Procurement
3.8.1.	F5	14	NMC prepare advance procurement plan (APP) for Initial Training
3.8.1.	F5	15	NAVEDTRACOM prepare/or select specification inputs for NMC contract
3.8.1.	F5	16	NMC review contractual data submissions
3.8.2.	F5	17	NAVEDTRACOM review Follow-on Training contract
3.8.2.	F5	18	NAVEDTRACOM review and comment on contractor Follow-on Training data items
			Design/Development
3.8.1.	F6	19	Contractor develop Initial Training in accordance with MIL-STD-1379A data item descriptions
3.8.1.	F6	20	Contractor prepare list of tasks selected for training
3.8.2.	F6	21	Contractor incorporate OPEVAL recommendations in Follow-on Training
3.8.2.	F6	22	NAVEDTRACOM validate in-house developed instructional material
			Implementation
3.8.1.	F7	23	Contractor conduct Initial Training for OPTEVFOR
3.8.2.	F7	24	Contractor conduct Follow-on Training
3.8.2.	F7	25	NAVEDTRACOM conduct Replacement Training

TABLE 7.2. INSTRUCTIONAL SYSTEM FUNCTION EVENTS AND ACTIVITIES (continued)

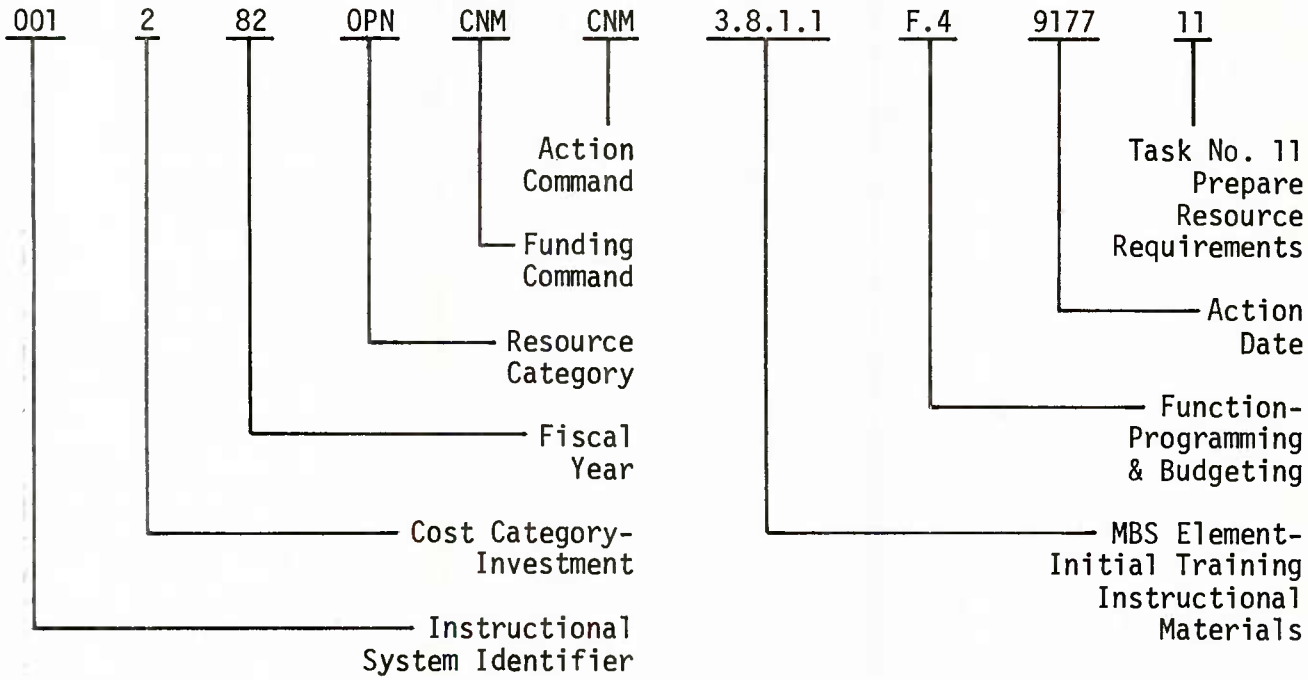
MBS No.	Function Category	Task No.	Typical Events and Activities
			Evaluation
3.8.1.	F8	26	NAVEDTRACOM assists OPTEVFOR in Initial Training evaluation
3.8.2.	F8	27	NMC audit Replacement Training
3.8.2.	F8	28	Fleet evaluates operators and maintainers
3.8.2.	F8	29	NAVEDTRACOM self-audit conducted
			Support
3.8.2.	F9	30	NAVEDTRACOM/NMC install training device
3.8.2.	F9	31	NMC provide initial spare parts
3.5.	F9	32	NMC provide revised technical manuals to school
			Modifications
1.0.	F10	33	System/equipment hardware changes implemented
4.0.	F10	34	Fleet evaluation recommend additional on-the-job courseware
3.8.2.	F10	35	Implement self-audit training changes

These function categories, along with training types and commands, are shown in figure 7.3 to illustrate the numerous interactions which produce an Instructional System as the system/equipment progresses through acquisition phases.

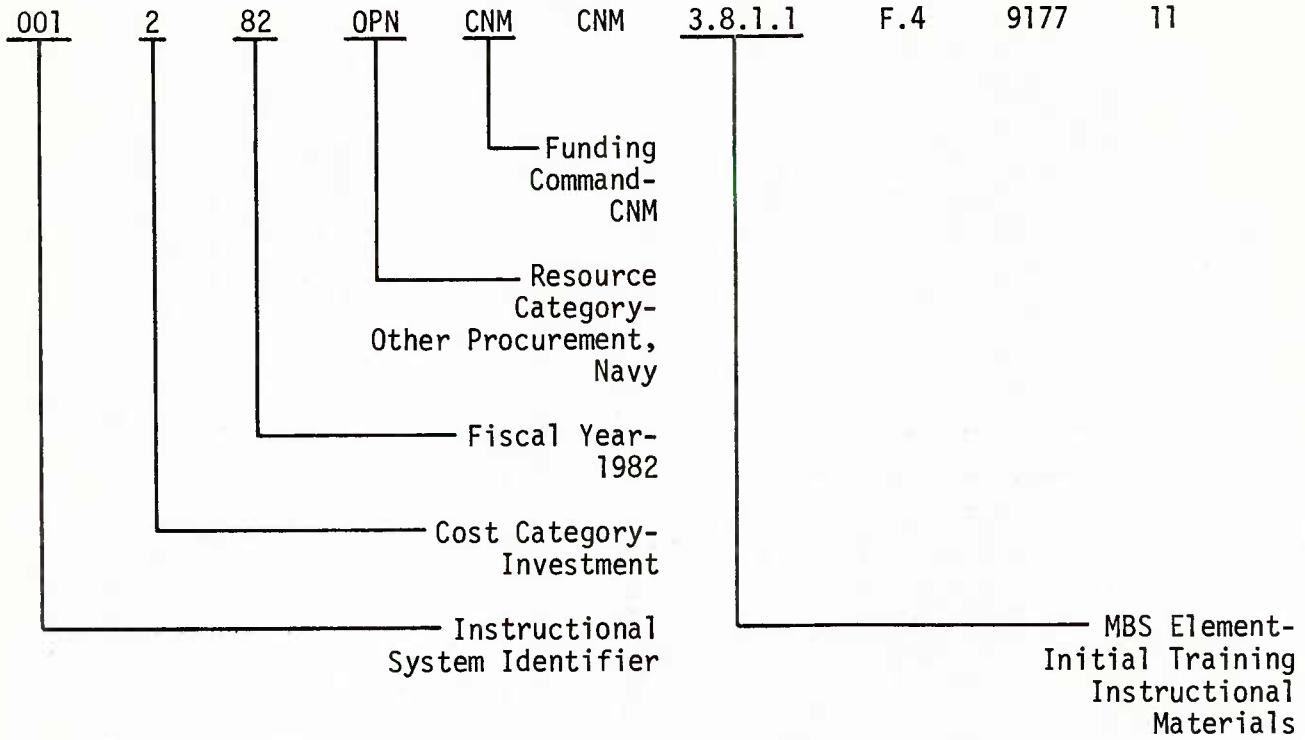
7.4.2.5 Instructional System Tasks During Defense System/Equipment Acquisition. Tables 7.3 through 7.7 present tasks necessary to plan, acquire and operate an Instructional System. These tasks were derived from information presented in this Guide or obtained from references cited in the Guide. Many additional tasks will be generated by the Guide user, particularly at the Functional Commands, since information contained in the Guide has concentrated on policy, procedures and analytical methods of Commands external to the NAVEDTRACOM.

7.4.2.6 Integration of Management Components. This paragraph presents a classification system which serves to integrate resource, activity, and event information relevant to the management of defense system/equipment Instructional Systems throughout their life cycle. It can provide the basis for a management information system designed to establish, monitor, or control training processes or products. Such a classification system must display information in a manner that will permit a decision maker to make a decision with confidence that he has all the relevant information and that it is accurately displayed.

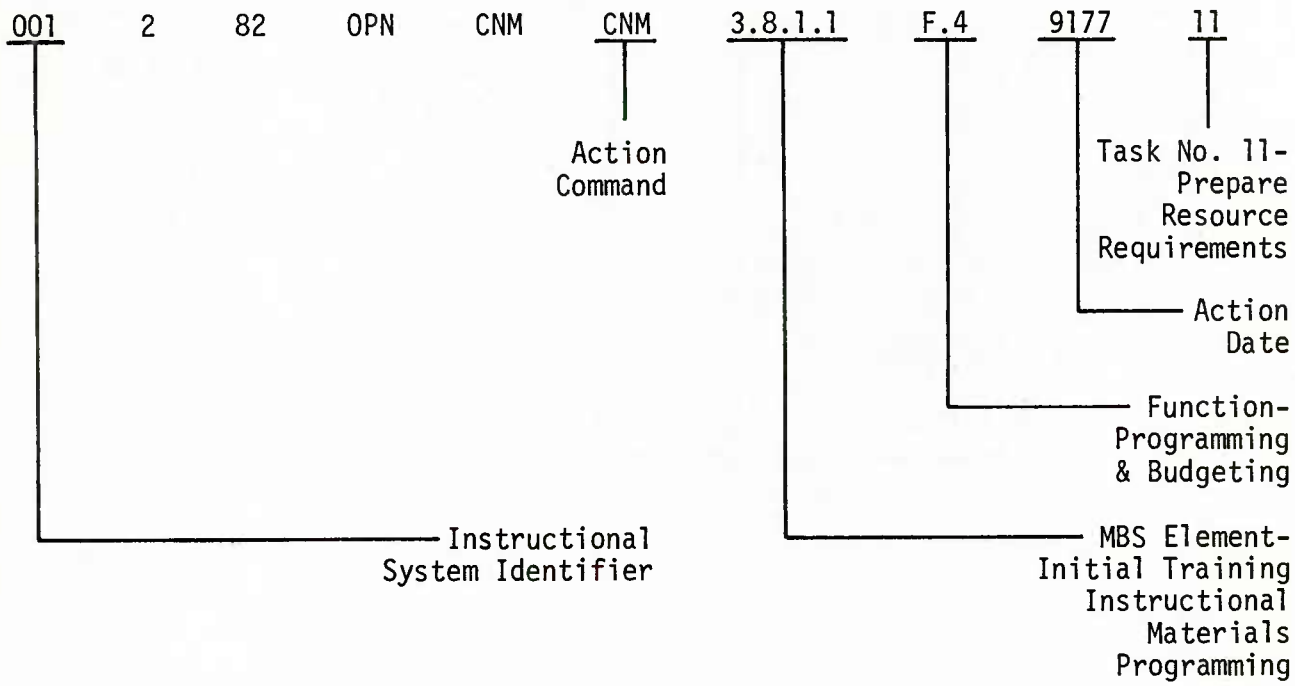
A classification of information relevant to managing Instructional Systems could take the format shown below. For illustration, assume that FY 82 Other Procurement, Navy, funds must be programmed for procurement of Initial Training Instructional Materials by 1 September 1977.



Example 1. The data base presented above may be used to identify a resource requirement for CNM to provide Other Procurement, Navy, funding in FY 82 for Initial Training Instructional Materials.



Example 2. The data may also be used to isolate a programming task action date for Initial Training Instructional Materials.



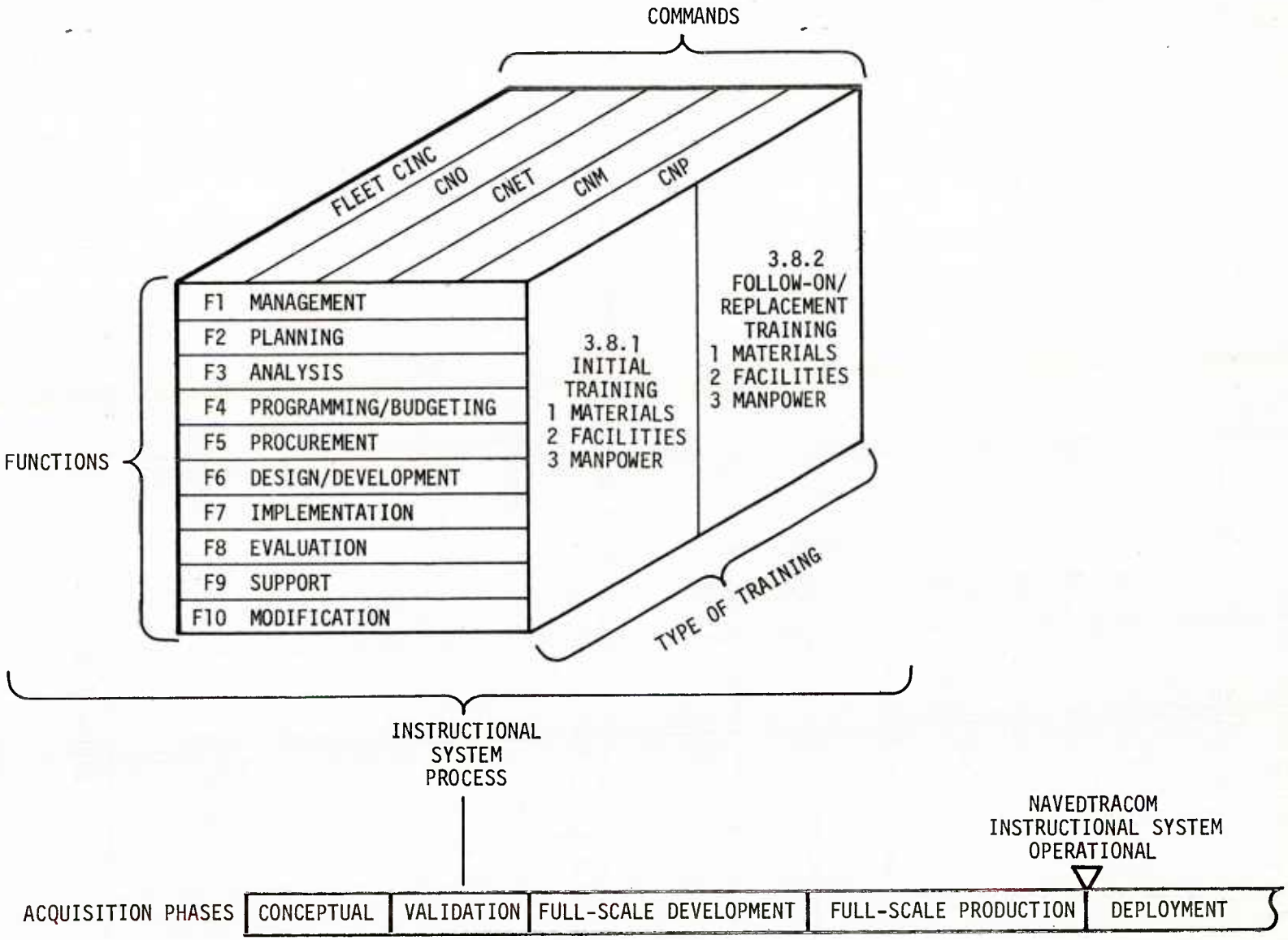


Figure 7.3. The Instructional System Process Related to System/Equipment-Acquisition Phases

TABLE 7.3. NAVEDTRACOM SYSTEM/EQUIPMENT DATA IDENTIFICATION TASKS*

Task: 1	Establish function within CNET to collect data on systems/equipments.
MBS No.	3.8.F1
Responsibility:	CNET (Functional Commanders)
Description:	CNET establish a central point of contact who is responsible for obtaining, controlling and distributing system/equipment planning documents.
Reference:	CNETSTAFFINST 5400.1B OPNAVINST 5450.194
Task: 2	Request copies of planning documents.
MBS No.	3.8.F1
Responsibility:	CNET (Functional Commanders)
Description:	Forward letter to OP-098 via OP-099 requesting that CNET be added to distribution of the following: (1) CND Index of Acquisition Programs, OPNAV Report 3960-5 (2) CNO Long-Range Fleet RDT&E Support Requirement, OPNAV Report 3960-7B (3) Operational Requirements (4) Development Proposals

*See figures H.1 and H.2 for System/Equipment and Instructional System life cycles.

TABLE 7.3. NAVEDTRACOM SYSTEM/EQUIPMENT DATA IDENTIFICATION TASKS (continued)

	(5) Research and Development Plans consisting of Science and Technology Objectives (STOs) and the sum of approved operational requirements (ORs) for RDT&E Planning Categories (see OPNAVINST 5000.42A, Encl (2)). (6) Decision Coordinating Papers, Program Memoranda and Navy Decision Coordinating Papers (see OPNAVINST 5000.46, Encl (3), para. 7).
Task: 3	Establish liaison with OPNAV/NAVMAT/SYSCOM/ OPTEVFOR
MBS No.	3.8.F1
Responsibility:	CNET (Functional Commanders)
Description:	This liaison will provide the WHAT, WHY, AND WHO required to develop a NAVEDTRACOM position on specific system/equipment training. Liaison is in response to initiatives between CHNAVMAT and CNET to insert training requirements into new programs and develop a methodology to anticipate new training requirements. The Chief of Naval Education and Training ensures that requisites and responsive training will be provided in conjunction with and beyond that provided by the Chief of Naval Material for all systems acquired. With respect to Initial Training, he comments on course curricula and instructional material acceptability to meet Follow-on Training requirements. He participates in the development of Navy Training Plans and is responsible for executing those portions of plans within his purview. (NAVMATINST 4000.20B, Chapter III, para. H.)
Reference:	NAVMATINST 4000.20B

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I)*

Task:	1	Prepare draft Operational Requirements (ORs).
MBS No.		0.0.F2
	Responsibility:	Submitted by any fleet activity or Navy command.
	Description:	ORs are concise statements of operational needs. The OR is the basic requirement document for all Navy acquisition programs requiring research and development effort. ORs are prepared for all advanced and engineering development requirements (6.3 and 6.4, respectively). In the generation of ORs, full consideration should be given to manpower costs and to the feasibility of providing the personnel with the skills to maintain the installed system. Provisions should be made to retain "trade-offs" which reduce manpower costs and simplify operation and maintenance.
	Reference:	OPNAVINST 5000.42A
Task:	2	Prepare Development Proposal (DP).
MBS No.		0.0.F2 and 3.8.F2
	Responsibility:	NMC/Bureaus
	Description:	The DP formally responds to the OR and presents alternatives and trade offs to achieve a particular range of capabilities. The DP is subsumed by an approved NDCP, DCP or PM. Specific training related items required to be in the DP include: (1) Logistic support approaches identifying significant impact on personnel skill levels and numbers. (2) Indication of other factors which will impact on the effective introduction of the system; i.e., logistics, training, support, environmental impact and human resources, etc.
	Reference:	OPNAVINST 5000.42A OPNAVINST 5000.46 Department of the Navy Programming Manual.

*See figures H.1 and H.2 for System/Equipment and Instructional System life cycles.

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 3	Prepare Logistics Development Data for inclusion in the NDCP.
MBS No.	3.0.F2 and 3.8.F2
Responsibility:	SYSCOM ILS Manager with representatives of NAVSUP, CNET, NAVFAC, BUPERS, BUMED and others as appropriate.
Description:	a. The ILS plan will be outlined. b. Only a broad general plan for ILS is needed, but any special problems should be noted. Personnel and training data include: Delineation of manning estimates, in terms of numbers, skills, and life cycle costs and source of fundings Description of the training required and already available, and the equipment, devices, school manpower, funds, and other resources which must be provided Unique personnel resource constraints; e.g., critical skills that are not in Navy inventory Concurrent scheduling of manpower, training and equipment so all coincide. c. Funding requirements or limitations expressed in terms of initial investment in logistic support and annual logistic costs over the system/equipment life cycle.
Reference:	NAVMATINST 4000.20B OPNAVINST 4100.3A
Task: 4	Prepare NDCP
MBS No.	0.0.F2 and 3.8.F2
Responsibility:	Program Sponsor
Description:	a. The NDCP is the Navy acquisition management document which supports and promulgates a CNO or SECNAV decision to initiate a conceptual development program and establish an appropriate advanced development (6.3) or engineering development (6.4) line item. For a SECDEF or DSARC Principal designated program, the NDCP will serve as the basis for the DCP or PM, respectively. NDCP format is the same as that for the DCP.

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 4 (continued)	Test and evaluation of the system/equipment are included in the NDCP. The Test and Evaluation Master Plan is referenced. b. ILS planning is initiated through inclusion in the NDCP of Logistics Development Data as specified in OPNAVINST 4100.3A.
Reference:	OPNAVINST 5000.46 OPNAVINST 4000.20B
Task: 5	Initiate action with applicable Integrated Logistic Support Manager to obtain CNET representation on ILS Management Team (ILSMT).
MBS No.	3.8.F1
Responsibility:	CNET (Functional Commanders)
Description:	a. Representation is to insure training needs are considered and included in hardware development and logistic support planning and to obtain updated technical program data as it becomes available. See CNETINST 1500.9, enclosure (3), for ILSMT responsibilities. b. ILSM ensures that CNET representatives, as appropriate, participate in the planning process and in development of the ILS Plan.
Reference:	a. CNETINST 1500.9 b. NAVMATINST 4000.20B
Task: 5.1	As requested by CNET, provide representation on or technical assistance for ILSMT.
MBS No.	3.8.F2
Responsibility:	Applicable CNET Functional Commands
Task: 6	Analyze planning documents and provide to cognizant SYSCOMs initial estimate of training resource requirements.
MBS No.	3.8.F3 and 3.8.F4
Responsibility:	CNET and Functional Commanders.
Description:	See sections II and III and appendices A, B, C, and D of this Guide
Reference:	Reference for Tasks 6 to 6.5 is CNETINST 1500.9.

TABLE 7.4 INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 6.1	Forward technical and program data to applicable Functional Commanders.
MBS No.	3.8.F1
Responsibility:	CNET
Task: 6.2	Initiate planning file and forward planning estimates for the proposed program, development or acquisition. Designate project coordinator or point of contact.
MBS No.	3.8.F1 and 3.8.F2
Responsibility:	Functional Commanders
Description:	Forward to CNET following planning estimates: (1) Broad course objectives for operator, maintenance, team, tactical, other training (including estimated course lengths) (2) Recommend training locations (3) Availability of space or need for MCON (4) Estimated instructor, support, and student billets required and estimated total AOB. All numbers to be broken down by officer, enlisted, and civilian. Availability and current location of billet compensation, if any, including recommended disestablishment of applicable courses related to hardware replaced by the new development. Include justification statement to support instructor/ student ratio and employment of support personnel (5) Quantity of equipment/system needed for training (6) Need for and description of simulator, device, or other training materials. Request assistance from CNET SUPPORT as necessary. NOTE: Data are needed, as tentative as it may be, for MCON planning, for inclusion in POM submissions, for initiation of training device study, for request to OPNAV to convene first NTPC at earliest appropriate date to satisfy Training Command needs, and/or timely establishment of Training Command position well in advance of the NTPC.

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 6.3	When applicable, provide data reflecting general requirement for training materials to and request preliminary study from CNET SUPPORT.
MBS No.	3.8.F1
Responsibility:	CNET
Task: 6.4	Initiate planning file and forward planning estimates for the proposed system/equipment acquisition. Designate project coordinator or point of contact.
MBS No.	3.8.F1 and 3.8.F2
Responsibility:	CNET SUPPORT
Description:	Based upon collaborations with the appropriate training Functional Commanders, forward to CNET the following planning estimates: (1) Need, feasibility, and cost effectiveness of substituting training device(s) for actual equipment/system hardware in operator/maintenance/team/tactical training environment (2) Need for simulator/stimulator to augment equipment/system hardware in applicable training environment(s). Include preliminary cost estimates (3) Need for audio/visual or other instructional media support. (4) Requirement for RDT&E support related to development of identified training material (5) Applicability of On-Board Training packages to support course objectives (6) Quantity and kind of support billets required to operate and maintain proposed simulators, stimulators or other training devices.
Task: 6.5	Analyze OR, DP, NDCP and other available data from OPNAV/NAVMAT/SYSCOM.
MBS No.	3.8.F2 and 3.8.F3
Responsibility:	CNET (Functional Commanders)
Description:	Data should permit estimating:

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 6.5 (continued)		
	(1)	Need for operator/maintenance/team/tactical training
	(2)	Need for and kind of training materials. Data should include definition of any unique operational, technical or tactical characteristics to be employed in the new program or hardware
	(3)	Amount of training space (classroom/lab required)
	(4)	FY of first Follow-on Training course
	(5)	Number of personnel to be trained annually
	(6)	Similarity to and differences of other equipments/ systems for which training is now provided.
Task: 7	Initiate liaison with OPTEVFOR.	
MBS No.	3.8.F1	
Responsibility:	CNET (Functional Commanders)	
Description:	a.	A system/equipment operational evaluation (OPEVAL) among other objectives, ascertains that there is reasonable indication that logistic supportability in a deployed status is feasible (OPNAVINST 3930.8B). Testing shall permit evaluation of training procedures, training aids and personnel who operate and maintain systems/equipments.
	b.	Monitor effectiveness of Initial Training operations. OPEVAL crew receives same.
	c.	CNET participation in the OPEVAL allows validation and feedback of the training procured by the AM which will influence Follow-on Training.
Reference:	a.	OPNAVINST 3930.8B
	b.	OPNAVINST 1500.8H, Encl (1), figure 4, action 6
	c.	CNETINST 1500.9
Task: 7.1	Provide technical assistance to OPTEVFOR in support of training related test and evaluation.	
MBS No.	3.8.1.F8	

TABLE 7.4. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - PROGRAM INITIATION PHASE - CONCEPTUAL (TERMINATES AT DSARC I) (continued)

Task: 7.1 (continued)		
	Responsibility:	Functional Commanders as requested by CNET.
	Reference:	CNETINST 1500.9
Task: 8		Prepare Decision Coordinating Paper (DCP) I.
MBS No.		0.0.F2 and 3.8.F2
	Responsibility:	Program sponsor
	Description:	The DCP is a decision document designed to provide the DEPSECDEF and his principals essential program information. The DCP will remain in existence throughout the complete acquisition of a program. DCP I supports the decision by the SECDEF to enter the Validation Phase (see appendix G for detailed description).
	Reference:	DODDIR 5000.26 DODINST 5000.2 OPNAVINST 5000.42A OPNAVINST 5000.46
Task: 9		Prepare Test and Evaluation Master Plan (TEMP).
MBS No.		2.0.F2
	Responsibility:	Acquisiton Manager (ILSM)
	Description:	The TEMP is the controlling management document which defines test and evaluation for each acquisition program in ACAT I, II and III. (It is not applicable to ACAT IV). It is prepared by the Developing Agency in cooperation with COMOPTEVFOR (and PREINSURV when appropriate) and is approved by the CNO. It contains the integrated requirements for development test and evaluation (DT&E) and operational test and evaluation (OT&E). A TEMP Resource Summary includes: personnel training resources; all test personnel and fleet or other source personnel who require training for the testing including operators and maintenance personnel; training of DA or COMOPTEVFOR test supervisors and observers; rank/rate and number of military personnel to be trained as operators, maintenance personnel, test supervisors and observers; source of personnel; and date when the training should be completed.
	Reference:	OPNAVINST 3960.10

TABLE 7.5. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PROGRAM INITIATION PHASE - VALIDATION (TERMINATES AT DSARC II)*

Task: 1	Prepare Decision Coordinating Paper II.
MBS No.	0.0.F2 and 3.8.F2
Responsibility:	Program Sponsor
Description:	DCP II supports the decision by the SECDEF to enter the Full-Scale Development phase. See appendix G of this Guide for details.
Reference:	DODDIR 5000.26 DODINST 5000.2 OPNAVINST 5000.42A OPNAVINST 5000.46
Task: 2	Validate major program characteristics.
MBS No.	0.0.F3 and 3.0.F3
Responsibility:	SYSCOM AM
Description:	Technical, logistic, cost and schedule are validated through extensive analysis and hardware developments.
Reference:	NAVMATINST 4000.20B
Task: 3	Identify and evaluate the logistic support alternatives including their impact on design.
MBS No.	3.0.F3 and 3.8.F3
Responsibility:	SYSCOM AM (ILSM) with input from CNET (Functional Commanders)
Description:	In preparation of DCP II, this task is accomplished.
Reference:	DODDIR 5000.26 DODINST 5000.2 NAVMATINST 4000.20B OPNAVINST 5000.42A OPNAVINST 5000.46
Task: 4	Participate as the Training Agency (TA) in the development of the NTP in support of new systems, equipments or other developments which impact on training activities and programs within the NAVEDTRACOM (OPNAVINST 1500.8H, para. 8.f(1)).

* See figures H.1 and H.2 for System/Equipment and Instructional System life cycles.

TABLE 7.5. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PROGRAM INITIATION PHASE - VALIDATION (TERMINATES AT DSARC II) (continued)

MBS No.	3.8.F2
Responsibility:	CNET (Functional Commanders)
Description:	A formally approved NTP is required for identification of training for the OPEVAL and, in any event, at least three years in advance of the planned Fleet introduction date (OPNAVINST 1500.8H, para. 6.c). Development of the NTP may continue into the system/equipment Full-Scale Development Phase of acquisition.
Reference:	OPNAVINST 1500.8H CNETINST 1500.9 NAVMATINST 1500.2C NAVELEXINST 1500.3
Task: 5	Provide planning, programming and budgetary data which form the basis for manpower and other resource requirements for the NAVEDTRACOM activities and programs (OPNAVINST 1500.8H, para. 8.f(2)).
MBS No.	3.8.2.F2 and 3.8.2.F4
Responsibility:	CNET (Functional Commanders)
Description:	For programming purposes, the minimum lead times required to meet ready-for-training dates are (1) five years for military construction projects, (2) four years for major training devices, and (3) three years for billets and expense dollars (OPNAVINST 1500.8H, para. 5.).
Reference:	CNETINST 7000.2 CNETINST 7100.2A CNETSTAFFINST 1500.5 CNETSTAFFINST 7100.1A OPNAVINST 1500.8H
Task: 6	Participate in the Navy Training Plan Conference (NTPC) (OPNAVINST 1500.8H, para. 8.f(9)).
MBS No.	3.8.F2 (Tasks 6 - 6.4).
Responsibility:	CNET (Functional Commanders)
Description:	The NAVEDTRACOM position including resource requirements must be prepared well in advance of the draft NTP which is to be distributed 40 or more calendar days prior to convening an NTPC. Formal NTPC may not occur until the system/equipment Full-Scale Development Phase.

TABLE 7.5 INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISTION-PROGRAM INITIATION PHASE - VALIDATION (TERMINATES AT DSARC II) (continued)

Task: 6 (continued)	
Reference:	CNETINST 1500.9
	OPNAVINST 1500.8H
Task: 6.1	Definitize NAVEDTRACOM resource requirements for Follow-on/Replacement Training for systems/equipments.
Responsibility:	Functional Commanders
Task: 6.2	Forward NAVEDTRACOM position on proposed NTP to ILSM.
Responsibility:	CNET
Task: 6.3	Upon receipt of proposed NTP following NTPC, forward comments regarding cognizant portion to CNET for consolidation into a single NAVEDTRACOM response.
Responsibility:	Functional Commanders
Task: 6.4	Submit comments and recommendations on draft NTP to ILSM at least 10 calendar days prior to NTPC.
Responsibility:	CNET
Task: 7	Programming required resources.
MBS No.	3.8.F4
Responsibility:	ILSM
Description:	Program resources to prepare and furnish required training materials to implement Initial Training and/or Factory Training, as set forth in approved NTPs, coordinating with the Training Agent responsible for Follow-on/Replacement Training.
Reference:	NAVMATINST 7100.4 OPNAVINST 1500.8H, para. 8d(5).
Task: 8	Continue definition of training resource requirements for Follow-on/Replacement Training.
MBS No.	3.8.2.F2

TABLE 7.5. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PROGRAM INITIATION PHASE - VALIDATION (TERMINATES AT DSARC II) (continued)

Task: 8 (continued)	
Responsibility	CNET (Functional Commanders)
Description:	This is an update utilizing latest planning documents and technical data.
Task: 9	Continue liaison with OPTEVFOR
MBS No.	3.8.F1 and 3.8.F8
Responsibility:	CNET
Description:	Obtain representation on OPEVAL project teams to ensure training conducted for OPEVAL crews provides skills required to operate and maintain systems/equipments. Results obtained used to modify, where necessary, contractor training courses and materials.
Reference:	CNETINST 1500.9
Task: 9.1	When directed by CNET, provide assistance in and evaluation of training aspects of OPEVAL systems/equipments.
Responsibility:	Functional Commanders
Reference:	CNETINST 1500.9
Task: 10	Fully develop the ILS Plan by beginning of Full-Scale Development Phase.
MBS No.	3.0.F2 and 3.8.F2
Responsibility:	ILSM with input from CNET (Functional Commanders)
Description:	The what, who, how and when of the system/equipment ILS will be developed. ILS requirements for contractual documents are developed.
Reference:	NAVMATINST 4000.20B, para. IV, C.
Task: 11	Participate in the Advance Procurement Planning Council.
MBS No.	3.0.F5 and 3.8.F5

TABLE 7.5. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PROGRAM INITIATION PHASE - VALIDATION (TERMINATES AT DSARC II) (continued)

Task: 11 (continued)	
Responsibility:	ILSM with CNET (Functional Commanders) input
Description:	The Navy Procurement Directives (NPD) and Armed Services Procurement Regulations (ASPR) specify details of procurement policy. Advance Procurement Plan is tailored to procurement needs.
Reference:	SECNAVINST 5000.1, encl (3), para. E NAVMATINST 4000.20B
Task: 12	Prepare Request for Proposal (RFP) - Training inputs.
MBS No.	3.8.F5
Responsibility:	ILSM with CNET (Functional Commanders) inputs
Description:	The RFP for system/equipment Full-Scale Development solicitation includes appropriate ILS requirements which must be stated clearly and concisely so that the subsequent evaluation of proposals from several offerors can be fairly evaluated.
Reference:	SECNAVINST 5000.1, encl (3), para. F NAVMATINST 4000.20B, appendix A
Task: 13	Prepare contract schedule - Training inputs.
MBS No.	3.8.F5
Responsibility:	ILSM with CNET (Functional Commanders) inputs
Description:	Contract schedule includes: (1) requirements for instructional materials to be used within CNET training programs (2) MIL-STD-1379A or other appropriate specifications concurred in by CNET (3) delivery of instructional materials for CNET review concurrent with ILSM review (4) delivery of technical manuals for training.
Reference:	SECNAVINST 5000.1, encl (3), para. F OPNAVINST 1500.8H, para. 8d NAVMATINST 4000.20B, appendix A

TABLE 7.6. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - FULL-SCALE DEVELOPMENT PHASE (TERMINATES AT DSARC III)*

Task: 1	Prepare DCP III
MBS No.	0.0.F2 and 3.8.F2
Responsibility:	Program Sponsor
Description:	DCP III supports the decision by the SECDEF to enter the Production/Deployment Phase. See appendix G of this Guide for details
Reference:	DODDIR 5000.26 DODINST 5000.2 OPNAVINST 5000.42A OPNAVINST 5000.46
Task: 2	Organize ILS Management Team.
MBS No.	3.0.F1
Responsibility:	ILSM
Description:	a. If not previously established, ILS management team is organized with appropriate government and contractor personnel. The team's purpose is to review, guide and approve (as required) contractor actions (NAVMATINST 4000.20B, appendix A). b. CNETINST 1500.9 encl (3) provides guidance for NAVEDTRACOM participation.
Reference:	a. NAVMATINST 4000.20B b. CNETINST 1500.9
Task: 3	Fully develop the ILS Plan early in the Full-Scale Development Phase.
MBS No.	3.0.F2 and 3.8.F2
Responsibility:	ILSM with CNET (Functional Commanders) input
Reference:	OPNAVINST 4100.3A NAVMATINST 4000.20B

*See figures H.1 and H.2 for System/Equipment and Instructional System life cycles.

TABLE 7.6. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - FULL-SCALE DEVELOPMENT PHASE (TERMINATES AT DSARC III) (continued)

Task: 4	Continue analysis of resource requirements.
MBS No.	3.8.2.F3
Responsibility:	CNET and Functional Commanders
Description:	Update manpower and other resource requirements and their priorities to support the training activities and programs involved within the NAVEDTRACOM.
Reference:	OPNAVINST 1500.8H, para. 8f(3)
Task: 5	Program, budget and allocate training resources to participate in Initial Training and to implement Follow-on/Replacement Training as set forth in approved NTPs.
MBS No.	3.8.F4 and 3.8.F9
Responsibility:	CNET and Functional Commanders
Reference:	OPNAVINST 1500.8H, para. 8f(7)
Task: 6	Ensure ILSM has programmed needed training resources.
MBS No.	3.8.F1
Responsibility:	CNET (Functional Commanders)
Description:	Take necessary steps to ensure that ILSM or other TSA includes required resources for which they are responsible in POM/budget submissions.
Reference:	NAVMATINST 7100.4
Task: 7	Functional Commanders review instructional materials.
MBS No.	3.8.1.F5
Responsibility:	CNET and Functional Commanders
Description:	For training within NAVEDTRACOM cognizance, designate the appropriate activity which will participate in the review of, and provide comments on, contractor furnished Initial Training materials to ensure Initial Training format is adequate and compatible with Follow-on/Replacement Training requirements.
Reference:	OPNAVINST 1500.8H, para. 8f(5)

TABLE 7.6. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - FULL-SCALE DEVELOPMENT PHASE (TERMINATES AT DSARC III) (continued)

Task: 8	Review contractor supplies/services in accordance with contract requirements
MBS No.	3.8.1.F5
Responsibility:	CNET and Functional Commanders
Description:	Review and provide comments to the Contracting Officer concerning contractor furnished Initial Training course curricula and instructional materials.
Reference:	OPNAVINST 1500.8H, para. 8f(6)
Task: 9	Conduct Initial Training
MBS No.	3.8.1.F7
Responsibility:	Contractor
Reference:	Navy Comptroller Manual OPNAVINST 1500.8H
Task: 10	Assist OPTEVFOR in preparation of test requirements and in conducting OPEVAL.
MBS No.	3.8.1.F8
Responsibility:	CNET (Functional Commanders)
Description:	On system/equipment OPEVALS agreed to by COMOPTEVFOR/ CNET, assist in planning, developing, conducting and evaluating operator/maintenance training received.
Reference:	CNETINST 1500.9
Task: 11	Continue monitoring Full-Scale Development of systems/ equipments.
MBS No.	3.8.F1
Responsibility:	CNET and Functional Commanders
Task: 12	Identify need for changes to NTP and advise the CNO of the circumstances and need for the recommended change.
MBS No.	3.8.F1
Responsibility:	CNET

TABLE 7.6. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - FULL-SCALE DEVELOPMENT PHASE (TERMINATES AT DSARC III) (continued)

Task: 12 (continued)	
Description:	As significant changes occur impacting on training, initiate request for NTP update.
Reference:	OPNAVINST 1500.8H
Task: 12.1	Advise CNET, when appropriate, of the need for NTP changes.
MBS No.	3.8.F3
Responsibility:	Functional Commanders
Reference:	OPNAVINST 1500.8H
Task: 13	Initiate action to accomplish milestone events and "decisions required" assigned to CNET and Functional Commanders in the NTP.
MBS No.	3.8.2.F1
Responsibility:	CNET and Functional Commanders
Description:	Functional Commanders accomplish milestone events assigned in NTP or by CNET. Advise CNET when cognizant milestone events have been accomplished. Advise CNET well in advance of any potential slippage in milestone dates. Include impact on subsequent events. Advise NTP Principals of anticipated NAVEDTRACOM milestone slippages.
Reference:	CNETINST 1500.9
Task: 14	Prepare Logistic Support Plan Summary in preparation for DSARC III.
MBS No.	3.0.F2
Responsibility:	ILSM with CNET input.
Description:	ILS personnel and training requirements are briefly described. Comments are included on any new or critical skills, ability to fill skill requirements, unique training requirements, including added facilities, or impact of training on existing facilities. An up-to-date table summarizing total manpower resources required to operate, maintain and support the programmed system through the first 10 years of operation is provided.

TABLE 7.6. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION - FULL-SCALE DEVELOPMENT PHASE (TERMINATES AT DSARC III)

Task: 14 (continued)	
Reference:	OPNAVINST 4100.3A, encl (2).
Task: 15	Prepare contractual documents for system/equipment Full-Scale Production - Training portions.
MBS No.	3.8.2.F5
Responsibility:	ILSM with CNET (Functional Commanders) input
Description:	Request for proposal, contract schedule, supplies/services, specifications, and proposal evaluation criteria for Follow-on/Replacement Training are developed. Initial Training evaluation and current system/equipment technical data help determine required supplies/services, possibly causing changes to approved resource requirements. Contract acceptance criteria should ensure that the Instructional System which is produced meets NAVEDTRACOM policies and procedures and meets Fleet needs.
Reference:	Navy Comptroller Manual OPNAVINST 1500.8H

TABLE 7.7. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PRODUCTION/DEPLOYMENT PHASE*

Task: 1	Ensure that ILS Plan is fully operational at time production begins.
MBS No.	3.0.F1 and 3.8.F1
Responsibility:	ILSM with input from CNET (Functional Commanders)
Reference:	NAVMATINST 4000.20B
Task: 2	ILS Management Team reviews progress.
MBS No.	3.0.F1
Responsibility:	ILS Management Team
Description:	Review contractor and Government overall progress in meeting ILS Plan. Modify or approve in accordance with contract.
Reference:	NAVMATINST 4000.20B
Task: 3	Revise and validate program and budget submissions.
MBS No.	3.8.F4
Responsibility:	ILSM and CNET (Functional Commanders)
Reference:	OPNAVINST 1500.8H
Task: 4	Review contractor supplies/services in accordance with the contract - Follow-on/Replacement Training
MBS No.	3.8.2.F5
Responsibility:	CNET and Functional Commanders
Description:	Review and provide comments to Contracting Officer concerning contractor furnished Follow-on/Replacement Training course curricula and instructional materials.
Reference:	Navy Comptroller Manual OPNAVINST 1500.8H
Task: 5	Deliver and install training equipment at training activities.
MBS No.	3.8.2.F9
Responsibility:	ILSM and CNET (Functional Commanders)

*See figures H.1 and H.2 for System/Equipment and Instructional System life cycles.

TABLE 7.7. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PRODUCTION/DEPLOYMENT PHASE (continued)

Task: 5 (continued)	
Reference:	OPNAVINST 1500.8H
Task: 6	Establish and conduct Follow-on/Replacement Training which is based on approved requirements.
MBS No.	3.8.2.F7
Responsibility:	CNET (Functional Commanders) with technical assistance from ILSM.
Reference:	OPNAVINST 1500.8H OPNAVINST 1500.19C Navy Comptroller Manual
Task: 7	Prepare transition or turn over plan.
MBS No.	3.0.F2
Responsibility:	ILSM
Description:	A detailed plan that delineates transition or turn over of logistic support responsibilities from one agency to another.
Reference:	NAVMATINST 4000.20B
Task: 8	Issue certification to "user" attesting that full integrated logistic support has been planned and acquired.
MBS No.	3.0.F1
Responsibility:	ILSM
Description:	Certificate is issued with copy to CNM upon delivery of the defense system/equipment from a production contractor or other source to a Navy "user."
Reference:	NAVMATINST 4000.20B, para. 4.d.
Task: 9	Monitor effectiveness of Replacement Training.
MBS No.	3.8.2.F8
Responsibility:	CNM and CNET (Functional Commanders)
Reference:	CNETINST 1550.4A NAVMATINST 1550.2B

TABLE 7.7. INSTRUCTIONAL SYSTEM TASKS DURING SYSTEM/EQUIPMENT ACQUISITION-PRODUCTION/DEPLOYMENT PHASE (continued)

Task: 10	Modify Replacement Training
MBS No.	3.8.2.F10
Responsibility:	CNET (Functional Commanders) and CNM
Description:	Accomplish changes to Instructional System to reflect system/equipment changes, to implement audit recommendations, to increase efficiency, and to increase effectiveness. Planning, programming, budgeting, procurement, design/development, implementation, evaluation and support functions could occur to accomplish modification.
Reference:	OPNAVINST 1500.8H

APPENDIX A

AN OVERVIEW OF THE PLANNING, PROGRAMMING AND BUDGETING SYSTEM

APPENDIX A[1]

AN OVERVIEW OF THE PLANNING, PROGRAMMING AND BUDGETING SYSTEM

A.1 BACKGROUND

The Defense Reorganization Act of 1958 gave SECDEF, under the policy guidance and direction of the President and the National Security Council, two distinct lines of authority. A direct line of command was established through the Joint Chiefs of Staff (JCS) to the Unified and Specified commands. A line for administrative control of the military departments and for management of support of military forces was established through the Secretaries of the Military Departments. Through the command line of authority, the SECDEF issues decisions regarding threat appraisal, strategy, and forces. Through the administrative or management line of authority, he issues decisions regarding program goals to support the forces and budgeting of annual funds to support the programs. The process through which these decisions and resultant actions are integrated is the DOD Planning, Programming and Budgeting System (PPBS).

A.2. CONCEPT

The PPBS process can be summarized briefly as follows:

- Collect intelligence
- Appraise the threat
- Based on national policy, develop strategy to meet the threat
- Determine force levels to support the strategy
- Program weapon systems, manpower and support over a period of time to attain fiscally constrained force levels
- Budget annual allocations of funds to procure men and materials required to carry out programs

Implicit in the process outlined above are the development of objectives, the conduct of special studies, and research and development of weapon systems/equipments and their procurement and support. In fact, all the resources of the Department of the Navy are drawn upon to formulate its plans, programs, and budgets.

A.3. PLANNING, PROGRAMMING, AND BUDGETING CYCLE

The DOD PPBS organization and procedures are embodied in DODINST 7045.7. The DOD PPBS operates on approximately an 18-month cycle; however, the system is recycled annually and an overlap results (see figure A.1). This means

[1] Source: Department of the Navy Programming Manual and RDT&E Management Guide.

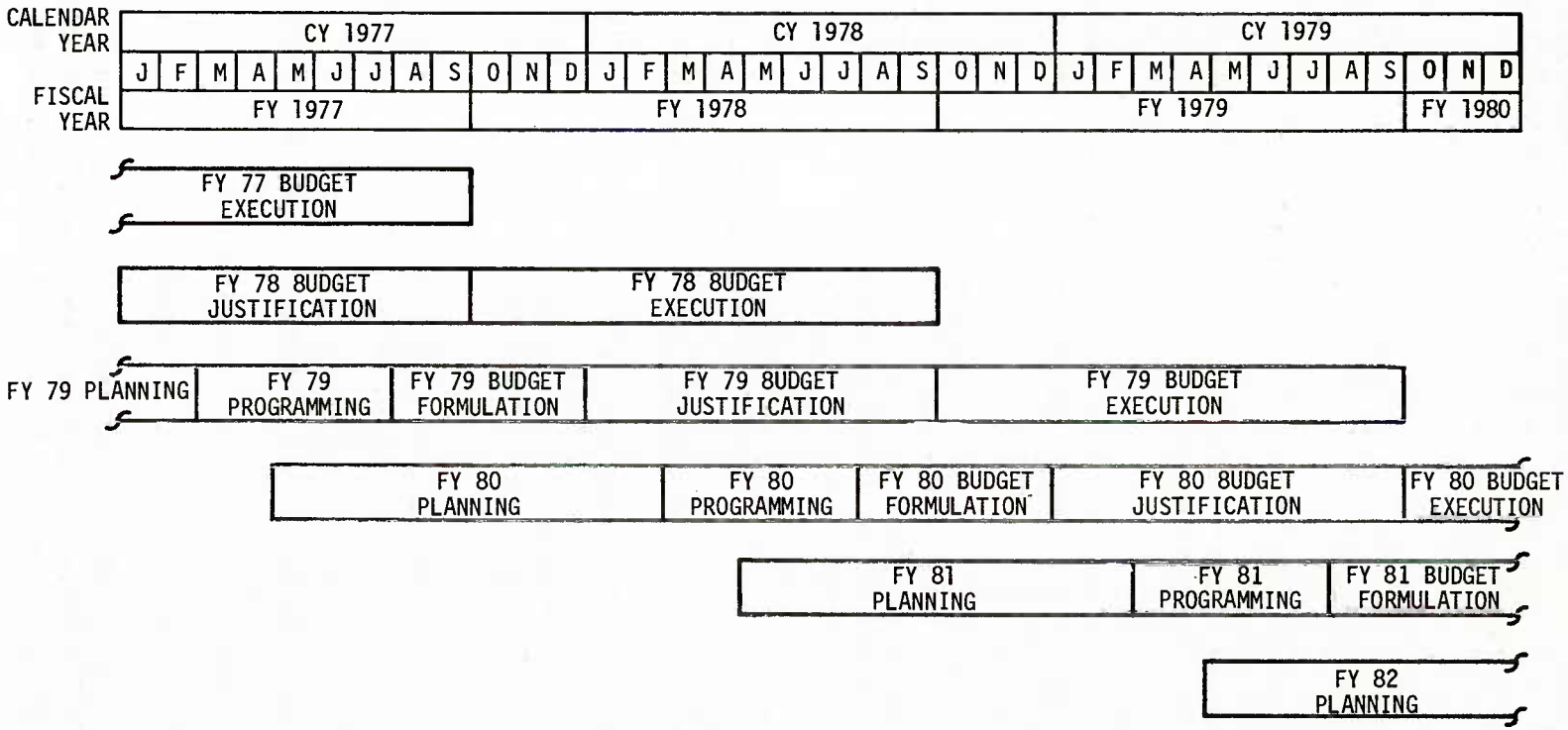


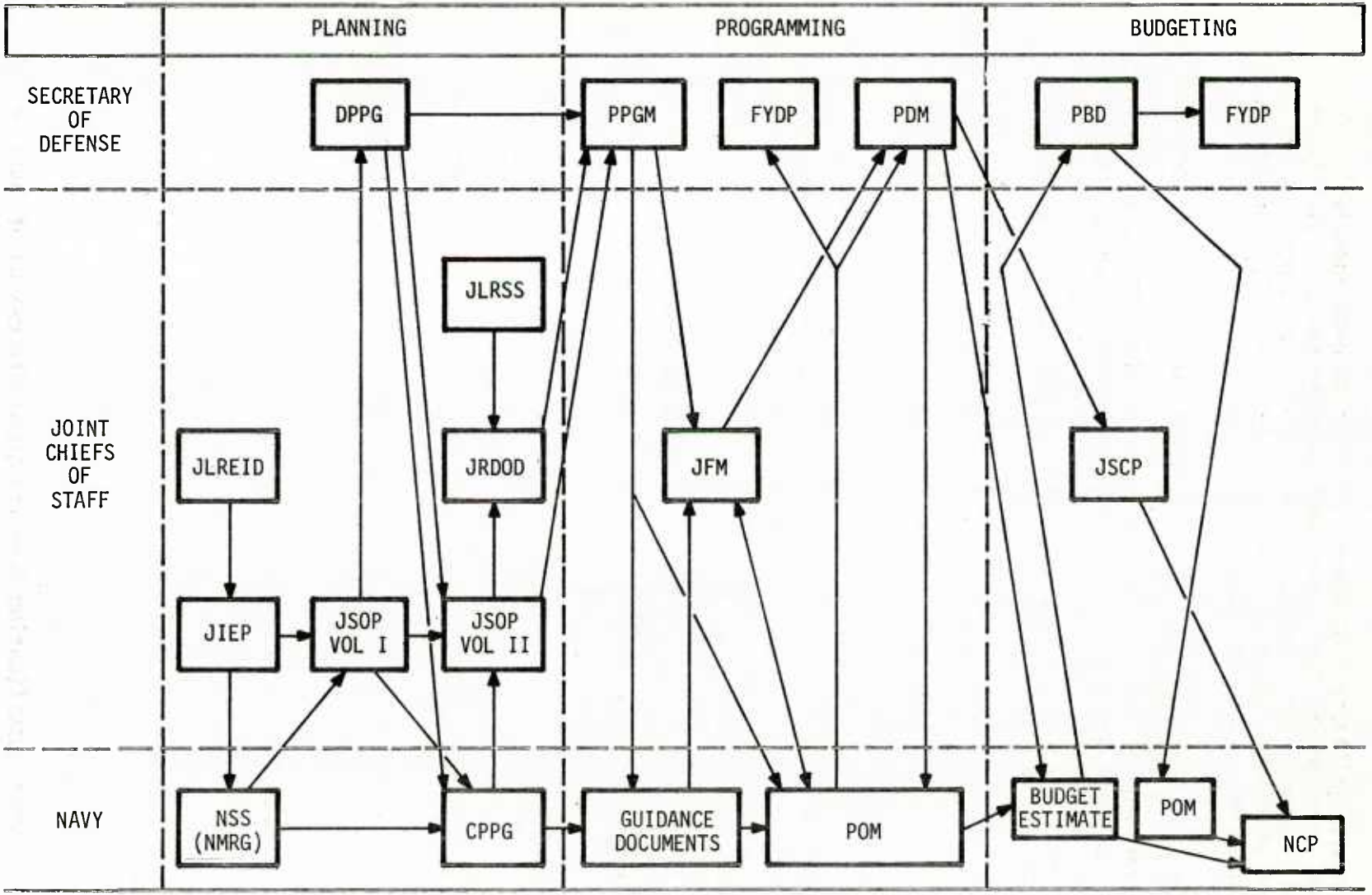
Figure A.1. Simultaneous PPBS Events in CY 1977 through 1979

simultaneously budgeting for one year, programming for the following year, and planning for the succeeding years. The cycle involves the following basic items (see figure A.2), the timing of which is promulgated by SECDEF annually in the Program/Budget Review Schedule:

ITEM	EVENT
1	JCS submit Joint Strategic Objective Plan (JSOP) Vol. I (Strategy) to SECDEF.
2	SECDEF issues Defense Policy and Planning Guidance (DPPG).
3	SECDEF issues Material Support Planning Guidance (draft Logistics Guidance).
4	JCS submit JSOP Vol. II (Forces) to SECDEF. It is based on JSOP Vol. I and DPPG and is not fiscally constrained. (Requirements are identified and objective forces are recommended.)
5	SECDEF issues Planning and Programming Guidance Memorandum (PPGM) (modification to DPPG strategy, if appropriate; Fiscal Guidance, Material Support Planning Guidance; and Guidance for Program Objective Memoranda/Joint Force Memorandum preparation).
6	JCS submit to SECDEF the Joint Force Memorandum (JFM) which includes forces and resource recommendations, rationale, and risk assessments. The JFM is fiscally constrained consistent with Fiscal Guidance contained in the PPGM.
7	Military Departments/Defense Agencies submit to SECDEF POMs which include forces and resource recommendations with rationale and risk assessment. The POM is fiscally constrained consistent with Fiscal Guidance contained in the PPGM.
8	SECDEF issues Program Decisions. Reclamas to these decisions submitted by Departments/Agencies; then final decisions are issued.
9	Departments/Agencies submit budget estimates for budget year.
10	SECDEF issues program/budget decisions.

A.4. PLANNING, PROGRAMMING AND BUDGETING SYSTEM PRODUCTS

A.4.1 Five-Year Defense Program (FYDP). The FYDP is formulated annually on the basis of SECDEF decisions in response to the POMs submitted by the military departments. The FYDP is the summary of the approved five-year programs of



(SOURCE: DEPARTMENT OF THE NAVY PROGRAMMING MANUAL AND GAO REPORT B-163058)

Figure A.2. Relationship of Navy Documents to Joint Chiefs of Staff and Secretary of Defense Documents

all DOD components (military departments plus the defense agencies). The FYDP projects force requirements for 8 years and manpower and cost data (associated with approved programs) for 5 years. It is the official program of the DOD and is updated as changes occur in accordance with the PPBS. (See appendix C for more information on the POM and appendix D for the FYDP.)

A.4.2 Budget. The annual budgets of the defense components are developed each year during the period July to October on the basis of the forces and programs set forth under the first program year of the FYDP. While derived from the FYDP, budgets are expressed in greater refinement and detail than FYDP programs. The Defense portion of the President's Budget is based on SECDEF decisions regarding the separate budgets submitted by the defense components. Figure A.3 shows budget justification.

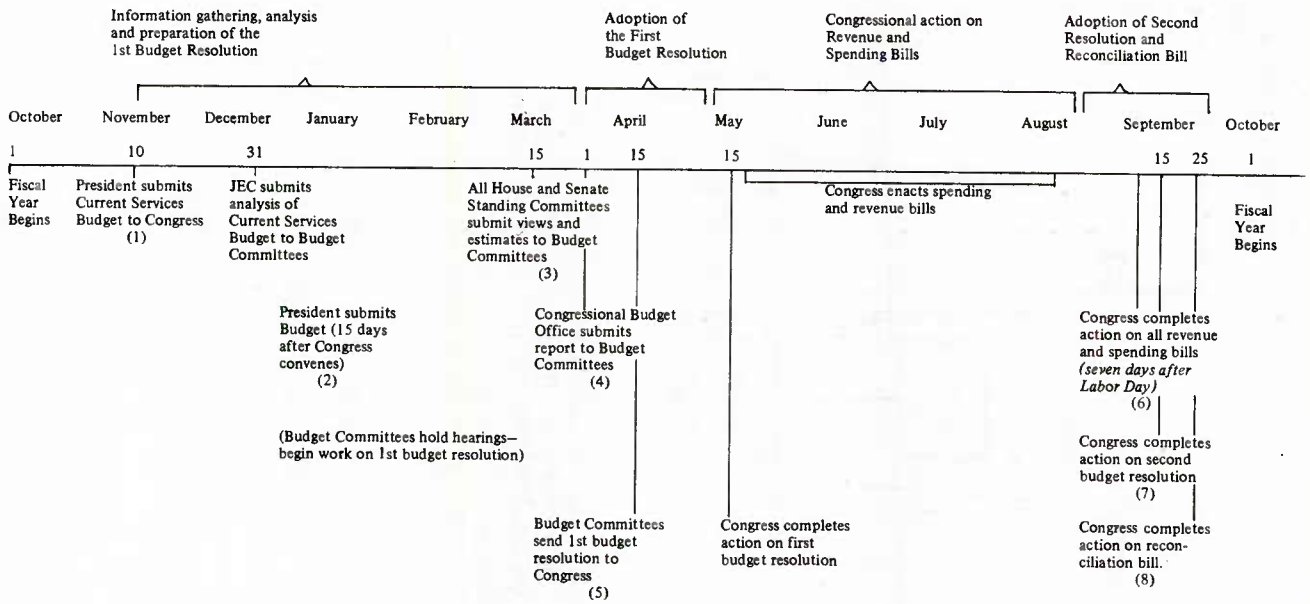


Figure A.3. Budget Justification (Congressional Process as of June 1976)

A.5 SUMMARY

The procedures within the PPBS can be stated in a few words:

- The STRATEGY is developed in consideration of the THREAT and POLICY
- Force requirements are developed to support the STRATEGY
- PROGRAMS are developed to provide, on an orderly basis, ships, aircraft, weapon systems, and manpower over a period of time, with due consideration of the total cost to the Nation
- Lastly, FUNDS must be budgeted in such a manner as to obtain the required forces and weapon systems with the resources that the Nation provides.

APPENDIX B

PLANNING

APPENDIX B

PLANNING[1]

B.1 GENERAL

Planning, the first phase of the PPBS, starts with the assessment of the threat to the security of the United States and, when combined with national policy, culminates in the development of force objectives to assure the security of the United States. The force objectives are limited to forces in being and capabilities of research and production to provide forces in the future.

Within the administrative process for the conduct of the national security affairs of the United States, there are other organizations and documents which operate outside the DOD and the PPBS, but do impact upon the planning and composition of the armed forces.

Two committees, one established by public law--the National Security Council (NSC)--and the other, established at the request of the Secretary of Defense--the Defense Program Review Committee (DPRC)--have considerable influence upon the planning phase. The purpose of the NSC involves the security policy of the United States. The purpose of the DPRC is to review major defense issues requiring Presidential decision. Major defense issues are interpreted to include only those select and broad national policy matters in which the highest level military, political, and economic considerations are involved.

In the context of the PPBS annual cycle, planning is initiated with the submission of the JSOP Vol. I by the JCS. However, planning within the JCS and Military Services has its beginning with the Joint Intelligence Estimate for Planning (JIEP). The JSOP and JIEP, together with other JCS strategic planning documents, collectively comprise the Joint Strategic Planning System (JSPS).

B.2 CONCEPT (Refer to figure A.2 for study/plan relationships)

(a) The planning concept is to assess the world situation (friend and foe) at prescribed future time periods, technical capabilities required, military strategy to counter threats to the national security, and to state force objectives to satisfy the national strategy.

(b) To fulfill the planning concept, the JCS prepare various studies and plans (see figure B.1 for time period relationships):

JIEP (Joint Intelligence Estimate for Planning). Describes situations and developments throughout the world that could affect United States security interests in the short- and mid-range periods.

[1] Source: Department of the Navy Programming Manual. (Further details are contained therein and in the Department of the Navy RDT&E Management Guide.)

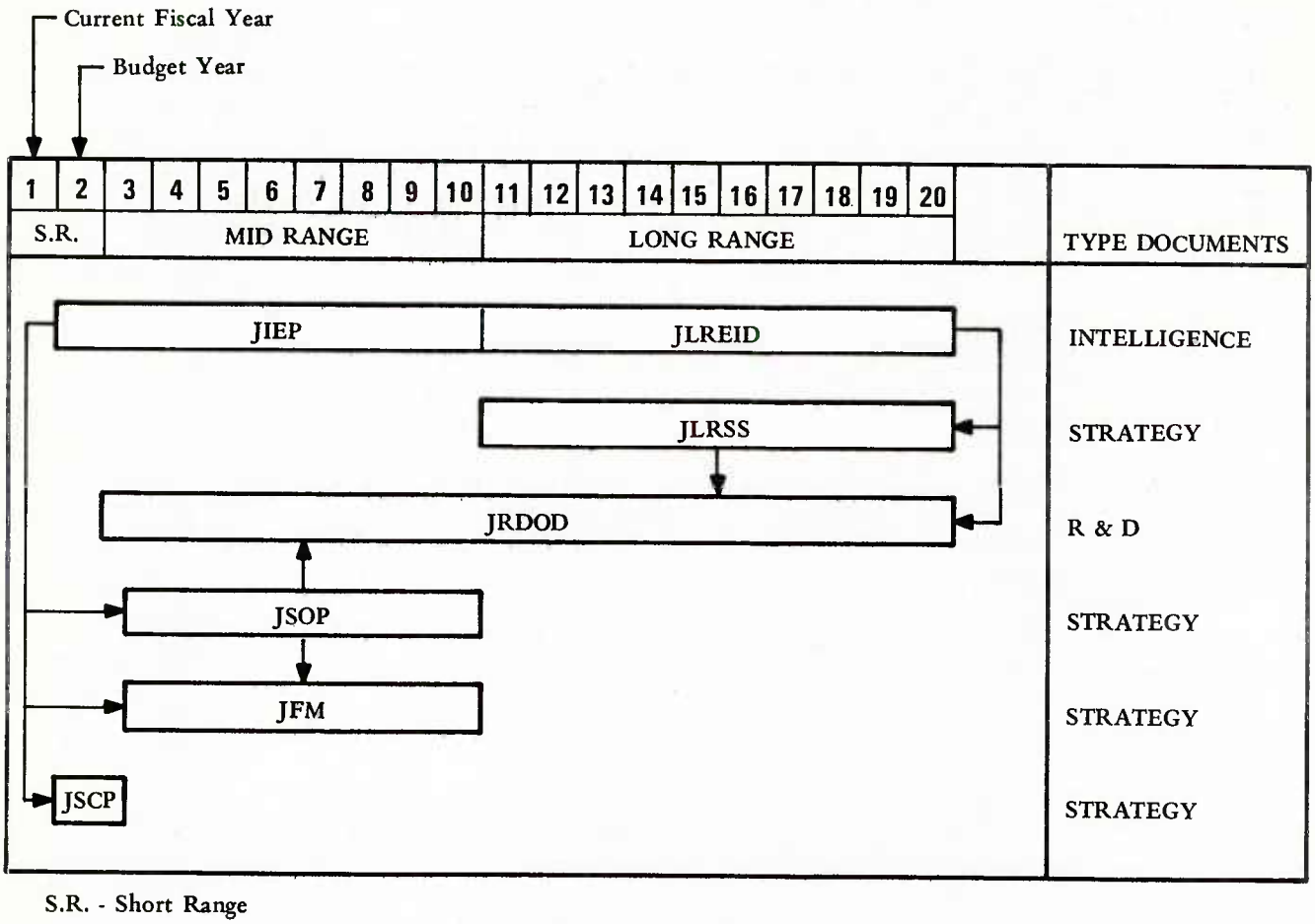


Figure B. 1. JSPS Document Interrelationships

JLREID (Joint Long-Range Estimative Intelligence Document). Summarizes factors and trends in world power relationships and assesses the capabilities of important foreign nations.

JLRSS (Joint Long-Range Strategic Study). Source document that addresses the strategic implications of world-wide and national economic, political, social, technical, and military trends.

JSOP-Vol I (Joint Strategic Objectives Plan). Provides the JCS concept of the military strategy and force planning guidance to attain the national security objective and the military objective derived therefrom.

JSOP-Vol II (Joint Strategic Objectives Plan). Translates the national security objectives and the military strategy of Vol. I JSOP, as modified by DPPG, into force objectives required to support that strategy.

JRDOD (Joint Research and Development Objectives Document). Translates the broad strategic guidance concerning operational requirements of the JLRSS and the strategic concept, objective force levels, and functional area requirements of the JSOP into Research and Development Objectives.

JSCP (Joint Strategic Capabilities Plan). Provides guidance to the Commanders of the Unified and Specified Commands and the Service Chiefs for the accomplishment of military tasks, based on projected military capabilities and conditions.

(c) The foregoing Joint Strategic Planning System (JSPS) documents are supported by the following Service planning documents:

NSS (Navy Strategic Study). Provides concepts and philosophy concerning future Naval contributions to National defense.

MLRP (Marine Corps Long-Range Plan). This document summarizes the roles, missions, and force objectives of the Marine Corps in support of JSOP.

NCP (Navy Capabilities Plan). Provides a statement of the capabilities in support of the JSCP.

MCP (Marine Corps Capabilities Plan). Provides a statement of the capabilities in support of the JSCP.

NS&MP (Navy Support and Mobilization Plan). Provides policy and guidance for the logistics support of approved and mobilized forces and for the phased expansion of the Navy in mobilization.

(d) During the planning phase of the PPBS, the following memoranda set forth strategic planning and policy guidance upon which the development of force objectives should be based:

DPPG (Defense Policy and Planning Guidance). Establishes the preliminary strategic framework for the planning, programming and budgeting phases of the PPBS.

DNPPG (Department of the Navy Planning and Programming Guidance). Transmits SECNAV planning and programming guidance to the Department of the Navy at appropriate times in the PPBS process.

CPPG (CNO Policy and Planning Guidance). Transmits the essence of the SECDEF's policy and planning guidance as it applies to the Navy, along with the CNOs amplification of this guidance, his goals and priorities.

CMC PPPG (CMC Program Policy and Planning Guidance). Provides CMC interpretation of the national strategy and the implications of that strategy on the Marine Corps.

CPAM (CNO Program Analysis Memoranda). Provides in-depth analysis of each major mission and support category and alternatives as to how best to accomplish the goals of the CPPG. It is structured for decision-making.

APPENDIX C

PROGRAMMING

APPENDIX C

PROGRAMMING[1]

C.1 GENERAL

C.1.1 Basic Purpose (see figure A.2). The basic purpose of the programming phase is to translate Department of the Navy approved concepts and objectives into a definitive structure expressed in terms of time-phased resource requirements including personnel, monies and materiel. This is accomplished through systematic approval procedures that "cost out" force objectives for financial and manpower resources 5 years into the future, while at the same time displaying forces for an additional 3 years. This gives the SECDEF and the President an idea of the impact that present day decisions have on the future defense posture.

C.1.2 Concept. The programming phase of the PPBS cycle commences with the promulgation of the Defense Planning and Programming Guidance Memorandum (PPGM).

(a) This document provides:

- Modifications/Additions to the Policy and Force Planning Guidance contained in the DPPG
- Material Support Planning Guidance
- Fiscal Guidance
- POM Submission Guidance
- Other additional planning guidance, as required.

(b) This guidance provides the framework around which the Joint Chiefs of Staff, Military Departments and the Defense Agencies develop their fiscally constrained programs.

The JFM is submitted to the SECDEF by the JCS. The JFM represents the views of the JCS as a corporate body concerning forces developed under fiscal constraints. The JFM force recommendations, procurement programs, and risk assessments are developed from inputs by the Service Chiefs.

The POM is the document in which each Military Department and Defense Agency recommends and describes annually its total program objectives. Program objectives are fiscally constrained. To allow flexibility for each service to develop balanced programs, reallocation of funds is permitted between major mission and support categories unless specifically stated otherwise in the Fiscal Guidance section of the PPGM.

The SECDEF reviews the JFMs and the POMs and based on this review issues Program Decision Memoranda (PDM).

[1] Source: Department of the Navy Programming Manual. (Further details are contained therein and in the Department of the Navy RDT&E Management Guide.)

C.1.3 Program Documentation. The following constitute the formal program phase documentation:

- Five-Year Defense Program (FYDP) (see appendix D)
- Planning and Programming Guidance Memorandum (PPGM)
- Joint Force Memorandum (JFM) (see paragraph C.2 below)
- Program Objectives Memorandum (POM) (see paragraph C.3 below)
- Program Decision Memorandum (PDM)
- Decision Coordinating Paper (DCP) (see appendix G)
- Program Change Request (PCR)
- Program Change Decision (PCD)
- Memorandum Program Change Request (MPCR)

C.2 JOINT FORCE MEMORANDUM (Refer to figure A.2)

The JFM provides the recommendations of the JCS on fiscally constrained force levels and support programs which are developed in response to the PPGM issued by the SECDEF. The JFM will identify major force and force-related issues which will require decisions during the current year. The JFM is intended for use by the Military Departments and DOD Agencies to assist in the preparation of their POMs and by the SECDEF to assist in decisions on the defense program.

The JFM includes the views of the JCS on the capabilities of the JFM forces to execute the strategy of JSOP, Volume I, and the DPPG and the risks inherent therein. Specific recommendations are presented for major forces; force deployments; intelligence; counterintelligence; mapping, charting, and geodesy; communications, R&D; logistics; support to other nations; and nuclear stockpile levels--all within specified fiscal constraints. The Support to Other Nations Annex presents a regional and country appraisal of planned security assistance programs and their contribution to the attainment of United States military objectives. The Nuclear Annex is developed in consonance with the views of the JCS on major force levels as reflected in the JFM and displays nuclear stockpile levels and rationale pertinent thereto.

C.3. PROGRAM OBJECTIVES MEMORANDUM (Refer to figure A.2)

The Department of the Navy POM is the SECNAV's annual recommendation to the SECDEF for the detailed application of Department of the Navy resources. The POM is developed within the constraints imposed by the SECDEF's Fiscal Guidance contained in the PPGM to satisfy all assigned functions and responsibilities during the period of the FYDP. The POM is the instrument through which programming under fiscal constraints is implemented. It is also the primary means of requesting revision to SECDEF-approved programs as published in the FYDP.

The POM is structured by the Defense Planning and Programming Categories and special program aggregations as identified in the PPGM. It represents a comprehensive and detailed expression of the total resource requirements associated with the total commitment of the Department of the Navy. Assessment of risks and military advantages of the proposed programs, as measured against those currently approved in the FYDP, must be addressed. Supporting

detail is prepared in Program Element (PE) terms. The POM is forwarded to the SECDEF as a total package and, upon submission, included programs are considered "locked." Changes are permitted only if they are timely enough to be considered with the initial submission, contribute significantly to effectiveness, and identify equal cost trade offs within previously submitted programs.

C.4. DEPARTMENT OF THE NAVY POM RESPONSIBILITIES

The SECNAV has assigned responsibilities for the development and submission of the Department of the Navy POM as listed below. (Refer to figure C.1 for programming responsibility flow.)

C.4.1 Department of the Navy Program Information Center (DONPIC) coordinates development of the Department of the Navy POM to include:

- preparation and dissemination of implementing instructions in support of the SECNAV's policy guidance for the preparation of the POM
- integration of the POM submissions of the CNO and the Commandant of the Marine Corps (CMC)
- dissemination of draft POM material within the Secretariat for review
- distribution of cost model printouts and such other backup material as is required for the Secretariat review of the POM.

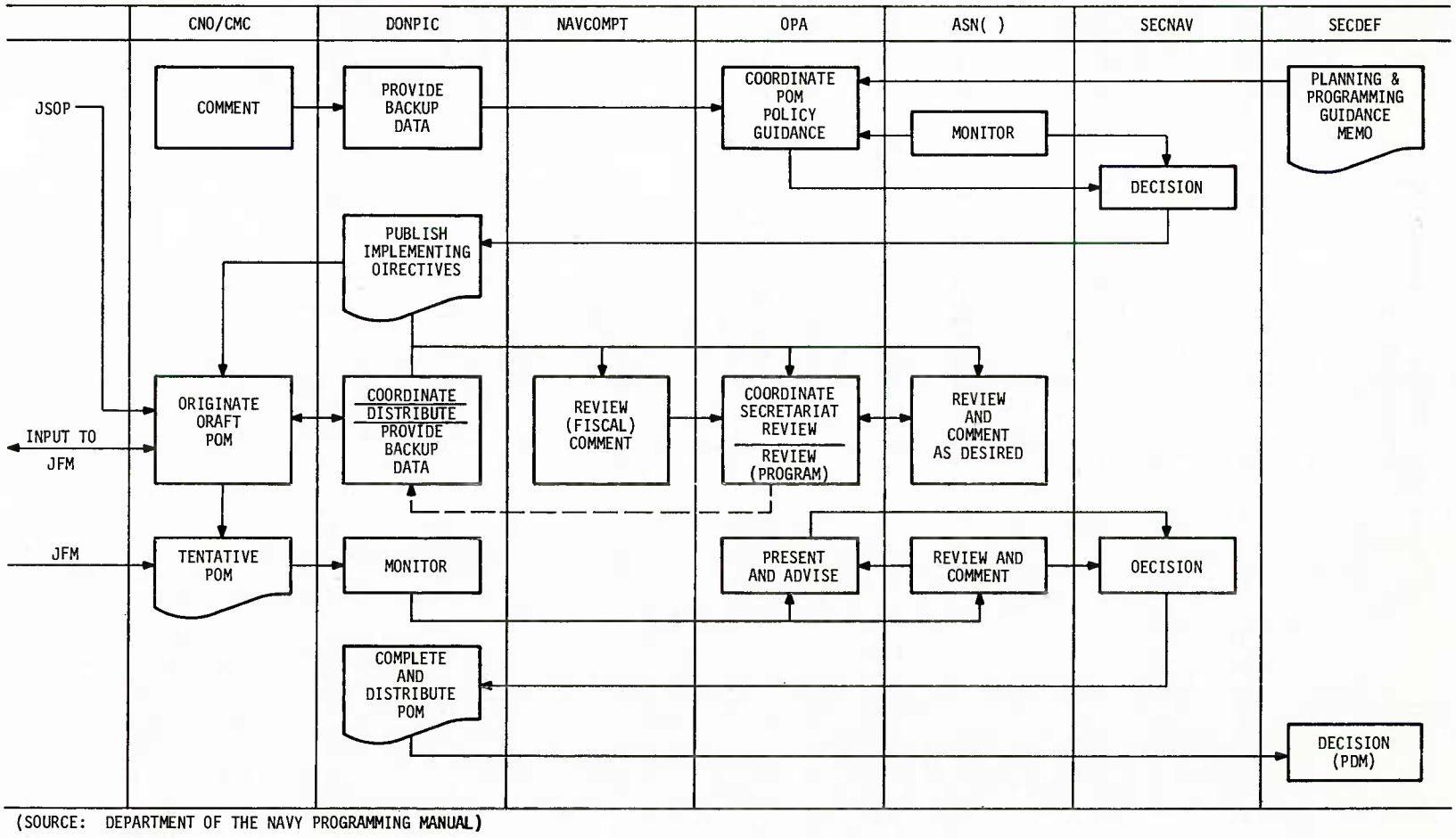
C.4.2. Civilian Executive Assistants. Assistant Secretary of the Navy (Research and Development) is responsible for staffing and presenting to the SECNAV for decision, the R&D section of the POM.

Assistant Secretaries are responsible for providing staff advice and analyses as appropriate for inclusion in the SECNAV POM briefing and decision papers.

C.4.3 Chief of Naval Operations and Commandant of the Marine Corps are responsible for developing and drafting the POM for submission to the SECNAV.

C.4.4 Comptroller of the Navy (NAVCOMPT) is responsible for evaluating, from a budgetary and financial viewpoint, the following:

- appropriation and fiscal status and implications
- financial feasibility and balance
- validity and reasonableness of cost and pricing
- validity in relationship to planned objectives
- legality.



(SOURCE: DEPARTMENT OF THE NAVY PROGRAMMING MANUAL)

Figure C.1. Programming (POM) Responsibility Flow Chart

C.4.5 Director, Office of Program Appraisal (OPA) is responsible for preparing in coordination with the Offices of the Secretariat, proposed SECNAV policy guidance for the development of the POM.

OPA appraises the POM for:

- validity and reasonableness in relation to requirements or objectives
- program balance
- feasibility of attainment, and
- compliance with SECDEF and SECNAV guidance.

OPA coordinates the Secretariat review of the POM and staffs proposed SECNAV decisions on the POM.

C.5 INTERNAL NAVY JFM AND POM DEVELOPMENT PROCEDURES

Within the Navy the following have been established which form the basis for the development of the JFM/POM:

- Issue Papers
- Program Analysis Memoranda
- CNO Program Analysis Memoranda

C.5.1 Issue Papers (OPNAV). Subsequent to the submission of the JFM/POM, a new cycle commences with a review of the POM. This review includes:

- potential program imbalances
- potential resource savings
- alternative mission/program accomplishments
- mission/program unfunded systems or functions, and
- reassessment of threat.

Separate Issue Papers are prepared and scheduled for completion during November. Each is distributed to the various sponsors for review and comment. These reviewed Issue Papers are used in the subsequent program development phases.

C.5.2 CNO Program Analysis Memorandum. CPAMs are developed to present the CNO Executive Board (CEB) with an overview of the approved Five-Year Program and possible alternatives thereto. The individual CPAMs are:

- Strategic Forces
- Sea Control
- Command, Control and Communications
- General Support and Logistics
- Manpower and Training
- Projection
- Fleet Support and Mobility, and
- Summary

Each CPAM describes the approved Five-Year Program and outlines the capabilities to carry out the overall goals and objectives. In addition, each CPAM identifies the major issues requiring a CEB decision plus the alternatives available/proposed for consideration in the current calendar year JFM/POM. Alternatives are considered in terms of fiscal levels prescribed in the CNO Policy and Planning Guidance. Subsequent to the CEB review and decision, the CPAMs form the basis for JFM and POM development.

C.5.3 CNO Executive Board Action. The mission of the CEB is to assist the CNO in meeting his responsibilites by coordinating management actions to implement approved programs and by providing advice on strategy, policy, and action programs. Permanent membership on the CEB is limited to the DCNOs, DMSOs and CHNAVMAT.

The CEB will review each CPAM with particular emphasis on the priority of each option in the face of fiscal constraints and national objectives and make recommendations to CNO.

C.5.4 Resource Allocation Display (RAD). To assist in the analysis of the approved and proposed Five-Year Program a computerized model (RAD) has been developed for displaying the allocation of resources. In the RAD, numerous displays are possible. For example, resource allocations can be displayed by the following categories:

- Force areas
- Defense Planning and Programming
- Function Areas
- CPAMs, and
- Organization entity.

APPENDIX D

THE FIVE-YEAR DEFENSE PROGRAM

APPENDIX D[1]

THE FIVE-YEAR DEFENSE PROGRAM

D.1 GENERAL

Understanding the DOD Programming System and its objectives and implications is particularly important because before any system development can be initiated, it first must be approved for inclusion in the FYDP. To gain approval for development, a program must stand up to "survival of the fittest" competition against alternative means of accomplishing the same purposes and alternative uses of the same resources.

D.2 OBJECTIVES OF THE DOD PROGRAMMING SYSTEM

The objectives of the DOD Programming System are to:

- relate resources to Defense missions and requirements. This is accomplished by identifying the resource "inputs" (men, material, and services) required for military "outputs"
- link planning to budgeting
- establish programs around missions rather than military departmental lines
- stimulate and harness "interservice rivalry" and other competitive incentives by providing a framework in which Services and organizations can compete to provide the forces required for such missions
- establish a rational program structure which encompasses all Defense activities
- provide a capability for making cost-effectiveness studies of alternative force structures or weapons systems
- appraise programs on a continuing basis
- establish a single channel for major decisions on Defense programs.

D.3 DESCRIPTION OF DOD FIVE-YEAR DEFENSE PROGRAM (FYDP)

The FYDP is the summation of all approved programs of the DOD components. It can be visualized as a three-dimensional matrix, in which resource inputs, phased over a 5 year period, are combined with military outputs or programs, phased over the same period. Relating input (resources) to output (forces) in this way provides the SECDEF with two major planning dimensions: (1) he can

[1]Source: Department of the Navy RDT&E Management Guide. (Further details are contained therein and in the Department of the Navy Programming Manual.

determine the military forces required to counter the anticipated threat and (2) he can concurrently allocate available resources to those forces. The FYDP is expressed in terms of three major components: program elements, programs, and resource categories. The costs of these are tabulated over a 5 year period. The Department of the Navy Programming Manual is the standard reference publication for operation of the DOD PPBS in the Department of the Navy.

D.3.1 Program Element. The program element is the basic building block of the FYDP. It describes the mission to be undertaken, identifies the organizational entities that will perform the mission assignment, and estimates their costs. There are roughly 800 program elements in the entire FYDP and 400 Navy program elements, of which about 200 are for RDT&E.

D.3.2 Program. A DOD program is a combination of program elements designed for the accomplishment of a definite objective or plan which is specific as to the time phasing of what is to be done and the means proposed for its accomplishment. Program elements in a single program either complement each other or are possible substitutes for one another.

D.3.3 Major Programs. The following 10 programs currently comprise the program structure and identify broad areas of both forces and support:

PROGRAM (1) Strategic Forces

(2) General Purpose Forces

(3) Intelligence and Communications

(4) Airlift and Sealift

(5) Guard and Reserve Forces

(6) Research and Development

(7) Central Supply and Maintenance

(8) Training, Medical, and Other General Personnel Activities

(9) Administration and Associated Activities

(0) Support to Other Nations.

D.3.4 Resource Categories. Resource categories, which are defined as a unique type of resource or a homogeneous grouping of related procurement, manpower, or construction items, provide a second dimension of planning. There are four major types of resource categories: items of equipment, military construction, the functions and activities financed by operations and maintenance appropriations, and manpower. In the same way that the sum of all of the program elements constitutes the total defense output, so the sum of all of the resource categories constitutes the total input. For example, the program element Fleet Ballistic Missile System is the force provided by all of the

resources allocated to it--the missiles, submarines, supporting Fleet, shore facilities, and personnel who contribute to this element. Programs and resource categories, taken together, provide a complete picture of the sources and uses of national resources among the various defense activities. Resource categories are listed in two annexes to the FYDP: (1) the Material Annex and (2) the Construction Annex.

D.3.5 Cost Categories. Since major program decisions are made in terms of program elements, the DOD has established a method of relating costs to program elements so that the relative economy or efficiency of the elements may be determined. In order to provide better data for decision-making, the total financial requirements for a given program element for a fiscal year are lumped together as Total Obligational Authority (TOA). TOA includes all funds available for support of a program or program element during a year, regardless of appropriation category or the year in which appropriated.

Costs are also broken down into the following cost categories:

(a) Expenses. Expenses are costs of resources consumed in use. These include labor costs, material consumed in use, and services received, except when these costs are incurred in the production or construction of investment items.

(b) Investment. Investment costs are basically the costs of real property and equipment. Initial outfitting of a major end item of equipment such as a ship or aircraft, with furnishings, fixtures, and equipment necessary to make it complete and ready to operate is part of the initial investment cost.

(c) Research and Development. R&D costs are program costs primarily associated with research and development efforts including the development of a new or improved capability to the point where it is ready for operational use.

D.4 DESCRIPTION OF THE DEPARTMENT OF THE NAVY FIVE-YEAR PROGRAM (DNFYP)

The Department of the Navy structured its program around the major Department of the Navy outputs. Internal program decision making in the Department of the Navy is based on "Major Mission and Support Categories" rather than on DOD Major Program structure.

Like the DOD Major Programs, the Major Mission and Support Categories are made up of program elements which contribute to the mission or support output. While there is no one-for-one relationship between most of the Department of the Navy Major Mission and Support Categories and the DOD Major Programs, computer systems can convert from one format to the other.

The Major Mission and Support Categories of the DNFYP are as follows:

- Strategic Forces[2]

  - Strategic Offensive Forces
  - Strategic Defensive Forces
  - Strategic Control and Surveillance Forces
  - Communications Strategic Forces

- Land Forces

- Tactical Air Forces

  - Tactical Air (Navy)
  - Tactical Air (Marine Corps)

- Naval Forces

  - ASW and Fleet Air Defense Forces
  - Amphibious Forces
  - Naval Support Forces
  - Mobility Forces

- Other Missions

  - Intelligence and Security

    - Communications - Intelligence and Security
    - National Special Activities - Intelligence

  - Communications

  - Research and Development

    - Research and Development (Navy)
    - Research and Development (Marine Corps)

  - Support to Other Nations

    - Military Assistance Service Funded (Navy)
    - Military Assistance Service Funded (Marine Corps)

  - General Support

D.5 MECHANICS OF UPDATING THE FYDP AND THE DNFYP

The SECDEF advises the various organizations of the DOD of his approved changes to the FYDP by use of a number of formal documents as discussed below.

[2]See Department of the Navy Programming Manual, Annex I and II, for further breakdown.

- Program Decision Memoranda (PDM). PDMs are the normal means for reporting the program decisions of the SECDEF made in the course of the annual update of the FYDP. PDMs record the decisions of the SECDEF on POMs and JFMs.

- Program/Budget Decision (PBD). PBDs provide SECDEF's decisions concerning the service budget submissions.

- Decision Coordinating Papers (DCPs). Approved DCPs record SECDEF's decisions on major programs.

- Program Change Decisions (PCDs). The PCDs record SECDEF's decision on a Program Change Request (PCR).

- Reprogramming Action. Approval of reprogramming actions in the budget years is indicated on DD Form 1415, "Reprogramming Action."

D.6 PROGRAM CHANGE PROCESS

This paragraph looks at the program change process from the perspective of management. It is concerned with the process by which the DNFYP is normally updated and extended for an additional year and the process by which changes desired by the Navy at other times of the year are determined.

D.6.1 Program Update Process. The normal process for updating the DNFYP commences early in the calendar year with promulgation of a Fiscal Guidance Memorandum (FGM) by the SECDEF. Guidance is expressed in terms of TOA and/or outlay for 5 years subdivided among Major Mission and Support Categories. The Military Departments and Defense Agencies use it in developing their POMs, and the JCS use it for preparing the JFM (see appendix C).

The SECDEF reviews the JFM and the POMs and subsequently issues PDMs.

Program Decision Memoranda address the Major Mission and Support Categories that are identified in the FGMs. Concurrently, Major Force Issues identified in the JFM are reviewed by the Service Chiefs, Secretaries, and SECDEF. These discussions result in Major Force Issue decisions.

Thus, most of the major decisions should be completed in time for the preparation of the annual budget. This is followed by the normal budget review and PBDs, all of which culminate in completion of the SECDEF's portion of the President's Budget.

D.6.2 Out-of-Cycle Changes. Out-of-cycle changes in the DNFYP are accomplished through use of the PCR. A PCR is a proposal to the SECDEF in prescribed format for changes to the approved data in the FYDP.

Guidance for the preparation and processing of PCRs can be found in the Department of the Navy Programming Manual, appendix E, "Program Change Request."

APPENDIX E

BUDGETING

APPENDIX E

BUDGETING[1]

E.1 GENERAL

The budget process is the final phase in the Planning - Programming - Budgeting cycle. The annual budget expresses the financial requirements necessary to support the approved Navy and Marine Corps programs which were developed during preceding phases of planning and programming. The approved programs are those which evolve from incorporating all decision documents received through a predetermined date announced by the annual Program/Budget review schedule memorandum. It is through the budget that planning and programming are translated into annual funding requirements. Each year's budget estimate, therefore, sets forth precisely what the Department of the Navy expects to accomplish with the resources requested for that year.

The budget process is divided into three phases (refer to figure A.1).

(a) Formulation is planning and developing the budget for the fiscal year which will commence 1 year from the next 1 October (formerly 1 July for FY 76 and prior). The formulation phase begins when the Comptroller of the Navy issues a call for budget estimates to the CNO, CMC, CHNAVMAT, Offices, Bureaus, Systems Commands, Fleet Commands, and other commands which report directly to the CNO. This call is based on guidance received from the Assistant Secretary of Defense (Comptroller), ASD(C), about 15 June. The formulation phase continues with review, amendment, and final approval by the SECDEF, the Office of Management and Budget, and the President.

(b) Justification includes presenting and justifying to the Congress the budget for the fiscal year beginning on 1 October next (1 July for FY 76 and prior). See figure A.3 for the Congressional process.

(c) Execution covers obligating and expending Congressionally appropriated funds for the current and prior fiscal years.

Budgets are formulated, justified, and executed on the basis of appropriations. Appropriations are subdivided into budget activities, subheads, programs, projects, etc. The format and structure of the various appropriations are controlled by Congress and represent the manner in which Congress desires the agencies and departments to express requirements for funds. The format and structure of the Department of the Navy appropriations are displayed in Annex 3 of the Department of the Navy Programming Manual.

E.2 BUDGET RESPONSIBILITY

Responsibility for budgeting for the Department of the Navy is assigned as follows:

[1]Source: Department of the Navy Programming Manual. (Further details are contained therein and in the Department of the Navy RDT&E Management Guide.)

(a) The Assistant Secretary of the Navy (Financial Management/Comptroller of the Navy) is responsible for establishment of principles, policies, and procedures for, and coordination of, the preparation, submission, administration, and execution of the total Department of the Navy Budget.

(b) The Deputy Comptroller of the Navy, in addition to his other duties, serves as an adviser and assistant to the CNO and the CMC with respect to financial and budgetary matters.

(c) The Chief of Naval Operations is responsible for:

- Determining the material support needs of the Operating Forces of the Navy (less Fleet Marine Forces and other assigned Marine Corps Forces) including equipment, weapons or weapons systems, materials, supplies, facilities, maintenance, and support services. This responsibility includes the determination of the military performance requirements and priorities of things to be developed or procured, and the determination of the order in which ships, aircraft, surface craft, weapons or weapons systems, and facilities are to be acquired, constructed, maintained, altered, repaired, and overhauled.

- Determining the present needs, both quantitative and qualitative, for personnel, including reserve personnel, of the United States Navy.

- The overall determination of the requirements for Security Intelligence, Discipline, Communications, and matters related to the customs and traditions of the Naval service.

(d) The Chief of Naval Material, under the Chief of Naval Operations, is responsible for developing and coordinating the initial budget estimates and the administration and execution of the appropriated funds to meet material support needs of the Operating Forces of the Navy for equipment, weapons or weapons systems, materials, supplies, facilities, maintenance and supporting services, including the development, acquisition, construction, maintenance, alterations, repair, and overhaul of ships, aircraft, surface craft, weapons or weapons systems, materials, and facilities; all consistent with approved programs.

(e) The Chief of Naval Personnel, under the Chief of Naval Operations, is responsible for developing and coordinating the initial budget estimates and the administration and execution of the appropriated funds to meet the needs, both quantitative and qualitative, for personnel, including reserve personnel, of the United States Navy.

(f) The Chief of the Bureau of Medicine and Surgery, under the Chief of Naval Operations, is responsible for developing and coordinating the initial budget estimates and the administration and execution of the appropriated funds to meet the needs for the health care of the personnel of the Navy and Marine Corps and their dependents.

(g) The Assistant Secretary of the Navy (Research & Development) is responsible for management of the appropriation "Research, Development, Test and Evaluation, Navy." This is a statutory responsibility and is unique among the Assistant Secretaries of the Navy. Such management responsibilities are in general exercised through CNO, CMC, CNR, CND, and the Director of Navy Laboratories (DNL).

E.3 APPROPRIATIONS AND SPONSORSHIP

The Department of the Navy appropriations break down into two categories: Navy and Marine Corps, informally referred to as "Blue" and "Green" dollars, respectively. In addition to the Department of the Navy appropriations, a portion of certain DOD appropriations have been assigned to the Department of the Navy for development, submission, administration, and execution. These appropriations include Family Housing, Defense; Retired Pay, Defense; and Claims, Defense.

(a) The Chief of Naval Operations has assigned specific appropriation sponsorship for the "blue" dollar appropriations to individual DCNOs as shown in table E.1. (Detailed assignment within appropriations is contained within Annex 3 of the Department of the Navy Programming Manual.) The Marine Corps ("green" dollars) appropriations are also shown in table E.1. Figure E.1 shows flow of appropriated funds.

(b) The appropriation sponsor is responsible for:

- developing and executing the assigned appropriation in support of the approved Department of the Navy programs
- coordinating the objectives of all Program and Mission/Support Category sponsors in support of their appropriations and providing overall appropriation guidance
- resolving, in coordination with Program/Force/Mission/Function sponsors, the relative priority and size of programs within their appropriation
- presenting and justifying their appropriation to all echelons, including Congressional hearings, in the budget review cycle
- continuously reviewing and appraising the status and performance of their appropriation in relation to the objectives of the Program/Force/Function sponsors.
- maintaining close liaison with Program Administrators (CMC, Bureaus, System Commands, and Office Managers) to keep informed of fiscal actions relating to their appropriation.

(c) In addition to the appropriations cited in table E.1, revolving funds are included within the annual budget. These funds are used to perform work or maintain stock level and are reimbursed after work is performed or material is delivered to the user. Two types of revolving funds are maintained, the Industrial Fund and the Stock Fund. The description of each follows:

TABLE E.1 DEPARTMENT OF THE NAVY APPROPRIATIONS AND SPONSORSHIP

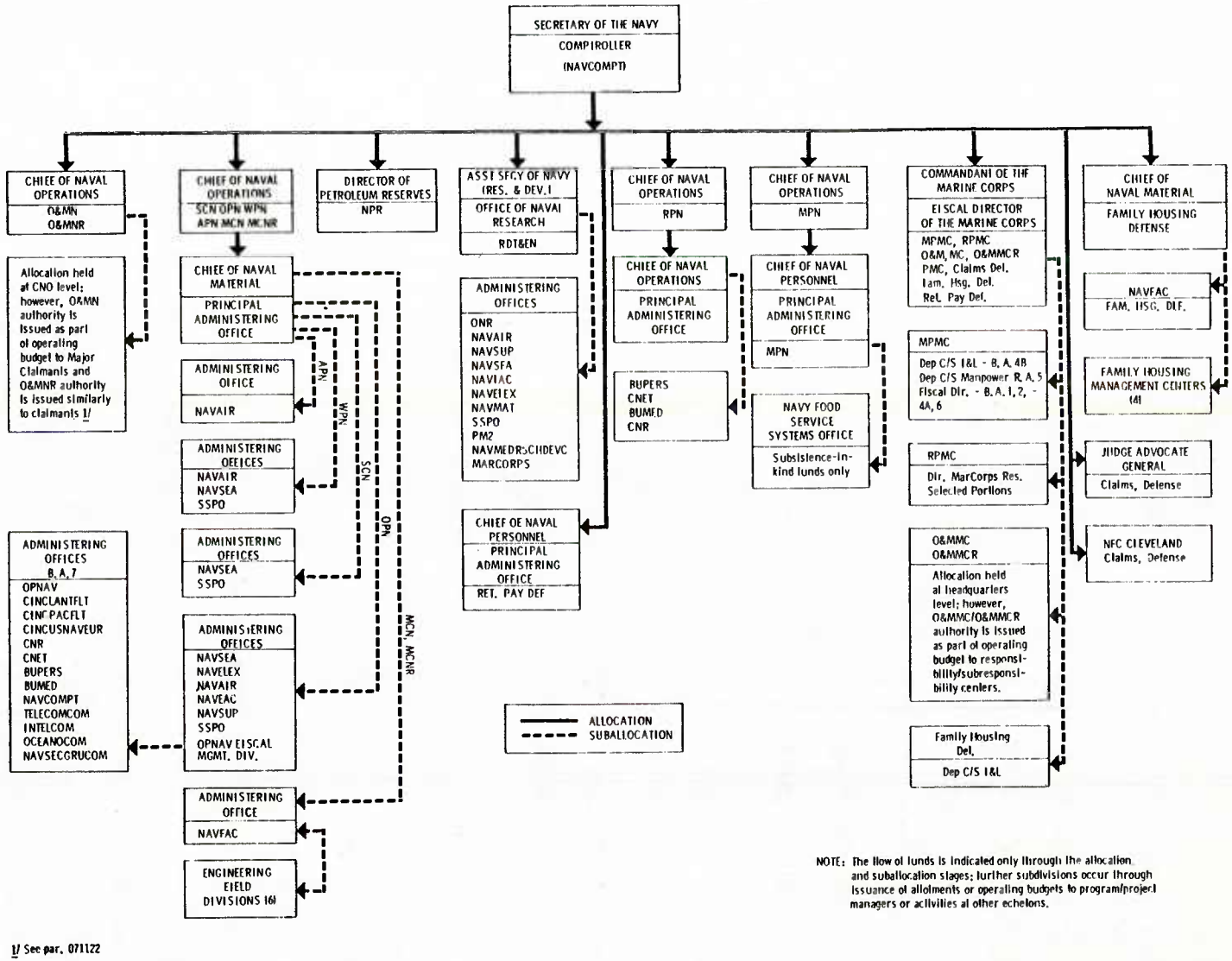
Chief of Naval Operations Appropriations (blue dollars)

Appropriation	Abbreviation	Sponsor
Research, Development, Test and Evaluation, Navy	RDT&EN	ASN (R&D) (OP-098)
Aircraft Procurement, Navy	APN	OP-05
Shipbuilding and Conversion, Navy	SCN	OP-03
Weapons Procurement, Navy	WPN	OP-03
Other Procurement, Navy	OPN	OP-04
Military Construction, Navy	MCON	OP-04
Military Construction, Naval (Reserve)	MCNR	OP-09R
Military Personnel, Navy	MPN	OP-01
Reserve Personnel, Navy	RPN	OP-09R
Operations and Maintenance, Navy	O&MN	OP-92
Operations and Maintenance, Naval Reserve	O&MNR	OP-09R
Family Housing, Defense	(No abbreviation)	OP-04
Claims, Defense	CD	NCB
Naval Petroleum Reserve	NPR	NAVPETRES
Retired Pay, Defense	RPD	NCB

Marine Corps Appropriations (green dollars)

Appropriation	Abbreviation	Sponsor
Military Personnel, Marine Corps	MPMC	CMC
Reserve Personnel, Marine Corps	RPMC	CMC
Operations and Maintenance, Marine Corps	O&MMC	CMC
Operations and Maintenance, Marine Corps Reserve	O&MMCR	CMC
Procurement, Marine Corps	PMC	CMC

DEPARTMENT OF THE NAVY FUND FLOW CHART



(Source: Navy Comptroller Manual, paragraph 073002)

Figure E.1. Department of the Navy Fund Flow Chart

- Industrial Funds (IF). A revolving fund designed to finance the costs of production to fill customers' orders. These costs are recouped by billing the customers; collections are made and credited to the cash account of the fund, thus perpetuating the revolving feature of the working capital and keeping the fund intact.

- Stock Funds (SF). A revolving fund designed to hold in suspense the costs of consumable materials from the time they are incurred (i.e., when the materials are acquired) until the items are issued for use. Reimbursement from the customer enables stock replenishment. This is an essential device in a system to facilitate good management for operations.

E.4 BUDGET SUBMISSION

Normally, the annual Budget submission to the SECDEF is made on 30 September, 12 months prior to the applicable fiscal year. The Navy Comptroller issues the call for the submission of budget estimates in June or July of each year prior to the budget submission to SECDEF on 30 September. NAVCOMPT instructions prescribe the content and format for budget estimates and state the required budget relationship to the POM, the decision documents, and to the SECDEF logistics/fiscal guidance or modification thereof. After review and final decision, the SECNAV submits the proposed budget to SECDEF.

E.4.1 NAVCOMPT Budget Review. The Director of Budget and Reports, Office of the Navy Comptroller (NCB), conducts informal Department of the Navy hearings to insure that the budget estimates:

- are in agreement with the POM and with SECDEF guidance and available decision documents

- contain current and valid costs and pricing

- maintain financial feasibility and balance

- conform to legal requirements

The budget review entails examination in greater detail (than in the programming process) of procurement lists, production schedules, lead times, status of funds, prices, etc. Primarily, it is a detailed analysis of the financial requirements of the first annual increment of the FYDP. However, the impact to the program years is also identified.

E.4.2. NAVCOMPT Budget "Markup." After completion of the annual Department of the Navy budget review, the Director of Budget and Reports prepares a recommended budget "Markup" (revised estimates based on his review). Following issuance of the "Markup," NAVCOMPT, CNO and CMC representatives attempt to resolve differences regarding changes in appropriation/program fundings proposed in the "Markup." Within the Navy, the resolution of the differences is coordinated by Director, Navy Program Planning; within the Marine Corps by the Fiscal

Director. Unresolved differences are submitted to the CNO/CMC, then to the SECNAV, if necessary, for decision. The decisions of the Secretary are final insofar as the Department of the Navy is concerned and are communicated to all headquarters echelons concerned with budget preparation. Each interested service revises and resubmits its portion of the departmental budget submission on the basis of the foregoing agreements/decisions and NAVCOMPT assembles the complete budget for submission to OSD.

E.4.3. SECDEF and Office of Management and Budget (OMB) Review. The analysts of OSD and OMB normally make a joint review of the budget submitted by the Military Departments. However, OMB analysts have the authority to submit separate decisions on the "Markups." Witnesses from the Department of the Navy appear and justify their estimates. On the basis of this review, tentative budget decisions, Program/Budget Decisions (PBDs), are made by SECDEF. These are received by SECNAV and modify the budget year (and prior years as appropriate) of the FYDP. They may also modify programs in future years. The SECNAV is afforded the opportunity to appeal each PBD with which he does not agree. He does so by submitting to SECDEF a position paper or reclama prepared by the responsible Department of the Navy organization.

After SECDEF consideration of each reclama/position paper, final SECDEF decisions are promulgated. Tentative PBDs automatically become final if not appealed. Decisions of SECDEF in the budget review process are communicated to the Department of the Navy, which prepares the budget schedules for inclusion in the President's Budget. Similarly, the Military Departments reflect the PBDs in the January update of the FYDP.

E.4.4 Congressional Review. (Refer to figure A.3). The President presents the Defense Budget to Congress as a part of the National Budget soon after Congress convenes in January of each year. Congressional staffs review the overall budget and backup papers briefly with congressional review commencing early in February.

Hearings begin with "posture" statements from SECDEF, Chairman JCS, Service Secretaries and Service Chiefs made to the congressional committees. Following delivery of posture statements, detailed hearings involving the services' witnesses are initiated.

Congressional review of the Defense portion of the President's Budget is undertaken from the separate standpoints of authorization of programs and appropriation of funds. Annual authorizing legislation is required for the following appropriations: major procurement items (aircraft, missiles, naval vessels, tracked combat vehicles, torpedoes, other weapons); research, development, test, and evaluation; authorized active duty military personnel end strengths; setting the authorized personnel strength of the Selected Reserve components; and construction program. Authorizing legislation is prepared by the Armed Services Committees of the House and Senate, and the appropriation legislation, including that requiring prior authorization, is prepared by the Defense Subcommittees of the House and Senate Appropriations Committees. The military construction appropriation is reviewed and acted upon by a separate military construction subcommittee and is enacted as a separate appropriation. The committees conduct formal hearings at which SECDEF, SECNAV, CNO AND CMC testify

on the overall Department of the Navy Budget. In subsequent hearings, staff representatives of the Department of the Navy are then questioned by congressional subcommittees and staff members on details of the programs and estimates of requirements as supported in the budget document. Contracts between the Department of the Navy and the Armed Services Committees are coordinated by the Office of Legislative Affairs, and those with the Appropriations Committees by NAVCOMPT.

When the House Armed Services Committee completes its hearings, it publishes a report containing committee recommendations and brings before the House of Representatives an authorization bill based on those recommendations. The House-passed bill is considered by the Senate Armed Services Committee, hearings are held, the Senate Committee reports to the Senate, and the full Senate passes a bill. If there are differences between the House and Senate versions of the bill, they are resolved by a joint conference of a small number of members from each of the two committees. The conference report is brought before each of the two committees. The conference report is brought before each of the two legislative bodies, and the final bill is forwarded to the President for signature to complete the enactment process. The same process is followed in enacting the "appropriations" legislation except that it goes through the respective Appropriations Committees rather than the Armed Services Committees. When signed by the President, the legislation becomes an effective Public Law called "Department of Defense Appropriations Act." Beginning with the FY 77 budget, the fiscal year was changed from 1 July - 30 June each year to 1 October - 30 September. Among other benefits this change allows Congress three additional months to consider and pass the appropriations bill before the beginning of the fiscal year.

E.5 CONGRESSIONAL BUDGET AND IMPOUNDMENT ACT OF 1974

The Congressional Budget and Impoundment Act of 1974 set forth a new foundation for the budget cycle and creates three new institutions: the Budget Committees of the House and Senate and the Congressional Budget Office. The Congressional Budget Office is a nonpartisan agency designed to provide Congress with information and analyses needed to make informed decisions about budget policy and national priorities. Specific areas of responsibility for the Congressional Budget Office fall into three categories: (1) monitoring the economy and estimating the impact of government actions on the economy, (2) improving the flow and quality of budget information, and (3) analyzing the costs and effects of alternative budget choices.

E.6 BUDGET EXECUTION

Once appropriation bills are passed into law they are binding as to how much the Department of the Navy can obligate thereunder and, within their broad purposes, what can be bought. There are other constraints subsequently exercised at various levels of government:

- The apportionment process, exercised through the Office of Management and Budget, reflects presidential control and can restrict the rate or purpose of obligations as provided for by law. Funds are made available on a quarterly, annual, or other periodic basis. Apportionments are made on the basis of hearings conducted by NAVCOMPT and by OSD/OMB wherein Navy/Marine Corps apportionment requests are considered.

- The apportionment process (together with the subsequent Base for Reprogramming Actions, DD Form 1414) also serves the important function of updating the budget which was submitted to OSD more than a year previously. In the absence of an enacted appropriation, the Secretary of Defense establishes authorized obligation rates for each appropriation. After the appropriation is enacted and the apportionment is released by OMB, the apportionment becomes SECDEF's authorized obligation rate.

- Following the establishment of the rate of obligation by SECDEF, NAVCOMPT allocates funds to responsible officials in the Department of the Navy. These allocations are usually divided into suballocations, allotments, and suballotments or are included in operating budgets to make the funds available for commitment, obligation, and expenditure. A commitment is a reservation of funds based upon currently directed use of funds leading to obligations. An obligation is a liability; e.g., a firm contract for goods or services. An expenditure is payment of the obligation. Allocations, commitments, obligations, and expenditures are carefully controlled to avoid overspending.

- Another financial control technique used by OSD is to defer approved programs until later in the budget execution period. This can be used to restrict the flow of funds into the economy, as well as to control programs by withholding funding authorization until complete justification is provided.

- A further OSD technique is the imposition of recoupment objectives on the Military Departments. A recoupment objective represents the amount of money that the OSD estimates can be saved in construction, procurement, and RDT&E accounts in current or prior year programs. Thus, the recoupment objective is the amount by which the funding of the budget year program is reduced in anticipation of such recovery.

- Within the Department of the Navy, there is a continuing review of operating accounts (O&M and Military Personnel). Variances from spending plans are identified and corrective action is taken if necessary. This may result in a revised financial plan for the remainder of the fiscal year.

E.7. FLEXIBILITY IN BUDGET OPERATIONS

To meet changing needs, the Secretary of Defense has the authority, with the approval of the Office of Management and Budget, to transfer funds from one appropriation to another if such transfers do not exceed statutory limits. There are four other methods besides the transfer authority available to OSD and the services which provide flexibility within appropriations:

- Supplement Budget

- Contract Authorization (3732 Revised Statutes)

- Deficiency Budgets

- Reprogramming

Supplemental and deficiency budgets are in essence additions to the annual budget proposed by SECDEF to request funds for major unforeseen emergencies during a current year.

The Military Departments are authorized by 3732 Revised Statutes to incur certain obligations for clothing, transportation, supplies, etc., pending passage of a supplemental or deficiency budget, under certain emergency funds for R&D programs. The amount authorized by Congress for this purpose varies from year to year.

Services may recommend reprogramming to solve financial shortfalls or to adjust programs. This involves the reapplication of funds between programs within a particular appropriation. Dollar limits, referred to as thresholds, dictate who may approve the reapplication of funds. Changes which exceed certain thresholds or which meet other substantive criteria require notification or prior approval of Congressional committees.

E.8 REPROGRAMMING

E.8.1 Reprogramming in the Current and Prior Fiscal Years. In order that the CNO and the CMC may exercise proper control over their budgets and their included programs, it is essential not only that they approve the programs funded by the budgets but that they supervise budget formulation and changes to the budgeted programs during execution. This includes the review and approval of not only potential new programs to be supported by reprogramming of budgeted funds but also of the proposed transfer of funds from other programs which will then be discontinued or supported at a lower level of funding.

The CNO was designated "responsible office," effective 1 July 1972, for all Navy appropriations and the Navy Stock Fund, RDT&E and NPR excepted. To facilitate management of allocations of funds made available to the CNO, all financial control, jurisdiction, and responsibility for all these funds, and any portion of an appropriation for which the CNO is designated administering office, has been passed to the Director, Fiscal Management Division, OP-92. Responsibility for Marine Corps programs and associated funds has been delegated by the CMC to the Fiscal Director.

E.8.2 Navy Reprogramming Actions. Proposals for reprogramming (except those involving only RDT&E) are forwarded on DD Form 1415 to OP-92 who effects coordination staffing and review (as required) within the Office of CNO and with other appropriate Navy offices. Reprogramming proposals involving only RDT&E are administered by the Director, Research, Development, Test and Evaluation (OP-098), who coordinates staffing and review (as required) within the Office of CNO and with other appropriate Navy offices. OP-090 (OP-90 and OP-92) reviews all reprogramming actions. After the above review and approval, reprogramming requests are forwarded to NAVCOMPT. Those that involve only RDT&E are forwarded to ASN (R&D). Following his review and approval, they are forwarded to NAVCOMPT. Since only one appropriation may be addressed on a DD Form 1415, reprogramming actions involving interappropriation transfer between RDT&E and other Navy appropriations require separate DD Forms 1415, each processed separately as indicated above and cross-referencing the related actions in the forwarding correspondence.

E.8.3. Correspondence. All decision/action correspondence and presentations or briefings affecting present and future program changes and related funding utilizing budget, current, and prior years funding, which may ultimately lead to the submission of DD Form 1415, will be coordinated with OP-090 (OP-90 and OP-92) prior to signature/decision.

Prior year funds may not be reprogrammed from an earlier fiscal year program to a later one without the endorsement of Chief of the Service and prior Comptroller, OSD, and Congressional approval, except when applied to meet recoupment objectives.

E.9. ADDITIONAL INFORMATION ON THE BUDGET PROCESS

Additional information on the budget process may be found in Volume 7 of the Navy Comptroller Manual (NAVSO P-1000).

APPENDIX F

TRAINING AND INSTRUCTION OF MILITARY PERSONNEL (FINANCIAL MANAGEMENT)

APPENDIX F

TRAINING AND INSTRUCTION OF MILITARY PERSONNEL (FINANCIAL MANAGEMENT)[1]

This appendix is paragraph 075148 of the Navy Comptroller Manual, NAVSO P-1000, Volume 7, Budgeting, including changes through 21. The latest change should be consulted when official reference is made to 075148.

Volume 7 of the Navy Comptroller Manual is one of 10 volumes that are concerned with financial management in the Department of the Navy. Providing an introduction to comptrollership responsibilities in the area of budgeting, it serves as a textbook of principles, policies, and procedures for the information and guidance of those persons in the Department of the Navy whose functions relate to the preparation and administration of the budget of the Department of the Navy.

075148 TRAINING AND INSTRUCTION OF MILITARY PERSONNEL

1. SCOPE. This paragraph outlines the basis for determining funding responsibility for facilities, equipments, publications, and training aids devoted to the training and instruction of personnel of the regular Navy, Naval Reserve, the Marine Corps, and Marine Corps Reserve.

2. DEFINITIONS

a. Training Agency. A training agency is an office, bureau, command, or headquarters exercising command of and providing support to some major increment of the Department of the Navy's formalized training effort.

b. Training Support Agency. A training support agency is an office, bureau, command, or headquarters responsible for supporting the training agencies by providing material and other forms of support within the cognizance of the office, bureau, or command involved.

c. Maintenance

(1) Terminology. Maintenance is the routine, recurring work conducted to maintain a major end item or equipment at its intended capability for designed performance and to prolong the useful life of the end item or equipment. Calibration, considered part of maintenance, is the bringing to mark of a system or component by use of a standard master. Levels of maintenance are designated as depot, intermediate, and organizational. Subparagraphs (2) and (3) define these levels as applicable to end items or equipment maintained for the primary purpose of training and instruction. The agency responsible for the performance of a given level of maintenance funds all out-of-pocket costs incidental to that maintenance whether or not it is performed by that agency.

[1]Source: Navy Comptroller Manual

(2) Depot Level. Depot maintenance is the major repair and overhaul performed on material to assure that the equipment will operate as designed (warranty concept), whether performed as a responsibility of an activity under specific designation by the Chief of Naval Operations as a "depot maintenance activity" or performed as a phase of work beyond the capability of lower maintenance levels. Its phases include calibration; rebuild of parts, assemblies, subassemblies, and end items, including the manufacture of parts; testing; and reclamation as required. Depot level maintenance can be performed through technical service contracts or performed at depot maintenance activities.

(3) Below Depot Level. Maintenance below depot level includes intermediate and organizational maintenance. Intermediate maintenance is the work performed as a responsibility of an activity under specific designation by the Chief of Naval Operations, including that in the current series of OPNAVINST 4790.2, as an "intermediate maintenance activity." Such activities are generally colocated with and provide direct support to a training activity using the end items or equipments requiring maintenance. The phases of intermediate maintenance include calibration, repair, or replacement of damaged or unserviceable parts, components, or assemblies; and the provision of technical assistance to user organizations. In the absence of an activity specifically designated to perform intermediate maintenance, such maintenance must be classified as depot level for funding purposes. Organizational maintenance is the preventive and corrective work performed by a using organization on its assigned equipments or end items deemed necessary to reduce or eliminate failures and prolong the useful life of the items. Its phases include inspecting, servicing, lubricating, adjusting, testing, and the replacing of parts, minor assemblies, and subassemblies. In no case is calibration considered a phase of organizational maintenance for funding purposes.

d. Training Device. A training device is the hardware and software which has been designed, or modified, exclusively for training purposes, involving to some degree, simulation or stimulation in its construction or operation, so as to demonstrate or illustrate a concept or simulate an operational circumstance or environment.

3. BUDGET POLICY

a. General. In general, the training and instruction of military personnel are funded by the training agency. This includes, where not otherwise assigned, the budget responsibility for the lease, relocation, operation, and maintenance of training and instructional facilities.

b. Training Support Agency

(1) Funding Responsibility Assignments. The training support agency having responsibility for the design, development, or modernization of technical or specialized equipment for service use or for the selection of equipment for special use is assigned funding responsibility as outlined in subpars. (2) through (6) in connection with the use of the equipment for purposes of training or instruction in its maintenance or operation. However, if the training support agency designs, develops, etc., an item of equipment which is normally funded for service use by another office, bureau, command, or headquarters, the latter will fund these costs in lieu of the training support agency.

(2) Procurement. The training support agency funds for procurement (except for collateral equipment included in military construction projects), modification, modernization, depot level maintenance, and initial spare parts and test equipment normally issued with the equipment when furnished for service use. Until such time as the Chief of Naval Operations or his designated training agent have accepted equipments or end items, the training support agency is responsible for all maintenance.

(3) Installation. The training support agency is also responsible for installation, including the following phases thereof:

1. the preparation of all plans;
2. alterations, conversions, rehabilitation; etc., of the training agency's facilities required incident to installations (but not of such magnitude as to be military construction projects);

3. field engineer services required for the installation and/or for the indoctrination of instructor personnel.

(4) Removals and Reinstallation. The training support agency has budget and funding responsibilitiy for removals and reinstallations which are an integral part of an initial equipment installation project, removals of equipment no longer used for training purposes, and reinstallations required because of the reestablishment of a training program. The provisions of subpar. (2) are equally applicable in connection with removals and/or reinstallations.

(5) Initial Training. The training support agency also provides initial training (that performed pending the opportunity for the training agency to acquire the capability for training) corollary to the procurement of specialized or technical equipment furnished by training support agencies. Procurement appropriations may fund only that part of factory training which is mandatory to instruct an initial cadre of personnel in the techniques of operating and maintaining an equipment under procurement. Normally, this initial cadre is composed of instructional personnel. The scope of initial training includes the furnishing for use in schools of those training aids (transparencies, charts, diagrams, films, etc.) or devices normally evolved by the contractor in the course of the following activities:

1. production of newly developed end-product equipment,
2. preparation of technical or instructional publications,
3. initial instructional training.

(6) Manuals. It is also the responsibility of the training support agency to prepare and furnish technical or journeyman's manuals for the maintenance and operation of the equipment. Also, under specifications provided by the training agency, the support agency provides for initial supplementary "learner level" manuals with associated instructor guides and trainee measurement aids when required for training in new weapon systems and equipment as well as for major modification to service equipment.

c. Training Agency. The training agency is assigned the following financial responsibility:

1. provision of the basic buildings and/or ground sites required for the installation of technical or specialized equipment furnished by a training support agency;
2. provision of below depot level maintenance (including Navy Stock Account parts and materials) in accordance with the standards of the training support agency providing the equipment when that equipment or end item has been accepted;
3. removals and reinstallations incident to alteration, modification, or repair to the training facility's physical plant; the shifting of equipment within the training facility or removal and reinstallations incident to physical relocation from one training activity to another for the sole convenience of the training agency;
4. training, including factory training, to meet fleet or other requirements on equipment no longer in production or where the initial training related to the factory training included in subpar. b(5) has been completed;
5. provision of revisions to supplementary "learner level" manuals, with associated instructor guides and trainee measurement aids when required for use in established courses in the training agency's schools or training centers;
6. provision of all other equipment, supplies, training materials used in day-to-day operations and required for training or instructional purposes in a school or training center under the command of the training agency, except as provided in subpar. e.

d. Training Devices. The Chief of Naval Education and Training funds for the procurement and installation of all surface and subsurface related training devices for the active naval forces. The Chief of Naval Reserve funds for procurement and installation of all surface and subsurface related training devices for the naval reserve forces. In cases where the Chief of Naval Operations has approved a training device for use on or installation in any type or class of ship for the training of ship's company, it will be considered as ship's equipment and under the financial responsibility of the Chief of Naval Material (CNM). All air-related training devices are the financial responsibility of the CNM.

e. Other Support. Other forms of support are funded by specific offices, bureaus, and commands when it is determined by the Chief of Naval Operations that such support falls within the training program cognizance of these offices, bureaus, and commands. Copies of such formal determinations must be provided to the Comptroller of the Navy.

f. Chief of Naval Education and Training. In accordance with subpar. e, for Navy activities engaged in formal classroom training, which are not under the command of the Chief of Naval Education and Training (CNET), the CNET has been assigned responsibilities for providing, without reimbursement, specialized training equipment and devices when those equipments and devices are specifically required to fulfill the training requirements of a particular curriculum and the equipments or devices are not within the cognizance of the material commands.

4. TRAINING CONTRACTS. While the financial responsibility for the items enumerated in subpar. 3b is assigned to and normally is administered through contracts negotiated by the training support agency, the regulation and supervision of training programs for military personnel is the responsibility of the training agency. In the exercise of that responsibility, the training agency specifies and approves the provisions in the contracts which relate to training. When mutually agreeable to the training support and training agencies, the training agency may enter into separate contracts exclusively related to training, citing funds made available by the training support agency. Nothing contained herein impinges upon the responsibility of the training support agencies for factory training of civilian personnel. When courses are considered suitable, military personnel may be assigned to them, but the administration of such courses remains with the training support agency.

5. COORDINATION. The training agencies must furnish their requirements to the appropriate training support agency for timely insertion into the programming and budgeting system for appropriate action. In addition, the training requirements stated in the current series of OPNAVINSTS 1500.8 and 1500.11 provide a basis for budgetary action in planning the procurement and installation of newly developed equipment. Where budgetary or planning decisions result in a change in programmed training requirements, other component organizations affected by the change must be advised by the training agencies at the earliest possible opportunity so that they may adjust their programs accordingly. Likewise, it is axiomatic that the training support agencies must provide timely notice to the training agencies of budgetary and/or reprogramming decisions which affect training support capability and of the development of new weapons systems or equipment, planned procurement schedules, and other pertinent data regarding such new developments, in order that the training agency may develop the requirements indicated herein.

APPENDIX G

DECISION COORDINATING PAPER (DCP)/ DEFENSE SYSTEMS ACQUISITION REVIEW COUNCIL (DSARC) PROCESS

APPENDIX G

DECISION COORDINATING PAPER (DCP)/DEFENSE SYSTEMS ACQUISITION REVIEW COUNCIL (DSARC) PROCESS

G.1 GENERAL

This appendix gives highlights of the DCP/DSARC process. Detailed information is found in the Department of the Navy Programming Manual, DODINST 5000.2, DODDIR 5000.26, OPNAVINST 5000.46, OPNAVINST 5000.42A, and NAVMATINST 5000.23.

The DCP/DSARC process involves decision-making at the SECDEF level on major defense system acquisition programs. It complements the PPBS by addressing issues related to the progress of each major defense system program designated by the SECDEF/DEPSECDEF. This designation considers: dollar value (programs which have an estimated RDT&E cost in excess of $50 million or an estimated production cost in excess of $200 million); national urgency; and recommendation by DOD component heads or OSD officials. Programs not designated for the DCP/DSARC process will be reviewed through the regular PPBS procedures.

G.2 THE DCP/DSARC PROCESS AND THE PLANNING, PROGRAMMING, AND BUDGETING SYSTEM

Major program decisions are made in context with both the PPBS and the DCP/DSARC process.

In the PPBS, the SECDEF decision-making on individual defense system programs is keyed to the problem of balancing all programs within the DOD financial limits he has previously established.

The need for SECDEF decisions on the individual phases of each major defense system program does not always coincide with the PPBS events. Also, the broad nature of the SECDEF review of the POM and the Department of the Navy budget submittals does not always permit adequate SECDEF review of the progress of each major defense system program.

The DCP/DSARC process complements the PPBS by addressing issues related to the progress of individual defense system programs and ensures adequate SECDEF reviews related mainly to the individual program schedule, rather than to the PPBS schedule.

SECDEF decisions made through the DCP/DSARC process are reflected in the FYDP. This is accomplished either during the POM/Issue Paper/PDM process, or during the PBD process, depending on when the DCP/DSARC-related decision is made.

In cases where a POM or budget submittal to OSD deviates significantly from a previously approved DCP/DSARC-related decision this fact and the cost, schedule, and performance impact on the program are to be noted in the POM or budget submittal and explained. In such instances, the DCP/DSARC-related decision is a decision alternative in the POM, Issue Paper, and PBD.

G.3 FUNCTION OF DCP/DSARC

The function of the DSARC is to serve as an advisory body to the SECDEF on the acquisition of major defense system programs and related policies and to provide him with supporting information and recommendations when decisions are necessary.

The DSARC will serve to complement the Decision Coordinating Paper, formerly known as the Development Concept Paper, which continues as a formal DOD management and decision-making system for the acquisition of major systems (DODINST 5000.1 and DODINST 5000.2).

Reviews by the DSARC are intended to provide open discussion of issues and alternatives by DOD officials, based upon the most complete information available, to ensure that the advice given to the SECDEF is as complete and as objective as possible.

(Paragraphs G.1 through G.3 Source: Department of the Navy Programming Manual.)

G.4 DCP OBJECTIVES

DCP objectives include:

(a) The basic objectives of DCP I, II, or III are to:

- ensure collaboration and essential debate by DSARC principals and other key officials as appropriate, before SECDEF decisions
- relate the phasing of the development and acquisition program to force modernization needs in the appropriate mission area, utilizing information on projected budgetary constraints when possible
- identify major issues or differences of opinion that bear on the immediate SECDEF decision
- identify and evaluate feasible program alternatives based on their acquisition and ownership costs and projected performance against the established need. Evaluations shall include consideration of new development, improving existing systems, and foreign developments
- show how the program relates to similar programs in other Military Services and ensure no unnecessary duplication
- identify and present a plan for the resolution of those issues and risks that are anticipated during the next program phase

- establish the plan, including test and evaluation effort, for the next program phase (DODDIR 5000.3). Develop a fall-back plan for an alternative program if objectives are not achieved.

- define considerations of interoperability with other force elements. This shall include a statement of the plan to address such factors as electromagnetic compatibility and identification needs when applicable.

- summarize the technical readiness of subsystems and the degree of standardization including test and support equipment

- establish cost, performance and schedule thresholds for the total program and the next program phase, including funding limits for maintaining alternatives. Address the estimated probability of producing and supporting the adequate number of systems within realistic resource and time limitations.

- describe management responsibility, structure, and planned management systems

- establish objectives and limits of authority that are delegated to the cognizant DOD component(s) for conducting the next phase of the program

- assure that the acquisition strategy and related contract plan are consistent with program characteristics, including risk. Assure that economic and technical competition to the maximum extent feasible is planned.

- identify the environmental considerations as required by DODDIR 6050.1

- identify impact of the proposed system program on the utilization or expansion of DOD facilities

- ensure consideration of such international aspects as buying foreign systems, joint development programs, and sales to allied countries

- identify the elements of the program that require protection by security classification

- identify any document(s) that develops the analytical rationale for force-level projections or goals.

(b) Normally, the DCP I, which supports the decision by the SECDEF to enter the Program Validation Phase, will accommodate the basic objectives above and place added emphasis on the following areas:

- identify threat factors as analyzed in appropriate documents
- describe and substantiate the operational need
- identify broad performance objectives; substantiate that these performance objectives meet the operational need
- identify the critical questions and areas of risk to be resolved by test and evaluation and provide a summary statement of test objectives, schedules, and milestones
- identify preliminary cost and schedule estimates and identify design-to-cost goals or indicate when these will be established
- identify critical logistics support factors that must be considered during the acquisition
- identify issues which must be resolved prior to DSARC II and ensure that the program is adequate to resolve them.

(c) Normally, DCP II, which supports the decision by the SECDEF to enter the Full-Scale Engineering Development Phase, will accommodate the basic objectives above and place added emphasis on the following areas:

- confirm the operational need, considering changes in policy or threat since the initial SECDEF decision
- establish and substantiate the specific performance objectives including the reliability and maintainability requirements
- present results of test and evaluation accomplished to date, an updated statement of critical questions and areas of risk still needing resolution by test, and a detailed statement of test plans and milestones (DODDIR 5000.3)
- present results of cost, performance, and schedule trade-off analyses, and cost effectiveness studies as required
- present the design to cost goals and rationale
- identify and evaluate the logistic support alternatives including their impact on design
- identify issues which must be resolved prior to DSARC III and ensure that the program is adequate to resolve them.

(d) Normally, DCP III, which supports the decision by the SECDEF to enter the Production/Deployment Phase, will accommodate the basic objectives above and place added emphasis on the following areas:

- confirm the operational need, considering changes in policy or threat since the previous SECDEF decision
- evaluate the degree of achievement of performance objectives including reliability and maintainability
- provide an assessment of system producibility, operational suitability, and logistic supportability
- present (a) an assessment of the development and operational test and evaluation results and the readiness of the system to enter production, and (b) the scope and schedule for any test and evaluation still to be accomplished (DODDIR 5000.3)
- present results of cost, performance, and schedule trade-off analyses and cost effectiveness analyses as required. (These analyses shall relate to acquisition, operating, and support costs.)
- describe the procurement plan, including any options and how it relates to the proposed contract
- validate that technical risks have been eliminated or are in hand
- present the integrated logistic support plan and production plan.

(e) Normally, for ship programs, DCP I, II, and III will be developed when preparing to start Preliminary Design, Contract Design, and Detailed Design (for the first procurement-funded ship), respectively. The DCP III will be updated for the follow-ship procurement DSARC review.

(Paragraph G.4 source: DODINST 5000.2, enclosure (1).)

G.5. DSARC OBJECTIVES

G.5.1 The DSARC I Review (Program Initiation)

(a) At the DSARC I review leading to the program initiation decision, the following will be determined:

- a potential military need exists for a new Defense system or an improved system
- the military requirements properly relate to the mission, the threat, and force obsolesence
- alternative Defense systems that will satisfy the military need including system modernizations and foreign developments have been considered along with anticipated resources for resolving the need

(b) DSARC I reviews are generally conducted to consider the readiness to proceed with the Program Initiation (Validation Phase). Additional DSARC I type reviews may be required to consider major changes in the need/threat, available technology, or budget requirements that may take place during the Validation Phase.

G.5.2 The DSARC II Review (Full-Scale Engineering Development)

(a) At the DSARC II review leading to the full-scale engineering development decision, the following will be determined:

- the Defense system still satisfies the military need and the requirements properly related to the mission, the threat, and anticipated resources, considering changes that have occurred since the previous SECDEF decision
- system trade offs have produced a proper balance between cost, schedule, and performance, including reliability and maintainability
- quantity, resource, and schedule estimates are realistic and acceptable. Relative cost estimates of support and operations have been evaluated (e.g., 10-year cost). Cost estimates for both acquisition and support have been validated by independent assessment (DODDIR 5000.4).
- major uncertainties and risks have been reduced to acceptable levels and effective methods are identified to resolve residual uncertainties and risks
- the proposed system is cost-effective compared with competing alternative ways of satisfying the military need
- valid design-to-cost goals are established
- program thresholds in the DCP are appropriate and well defined
- the approach for selection of major subsystems has been clearly identified and the program has considered the use of currently available subsystems versus new development (including test and support equipment)
- the development and operational test and evaluation already conducted have progressed satisfactorily, and the future test program proposed (e.g., objectives, plans, and schedules) is sound (DODDIR 5000.3)
- an integrated test and evaluation plan has been prepared which identifies and integrates the effort and schedules of all T&E to be accomplished and ensures that all necessary T&E is accomplished prior to the decision points (DODDIR 5000.3)

- the program management structure and plan are sound
- maximum practical use of competition has been incorporated in the acquisition plan
- the acquisition strategy including contract type is consistent with program characteristics and risk
- the proposed fall-back position(s), if any, has been reassessed and found suitable
- requisites for the production/deployment decision, including logistics support, have been established.

(b) DSARC II reviews are generally conducted to consider major decisions for initiation of full-scale engineering development. Additional reviews may focus on procurement of additional development models to continue testing or reorientation of the development program.

G.5.3 The DSARC III Review (Production/Deployment)

(a) At the DSARC III review leading to the production/deployment decision, the following shall be determined:

- the defense system still satisfies a military need and its performance properly relates to the mission, the threat, planning and policy guidance, and anticipated resources, considering changes that have occurred since the previous SECDEF decision
- test results, based on development test and initial operational test and evaluation (IOT&E), are adequate to support a decision to proceed with major production and plans and schedules for remaining testing are adequate as provided in DODDIR 5000.3
- quantity, resource, and schedule estimates are still realistic and acceptable. Relative cost estimates of support and operation have been evaluated (e.g., 10-year cost) where relevant. The cost estimates for both acquisition and support have been validated by independent assessment (DODDIR 5000.4).
- the Defense system is cost-effective for both acquisition and support compared with competing alternative ways of satisfying the military need
- system trade offs have produced a proper balance between cost, schedule, and performance, including reliability and maintainability

- broad mission/performance requirements/specifications are adequately defined (technically) and are economically plausible
- anticipated quantity, resource, and schedule estimates are realistic and acceptable in context with affordability limits. The appropriate acquisition (e.g., planning estimates) and ownership cost estimates have been validated by independent assessment (DODDIR 5000.4).
- major problems, issues, and risks are identified and suitable methods for their resolution, such as the use of prototypes, are planned
- the statements of questions and issues and of test objectives and schedules are adequate (DODDIR 5000.3)
- critical logistic support factors and facilities impact have been identified
- future support costs including a comparison with those of current systems have been considered
- the use of currently available subsystems versus development of new subsystems has been or will be considered
- economic and technical competition to the maximum extent feasible is planned
- program thresholds in the DCP are appropriate, well-defined, and provide the flexibility for accomplishing trade offs while ensuring timely identification of significant problems
- practical trade offs have been made between performance, risks, costs, and schedule
- the acquisition strategy including type of contract is consistent with program characteristics and risk
- possible alternative fall-back positions are available in the event the proposed approach to the program is unsuccessful
- design-to-cost goals, related reliability and maintainability goals, and associated thresholds are established
- requisites for transition to full-scale engineering development have been established
- the program plan for this phase is adequate

- program thresholds in the DCP are well defined
- production quantity requirements are valid
- issues concerning production, logistic support, facilities, and maintenance are identified and plans for their resolution are sound
- the program management structure and plan are sound
- all major problems have been revealed and solutions to residual risks have been identified
- the acquisition strategy and contract plan are consistent with program characteristics and risks and the approach to contractor selection is sound. The proposed contract type and options, if any, provide DOD flexibility for increasing or decreasing the production rate and total quantity.
- requisites for future production decisions have been defined and competition (e.g., second source and/or breakout) has been considered
- the plan for transition to production and deployment is adequate including integration with existing operational systems.

(b) DSARC III reviews are conducted, in general, to consider production/deployment decisions. Additional reviews may focus on such decisions as release of funds for long lead items, release of pilot or limited production, a limited buy or full production.

G.5.4 Ship Programs. Normally, for ship programs, the DSARC I and II reviews will occur prior to start of Preliminary Design and Contract Design, respectively. A DSARC III review will be conducted prior to start of Detailed Design (for the first procurement-funded ship). Upon satisfactory progress of the test and evaluation related to the ship class, an additional DSARC III review will be conducted prior to approval to procure follow-ships (DODDIR 5000.3).

(Paragraph G.5 source: DODDIR 5000.26)

APPENDIX H

LIFE CYCLES OF MAJOR DEFENSE SYSTEMS/ EQUIPMENTS AND INSTRUCTIONAL SYSTEMS

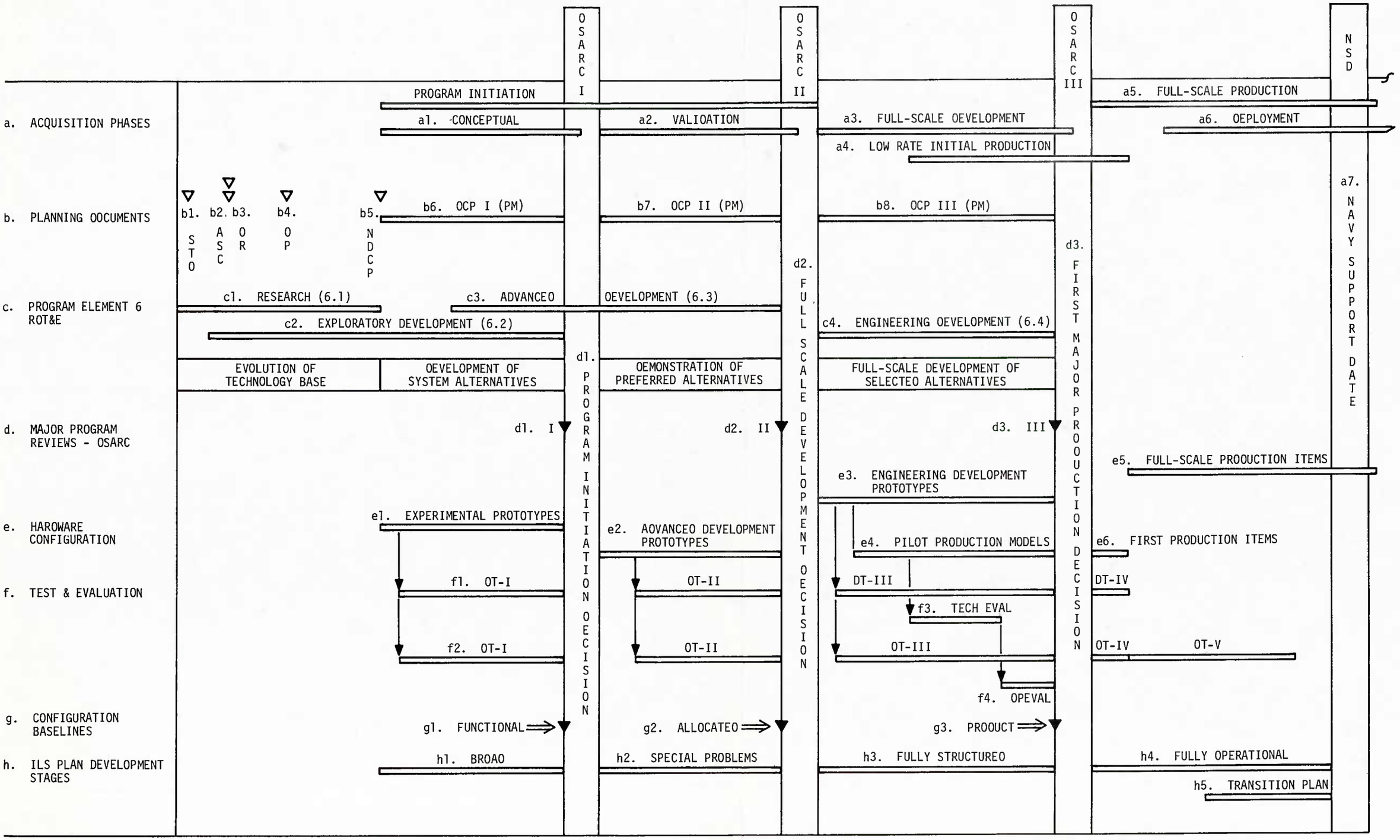


Figure H.1. Life Cycle of Major Oefense Systems and Equipments[1]

[1] See Table H.1 for References and Guide Index

TABLE H.1. REFERENCES AND GUIDE INDEX FOR FIGURE H.1

Figure H.1 Identifier	Topic	Guide Information Index*	References
	Life Cycle of Major Weapon Systems and Equipments	Section 3	
	(1) ACAT I		(1) NAVMATINST 5000.27 NAVMATINST 5400.10 NAVSEAINST 9060.4 OPNAVINST 5000.42A SECNAVINST 5000.1
	(Less-than-major (2) ACAT II ACAT III ACAT IV)		(2) do.
a.	Acquisition Phase	Section 3	SECNAVINST 5000.1 Department of the Navy RDT&E Management Guide
a1.	Conceptual Phase	do.	do.
a2.	Validation Phase	do.	do.
a3.	Full-Scale Development Phase	do.	do.
a4.	Low Rate Initial Production	do.	do.
a5.	Full-Scale Production Phase	do.	do.
a6.	Deployment Phase	do.	do.
a7.	Navy Support Date (NSD)		NAVMATINST 4000.20B NAVMATINST 4105.1A
b.	Planning Documents	Section 3	
b1.	Science and Technology Objectives (STO)	do.	NAVMATINST 5000.22 OPNAVINST 5000.42A
b2.	Advanced System Concept (ASC)	do.	NAVMATINST 3910.10C NAVMATINST 5000.22
b3.	OR	do.	NAVMATINST 5000.22 OPNAVINST 5000.42A

*This column refers the reader to appropriate sections in this Guide where amplifying information can be found.

do. = ditto

TABLE H.1. REFERENCES AND GUIDE INDEX FOR FIGURE H.1 (continued)

Figure H.1 Identifier	Topic	Guide Information Index*	References
b4.	DP	do.	do.
b5.	NDCP	do.	OPNAVINST 5000.42A OPNAVINST 5000.46
b6.	(1) DCP I - ACAT I	(1) Section 3 Appendix G	(1) DODINST 5000.2 OPNAVINST 5000.42A OPNAVINST 5000.46
	(2) PM - ACAT II	(2) Section 3	(2) OPNAVINST 5000.42A OPNAVINST 5000.46
b7.	DCP II	Same as b6. (1)	Same as b6. (1)
b8.	DCP III	do.	do.
c.	FYDP Program Element 6 RDT&E		OPNAVINST 5000.42A SECNAVINST 5000.1 Department of the Navy Programming Manual Department of the Navy RDT&E Management Guide Navy Comptroller Manual
c1.	Research (6.1)		do.
c2.	Exploratory Development (6.2)		do.
c3.	Advanced Development (6.3)		do.
c4.	Engineering Development (6.4)		do.
d.	Major Program Reviews (1) ACAT I	Section 3 Appendix G	(1) DODDIR 5000.3 DODDIR 5000.26 DODINST 5000.23 NAVMATINST 5000.23 OPNAVINST 5000.42A OPNAVINST 5000.46 SECNAVINST 5420.172
	(2) ACAT II, III & IV		(2) OPNAVINST 5000.42A

TABLE H.1. REFERENCES AND GUIDE INDEX FOR FIGURE H.1 (continued)

Figure H.1 Identifier	Topic	Guide Information Index*	References
d1.	DSARC I - Program Initiation Decision	Same as d. (1)	Same as d. (1)
d2.	DSARC II - Full-Scale Development Decision	do.	do.
d3.	DSARC III - First Major Production Decision	do.	do.
e.	Hardware Configuration		Department of the Navy RDT&E Management Guide
e1.	Experimental Prototypes		do.
e2.	Advanced Development, Prototypes		do.
e3.	Engineering Development Prototypes		do.
e4.	Pilot Production Models		do.
e5.	Full-Scale Production Items		do.
e6.	First Production Items		do.
f.	Test and Evaluation (1) ACAT I, II & III		(1) DODDIR 5000.3 OPNAVINST 3930.8B OPNAVINST 3960.10 SECNAVINST 5000.1 Department of the Navy RDT&E Management Guide
	(2) ACAT IV		(2) NAVMATINST 3960.6A
f1.	Developmental Testing		Same as f. (1)
f2.	Operational Testing		do.
f3.	TECHEVAL		do.

TABLE H.1. REFERENCES AND GUIDE INDEX FOR FIGURE H.1 (continued)

Figure H.1 Identifier	Topic	Guide Information Index*	References
f4.	OPEVAL		do.
g.	Configuration Baselines		NAVMATINST 4130.1A NAVSEAINST 9060.4
	(Operational Requirements Baseline)		NAVMATINST 4130.1A NAVSEAINST 9060.4
g1.	Functional Baseline		NAVMATINST 4130.1A
g2.	Allocated Baseline		do.
g3.	Production Baseline		do.
	(Operational Support Baseline)		NAVMATINST 4130.1A NAVSEAINST 9060.4
h.	ILS Plan Development Stages	Section 4	NAVMATINST 4000.20B NAVMATINST 4000.34 NAVSEAINST 5400.27 OPNAVINST 4100.3 SECNAVINST 4000.29A
h1.	Broad	do.	do.
h2.	Special Problems	do.	do.
h3.	Fully Structured	do.	do.
h4.	Fully Operational	do.	do.
h5.	Transition Plan	do.	NAVMATINST 4000.20B

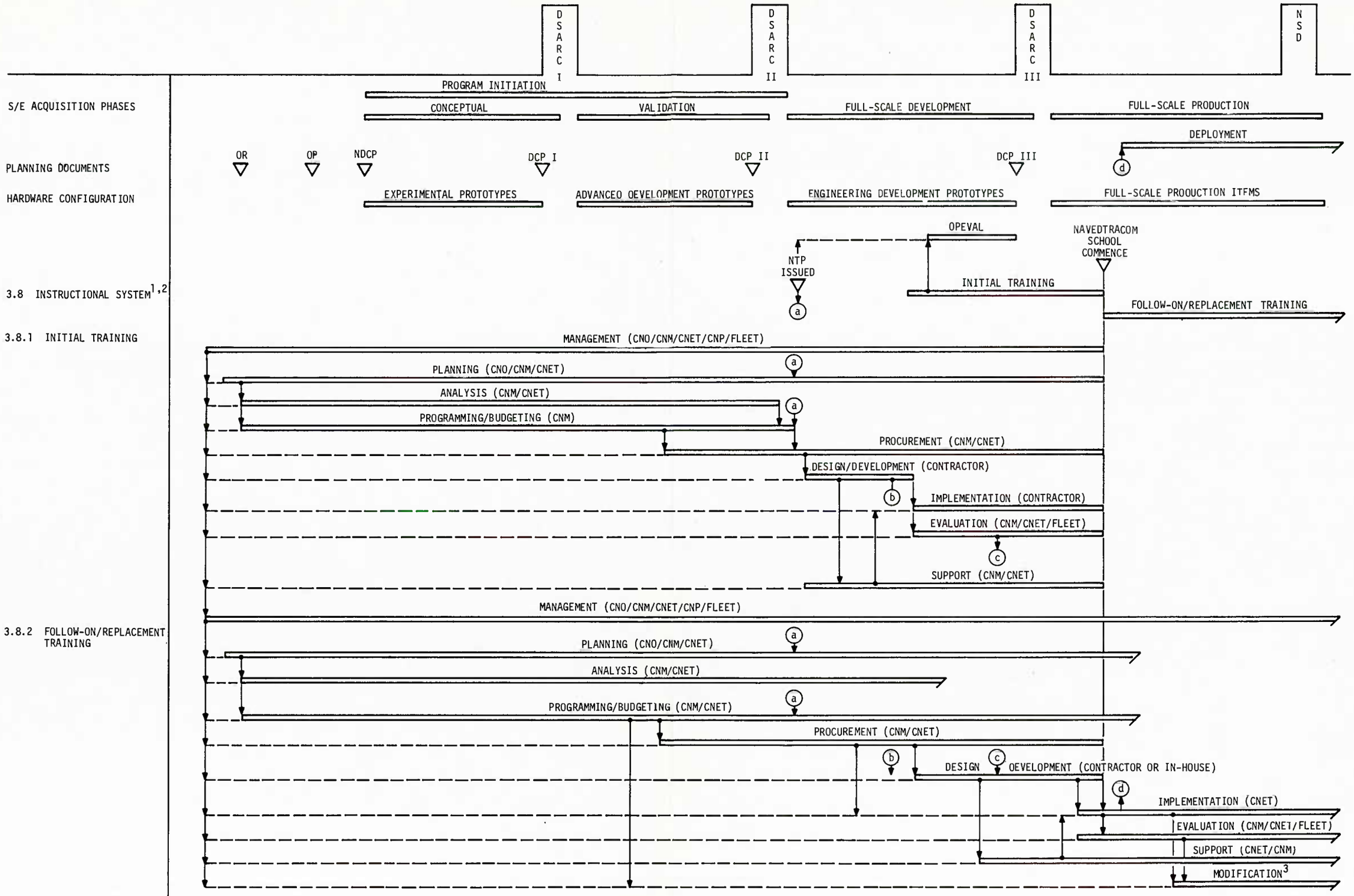


Figure H.2. Life Cycle of Instructional Systems

TABLE H.2. INSTRUCTIONAL SYSTEMS REFERENCES RELATED TO FUNCTION CATEGORIES

REFERENCES*	FUNCTION CATEGORIES**									
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
	Management	Planning	Analysis	Programming/ Budgeting	Procurement	Design/ Development	Implementation	Evaluation	Support	Modification
CNETINST:										
1500.9	X	X	X	X	X	X	X	X	X	X
1550.1A	X	X	X			X	X	X	X	
1550.4A	X	X	X	X	X			X	X	X
7000.2	X	X	X	X	X				X	X
7043.2	X	X	X	X	X				X	X
7100.2A	X	X	X	X					X	X
7302.1	X	X	X	X	X				X	X
CNETSTAFFINST										
1500.5	X	X								
5400.1B	X	X								
OOODIR										
4100.35	X	X	X							
5000.3	X	X						X		
5000.26	X	X								
DODINST										
5000.1	X	X								
5000.2	X	X	X							
7045.7		X		X						
NAVELEXINST										
1500.3	X	X	X	X	X		X	X	X	X
NAVMATINST										
1550.2B	X							X		
3910.10C	X	X								
4000.20B	X	X	X	X	X	X	X	X	X	X
4105.1A	X	X				X	X	X	X	X
4490.1B	X	X	X	X						
5000.22	X	X	X							
5000.23 (OOODIR 5000.26 & DOOINST 5000.2)	X	X	X							
5311.3	X	X	X							
7100.4	X	X		X						
OPNAVINST										
1500.2E	X	X	X							
1500.8H	X	X	X	X	X	X	X	X	X	X
1500.11G	X	X	X	X	X	X	X	X	X	X
1500.19C	X	X					X			

*See Guide References for titles of documents
**See section 7 for description of categories

TABLE H.2. INSTRUCTIONAL SYSTEMS REFERENCES RELATED TO FUNCTION CATEGORIES (continued)

REFERENCES	FUNCTION CATEGORIES									
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10
	Management	Planning	Analysis	Programming/ Budgeting	Procurement	Design/ Development	Implementation	Evaluation	Support	Modification
OPNAVINST (continued)										
15DD.44	X	X								
151D.1D	X	X	X	X				X		
396D.1D (DDDDIR 5000.3)	X	X					X	X	X	X
41DD.3A	X	X								
449D.2B	X	X	X						X	
5000.42A	X	X	X							
5000.46	X	X	X							
5450.194	X	X								
SECNAVINST										
4000.29A (DDDDIR 41DO.35)	X	X	X							
50DD.1 (DODDIR 50DO.1)	X	X	X	X	X					
ASPR	X	X			X					
MIL-STD 1379A	X	X			X	X				
NAVY PROGRAMMING MANUAL	X	X		X	X					
NAVY RDT&E MANAGEMENT GUIOE	X	X		X	X	X	X	X	X	X
AF MANUAL 50-2						X	X	X		
NAVMAT P-4DDO	X	X	X							
NAVEDTRA 106A	X	X				X	X	X		
MIL-STD-1388	X	X	X			X	X	X		X
NAVY COMPTROLLER MANUAL	X	X	X	X	X				X	X
NAVORD 00 45260	X	X	X	X	X	X	X	X	X	X

REFERENCES

Listed below are principal references, showing date of issue, used in preparing this Guide.

Consult NAVPUBNOTE 5215 or DOD Directives System for current version and date of DOD and Department of the Navy directives and instructions.

I. DIRECTIVES AND INSTRUCTIONS

NUMBER	DATE	SUBJECT
CNETINST		
1500.9	74-06-26	Participation by the Naval Education and Training Command in the Preparation and Implementation of Navy Training Plans
1500.12	76-09-14	Glossary of Navy Education and Training Terminology
1550.1A	76-01-06	Systems Approach to Instructional Program Development
1550.4A	73-12-05	Technical Audits; Follow-Up Procedures for
7000.2	75-08-08	Procedures and Responsibilities for the Development and Submission of the CNET/OPN (Other Procurement, Navy) and POM (Program Objective Memorandum)
7043.2	73-03-13	OPN (Other Procurement, Navy) Budget Procedures
7100.2A	73-04-27	Process for Documenting Resources Required to Support Training and Education Requirements
7302.1	72-04-03	Funding Procedures for Minor Construction and Major Repair Projects
11010.1	76-01-12	Collateral Equipment Required to Initially Outfit Facilities Constructed Under the Appropriation Military Construction, Navy

I. DIRECTIVES AND INSTRUCTIONS (continued)

NUMBER	DATE	SUBJECT
CNETSTAFFINST		
1500.5	75-08-15	Procedure and Responsibilities for Handling of Training and Education Requirements by Chief of Naval Education and Training Staff
5400.1B	77-02-17	Chief of Naval Education and Training Staff Organization Manual
7100.1A	75-08-12	Preparation of POM
DOD DIRECTIVES		
4100.35	70-10-01	Development of Integrated Logistic Support for Systems/Equipments
5000.3	73-01-19	Test and Evaluation
5000.4	73-6-13	OSD Cost Analysis Improvement Group
5000.26	75-01-21	Defense Systems Acquisition Review Council (DSARC)
6050.1	74-03-19	Environmental Considerations in DOD actions
DODINST		
5000.1	71-07-13	Acquisition of Major Defense Systems
5000.2	75-01-21	Decision Coordinating Paper (DCP) and the Defense Systems Acquisition Review Council (DSARC)
7045.7	69-10-29	Planning, Programming, and Budgeting System
NAVELEXINST		
1500.3	76-04-14	Preparation and Implementation of Navy Training Plans
NAVMATINST		
1500.2C	75-04-17	Preparation and Implementation of Navy Training Plans for New Developments
1500.4A	73-05-25	Establishment and Coordination of Factory Training Programs

I. DIRECTIVES AND INSTRUCTIONS (continued)

NUMBER	DATE	SUBJECT
NAVMATINST (continued)		
1550.2B	74-04-12	Review of Training Data and Technical Audit of Specialized Navy Training Schools
3910.10C	74-01-14	Implementation Procedures for the Navy Advanced Concepts (NAC)
3960.6A	76-05-03	Test and Evaluation
4000.20B	76-01-26	Integrated Logistic Support Planning Policy
4000.34	71-06-15	Logistic Support Requirements System
4000.38	76-01-26	Standard Integrated Support Management System
4105.1A	74-07-12	Contractor/Early Supply Support for New Weapons and Equipments; utilization of
4130.1A	74-07-01	DOD Configuration Management
4490.1B	72-07-28	Availability of Equipment for Training Purposes
5000.22	75-01-14	Weapon System Selection and Planning
5000.23	75-03-20	Defense System Acquisition Review Council (DSARC)
5311.2A	76-11-02	Military Manpower, Personnel, and Training Support Requirements Determination
5400.10	67-03-07	Ship Life Cycle Management
7000.19A	76-07-30	Cost Analysis Program
7100.4	73-03-03	Programming/Budget Policy for Requirements Received From Other Organizations
NAVSEAINST		
5400.27	76-04-06	Procedures Governing the Transfer of Management Responsibility for Ships Between SHAPMS & SLMS
9060.4	76-03-29	Ship Acquisition Process

I. DIRECTIVES AND INSTRUCTIONS (continued)

NUMBER	DATE	SUBJECT
OPNAVINST		
1500.2E	73-04-03	Establishment and Coordination of Factory Training Programs for Military and Civilian Personnel; Responsibility and Procedures for
1500.8H	75-07-03	Preparation and Implementation of Navy Training Plans (NTPs) In Support of Hardware and Non-Hardware Oriented Developments
1500.11G	74-06-19	Naval Aviation Training Program Policies, Responsibilities and Procedures
1500.19C	72-07-07	Authority and Responsibility of Fleet Commanders In Chief of Naval Training Activities Ashore
1500.44	73-10-24	Responsibilities for Development of Training Requirements and Training Plans
1510.10	74-06-10	Navy Integrated Training Resources and Administration System (NITRAS); Reporting Procedures for Implementation of
1542.2A	75-05-14	Flight Training Input Control
3960.10	75-10-22	Test and Evaluation
4100.3A	72-11-06	Department of the Navy Integrated Logistics Support (ILS) System
4490.2B	71-11-11	Availability of Equipment for Training Purposes
4720.2D	73-07-09	Fleet Modernization Program (FMP); Planning Procedures for
5000.42A	76-03-03	Weapons Systems Selection and Planning
5000.46	76-03-10	Decision Coordinating Papers (DCPs), Program Memoranda (PMs) and Navy Decision Coordinating Papers (NDCPs); Preparation and Processing of
5430.48	73-02-01	Office of the Chief of Naval Operations (OPNAV) Organization Manual

I. DIRECTIVES AND INSTRUCTIONS (continued)

NUMBER	DATE	SUBJECT
OPNAVINST (continued)		
5450.194	77-02-16	Chief of Naval Education and Training; Mission and Functions
7000.17A	76-09-15	Cost Analysis
7000.19	74-09-10	Comptroller Organizations; Review
SECNAVINST		
4000.29A	71-01-13	Development of Integrated Logistic Support for Systems/Equipments
5000.1	72-03-13	System Acquisition in the Department of the Navy
5420.172B	76-09-09	Establishment of the Department of the Navy Systems Acqusition Review Council (DNSARC)

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III. REFERENCES FOR TERMS AND DEFINITIONS

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Department of the Navy Programming Manual, OPNAV 90P-1D (Annex 4, Part B)

Department of the Navy RDT&E Management Guide, NAVSO P-2457 (Appendix A, Glossary) (Rev. 1-75)

Glossary of Navy Education and Training Terminology, CNETINST 1500.12

Integrated Logistic Support (ILS) Planning Policy, NAVMATINST 4000.20B (Appendix H)

Integrated Logistic Support Implementation Guide for DOD Systems and Equipments, NAVMAT P-4000 (Appendix B, Glossary of Terms)

Interservice Procedures for Instructional Systems Development, NAVEDTRA 106A (Glossary)

Logistic Support Analysis, MIL-STD-1388 (Appendix B, Glossary)

Ship Acquisition Process, NAVSEAINST 9060.4, (Enclosure (1))

Training System Development; General Description of, NAVORD OD 45260 (Appendix A - Glossary of FBM Training Terminology)

LIST OF ABBREVIATIONS AND ACRONYMS

ACAT	Acquisition Category
ALCON	All Concerned
AM	Acquisition Manager
AOB	Average on Board
ARC	Acquisition Review Committee
ASC	Advanced System Concept
APN	Aircraft Procurement, Navy
ASN	Assistant Secretary of the Navy
ASPR	Armed Services Procurement Regulation
BUMED	Bureau of Medicine and Surgery
BUPERS	Bureau of Naval Personnel
CD	Claims, Defense
CEB	CNO Executive Board
CHBUMED	Chief, Bureau of Medicine and Surgery
CHNAVMAT	Chief of Naval Material
CHNAVPERS	Chief of Naval Personnel
CMC	Commandant of the Marine Corps
CMCPPPG	CMC Program Policy and Planning Guidance
CNAVRES	Chief of Naval Reserve
CND	Chief of Naval Development
CNET	Chief of Naval Education and Training
CNET SUPPORT	Chief of Naval Education and Training Support
CNO	Chief of Naval Operations
CNM	Chief of Naval Material
CNR	Chief of Naval Research
CNP	Chief of Naval Personnel
COMOPTEVFOR	Commander, Operational Test and Evaluation Forces
CPAM	CNO Program Analysis Memorandum
CPPG	CNO Policy and Planning Guidance
CY	Calendar Year or Current Year
DA	Developing Agency
DCNM(D)	Deputy Chief of Naval Material (Development)
DCNO	Deputy Chief of Naval Operations
DCP	Decision Coordinating Paper
DEPSECDEF	Deputy Secretary of Defense
DMSO	Director, Major Staff Office
DN	Department of the Navy
DNET	Director, Naval Education and Training
DNFYP	Department of the Navy Five-Year Program
DNL	Director of Navy Laboratories
DNPPG	Department of the Navy Planning and Programming Guidance
DNSARC	Department of the Navy Systems Acquisition Review Council
DOD	Department of Defense
DON	Department of the Navy
DONPIC	Department of the Navy Program Information Center
DP	Development Proposal
DPM	Development Proposal Manager
DPPG	Defense Policy and Planning Guidance
DPRC	Defense Program Review Committee
DSARC	Defense Systems Acquisition Review Council

LIST OF ABBREVIATIONS AND ACRONYMS (continued)

EPG	Extended Planning Guidance
FGM	Fiscal Guidance Memorandum
Fleet CINC	Fleet Commanders in Chief
FY	Fiscal Year
FYDP	Five-Year Defense Program
GAO	General Accounting Office
IF	Industrial Fund
ILS	Integrated Logistic Support
ILSM	Integrated Logistic Support Manager
ILSMT	Integrated Logistics Support Management Team
ILSP	Integrated Logistic Support Plan
ISD	Instructional System Development
JCS	Joint Chiefs of Staff
JFM	Joint Forces Memorandum
JIEP	Joint Intelligence Estimate for Planning
JLREID	Joint Long-Range Estimative Intelligence Document
JLRSS	Joint Long-Range Strategic Studies
JRDOD	Joint Research and Development Objectives Document
JSCP	Joint Strategic Capabilities Plan
JSOP	Joint Strategic Objectives Plan
JSPS	Joint Strategic Planning System
LSA	Logistic Support Analysis
MCON	Military Construction, Navy
MCON(R)	Military Construction, Naval (Reserve)
MCP	Marine Corps Capabilities Plan
MILCON	Military Construction
MLRP	Marine Corps Long-Range Plan
MPMC	Military Personnel, Marine Corps
MPN	Military Personnel, Navy
NAC	Navy Advanced Concepts
NAVCOMPT	Comptroller of the Navy
NAVEDTRACOM	Naval Education and Training Command
NAVFAC	Naval Facility
NAVMAT	Naval Material
NAVSUP	Naval Supply
NCB	Director of Budget and Reports, NAVCOMPT
NCP	Navy Capabilities Plan
NDCP	Navy Decision Coordinating Paper
NMC	Naval Material Command
NPD	Navy Procurement Directives
NPR	Naval Petroleum Reserve
NSC	National Security Council
NS&MP	Navy Support and Mobilization Plan
NSS	Navy Strategic Study
NTP	Navy Training Plan
NTPC	Navy Training Plan Conference
NTPO	Navy Training Plans Officer
O&MMC	Operations and Maintenance, Marine Corps
O&MMCR	Operations and Maintenance, Marine Corps, Reserve
O&MN	Operations and Maintenance, Navy

LIST OF ABBREVIATIONS AND ACRONYMS (continued)

O&MNR	Operations and Maintenance, Naval Reserve
OMB	Office of Management and Budget
OPA	Office of Program Appraisal
OPEVAL	Operational Evaluation
OPN	Other Procurement, Navy
OPNAV	Office of Chief of Naval Operations
OPTEVFOR	Operational Test and Evaluation Force
OR	Operational Requirement
OSD	Office of the Secretary of Defense
OT&E	Operational Test and Evaluation
PBD	Program/Budget Decision
PCD	Program Change Decision
PCR	Program Change Request
PDA	Principal Development Activity
PDM	Program Decision Memorandum
PE	Program Element
PM	Program Memorandum/Program Manager/Project Manager
PMC	Procurement, Marine Corps
POM	Program Objectives Memorandum
PPBS	Planning, Programming and Budgeting System
PPGM	Planning and Programming Guidance Memorandum
RAD	Resource Allocation Display
R&D	Research and Development
RDT&E	Research, Development, Test and Evaluation
RDT&E,N	Research, Development, Test and Evaluation, Navy
RFP	Request for Proposal
RFT	Ready-for-Training
RPD	Retired Pay, Defense
RPMC	Reserve Personnel, Marine Corps
RPN	Reserve Personnel, Navy
SAIP	Ship Acquisition and Improvement Panel
SCN	Shipbuilding and Conversion, Navy
S/E	System/Equipment
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SF	Stock Fund
S&T	Science and Technology Objectives
STO	Science and Technology Objectives
SYSCOM	System Command
TA	Training Agency
TECHEVAL	Technical Evaluation
TEMP	Test and Evaluation Master Plan
TOA	Total Obligational Authority
TSA	Training Support Agency
WPN	Weapons Procurement, Navy
WSAP	Weapons Systems Acquisition Process

LIST OF ABBREVIATIONS AND ACRONYMS (continued)

6.1, RDT&E	Research
6.2, RDT&E	Exploratory Development
6.3, RDT&E	Advance Development
6.4, RDT&E	Engineering Development
6.5, RDT&E	Management and Support
6.6, RDT&E	Operational Systems Development

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