

4

DEPARTMENT OF THE NAVY

Introduction

The Department of the Navy (DON) is a complex organization consisting of elements of Air, Submarine, Surface Warfare and the Marine Corps. This chapter discusses the requirements, and modification and upgrade processes in the context of these four areas of warfare.

Environment

The modernization plan for the Navy is based on the strategic vision outlined in...*From the Sea* and more recently in *Forward...From the Sea*, and the results of the BUR conducted by the DoD. In its *Force 2001*, the Navy published a synopsis of the programming process used to make decisions on the future modernization of the Navy and Marine Corps.

When the reorganization of the headquarters staff—Office of the Chief of Naval Operations (OPNAV)—occurred in 1992 (Figure 4-1), the Navy created the Deputy Chief of Naval Operations (DCNO) for Resources, Warfare Requirements and Assessment (N8). By so doing, it subordinated the three major resource sponsors for surface, submarine and air warfare. The Navy thus created a struc-

ture that places program direction under a single “Navy voice.”¹ Figure 4-2 shows the new N8 organization.

Prior to the reorganization, the resource allocation of the Navy’s TOA was divided primarily among the major resource sponsors (surface, submarine and air). This approach resulted in little coordination among the three major resource sponsors and very little with the Marine Corps. Now there is a very different approach. The establishment of the Expeditionary Warfare Division (N85), headed by a Marine Corps General, ensures the naval expeditionary/amphibious needs are incorporated into the budgetary and programming process of the Navy Department.² “We have changed our approach by going back to basics—to the fundamentals used to build our forces. We have discarded the ‘platform domination’ approach involving competition among ships, aircraft, and submarines. We make the tough decisions first, then allocate funding based on a program’s relevance and contribution to our ...*From the Sea* strategy, thereby avoiding unbalanced and unresponsive programs.”³

How are these “tough decisions” made? Against what criteria are they made? What is the process?

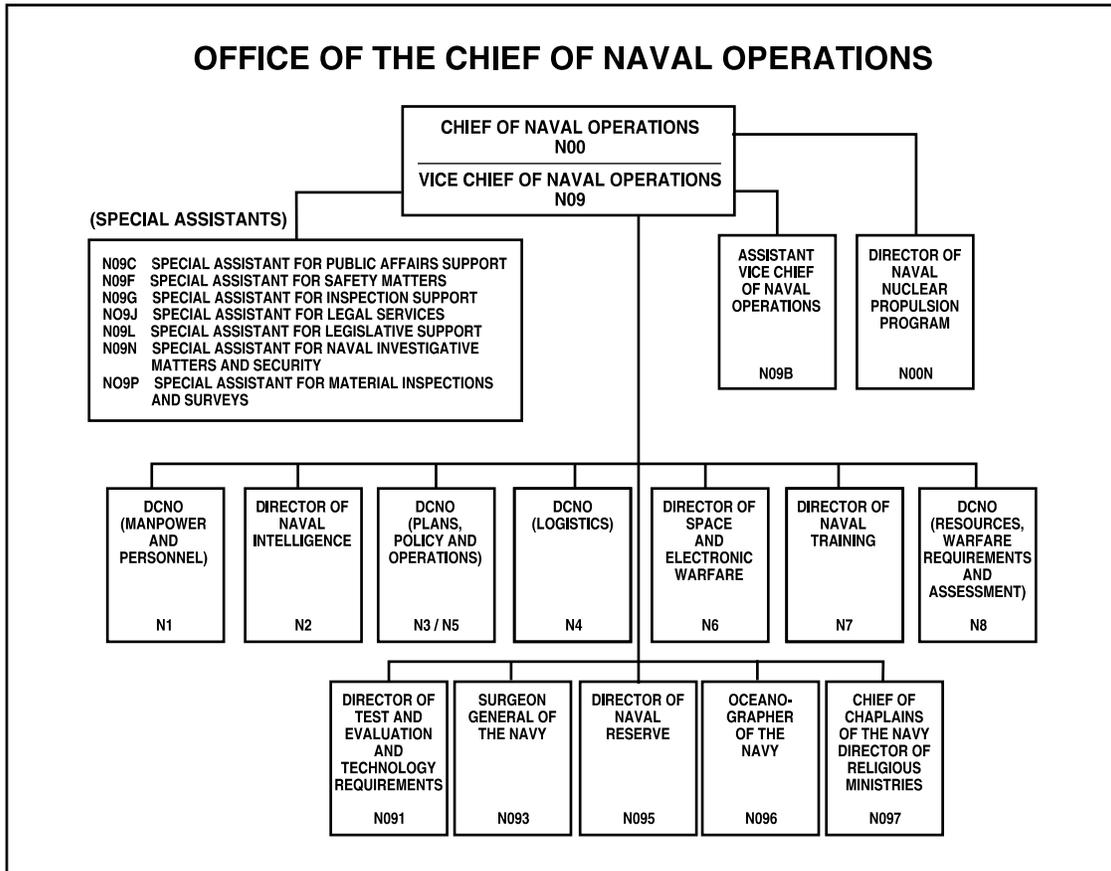


Figure 4-1. Office of the Chief of Naval Operations

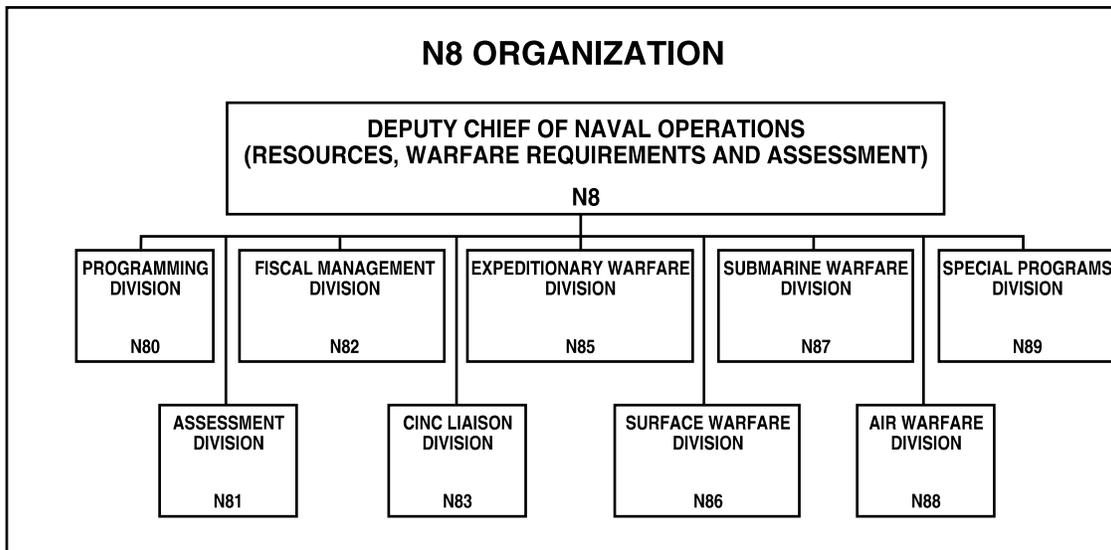


Figure 4-2. N8 Organization

JOINT MISSION AREAS KEY OPERATIONAL CAPABILITIES MATRIX

| KEY OPERATIONAL CAPABILITIES | JOINT MISSION AREAS | | | | | | |
|--|--|--|--|--|---|---|--|
| | JOINT STRIKE | JOINT LITTORAL | JOINT SURVEILLANCE | JOINT SEW/ INTELLIGENCE | STRATEGIC SEALIFT/ PROTECTION | STRATEGIC DETERRENCE | FORWARD PRESENCE |
| COMMAND, CONTROL & SURVEILLANCE | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW | C3, I, OS, SEW, NSW |
| BATTLESPACE DOMINANCE | STK, ASUW, AAW, SEW, ASW, MIW, OS, C3, I, NSFS, TBMD | ASW, AAW, MIW, SEW, AMW, ASUW, OS, STK, NSW, C3, I, NSFS, TBMD | OS, SEW, AAW, ASW, ASUW, NSW, MIW, C3, I | SEW, OS, NSW, ASW, C3, I, MIW | ASW, AAW, ASUW, MIW, SEW, OS, NSW, LOG, TBMD, C3, I | STRATEGIC, ASW, OS, AAW, SEW, MIW, AMW, ASUW, C3, I, TBMD | AAW, ASUW, ASW, AMW, NSW, SEW, MIW, STK, C3, I, OS, NSFS, TBMD |
| POWER PROJECTION | STK, ASUW, SEW, NSW, NSFS, TBMD, C3, I | AMW, MIW, STK, SEW, NSW, ASUW, C3, I, NSFS, TBMD | SEW, NSW, OS, C3, I | SEW, NSW, C3, I | LOG, ASUW, STK, AMW, SEW, C3, I, TBMD | STRATEGIC, STK, AMW, ASUW, SEW, C3, I, TBMD | AMW, STK, NSW, AAW, ASUW, ASW, C3, I, SEW, NSFS, TBMD |
| FORCE SUSTAINMENT | LOG, C3 | LOG, C3 | LOG, C3 | LOG, C3 | LOG, ASW, ASUW, AAW, AMW, MIW, OS, C3 | STRATEGIC, LOG, C3 | LOG, C3 |
| FUNDAMENTAL WARFARE TASKS | | | | SUPPORT WARFARE TASKS | | | |
| STK - STRIKE AMW - AMPHIBIOUS WARFARE NSFS - NAVAL SURFACE FIRE SUPPORT ASW - ANTISUBMARINE WARFARE AAW - ANTI-AIR WARFARE MIW - MINE WARFARE TBMD - THEATER BALLISTIC MISSILE DEFENSE ASUW - ANTISURFACE WARFARE | | | | SEW - SPACE & ELECTRONIC WARFARE C3 - COMMAND, CONTROL, COMMUNICATIONS I - INTELLIGENCE OS - OCEAN SURVEILLANCE LOG - LOGISTICS NSW - SPECIAL WARFARE | | | |

Figure 4-3. Joint Mission Areas Key Operational Capabilities Matrix

The Navy uses a matrix of seven Joint Mission Areas (JMAs) and three Support Areas (SAs). All programs and platforms, whether new or existing are assessed against their usefulness in a joint service environment.⁴ Figure 4-3 illustrates the matrix formed by the JMAs and the key operational capabilities.

The assessment process is designed to link the Navy-Marine Corps capabilities with the Mission and Support areas in a joint environment. The assessment teams are chaired by Navy Flag or Marine Corps General Officers; they provide a broad view of senior

officers from across OPNAV, while bringing special warfare expertise and experience to the assessment process. The teams also include Fleet Commanders in Chief (CINCs) and representatives from Headquarters, Marine Corps.⁵

The assessment process results are then integrated into a single investment strategy, called the Investment Balance Review. Code N81 receives this tasking function. Figure 4-4 outlines the assessment process. The objective of the Navy's integrated investment strategy is to provide coordinated planning that will ensure that the Navy is capable to

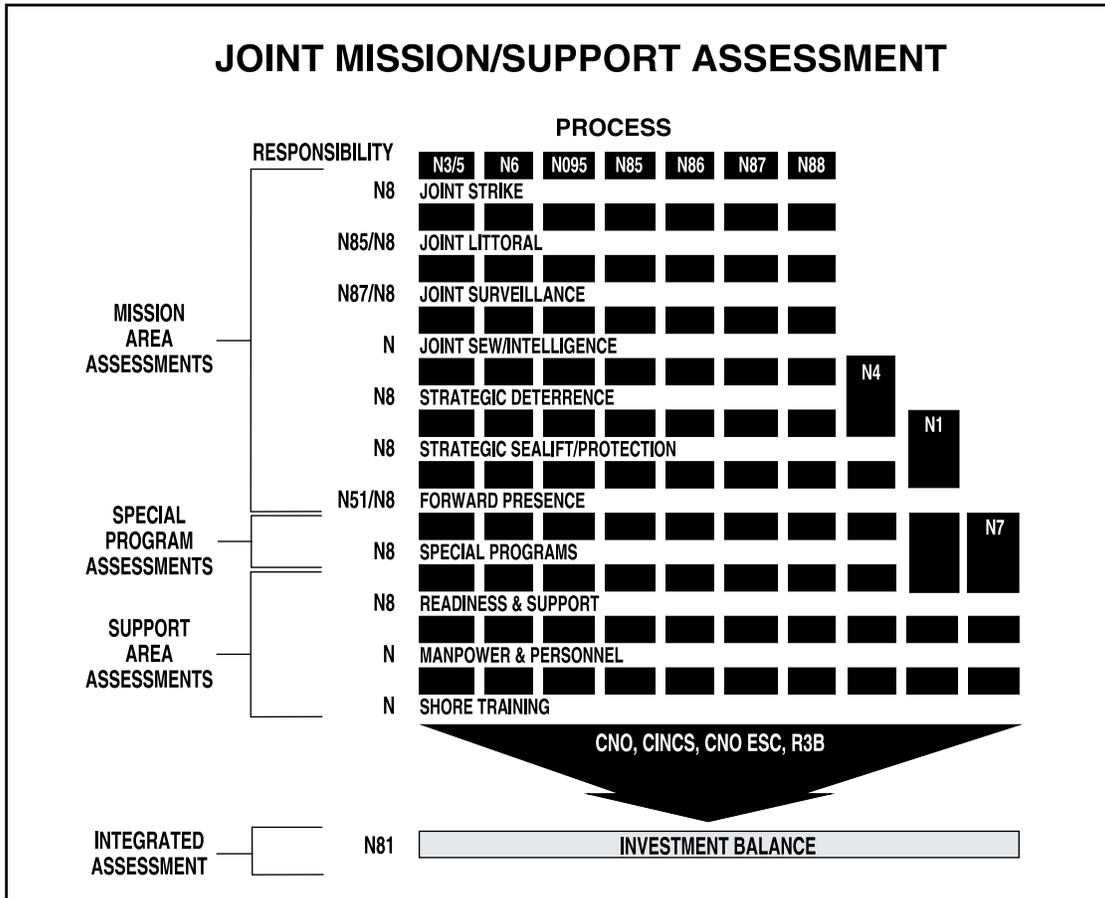


Figure 4-4. Joint Mission/Support Assessment

carry out its mission in the future.⁶

The primary review forum for the Navy is the Resource and Requirements Review Board (R³B). The membership of this board is shown in Figure 4-5. For the DON this forum is the Integrated R³B (IR³B) which includes the Marine Corps leadership. The decision on whether to pursue a major modification and upgrade is based on the Navy's ability to meet current and emerging warfare requirements. The cost of the change and how it fits into the strategic plan is also considered. The R³B sets direction and provides guidance on the recommendations that come out of the assessment teams.⁷

Figure 4-6 illustrates the new framework for OPNAV decision making. There is a similar planning process for the DON that involves the IR³B and the Commandant of the Marine Corps along with the CNO and the Secretary of the Navy (SECNAV). Although the three major resource sponsors have been subordinated in the OPNAV organization, each is still responsible for POM recommendations, including modifications and upgrades for their specific warfare area.

Navy

This section describes the process used by the different warfare areas to develop and

RESOURCES, REQUIREMENTS, REVIEW BOARD (R3B)

- CHAIRED BY N8
- MEMBERS
 - OPNAV N-CODES
 - SYSCOMS
 - CHINFO
 - OLA
 - OPA
 - MARINES
 - SEA 08

Figure 4-5. Resources, Requirements, Review Board (R3B)

NEW FRAMEWORK FOR OPNAV DECISION MAKING

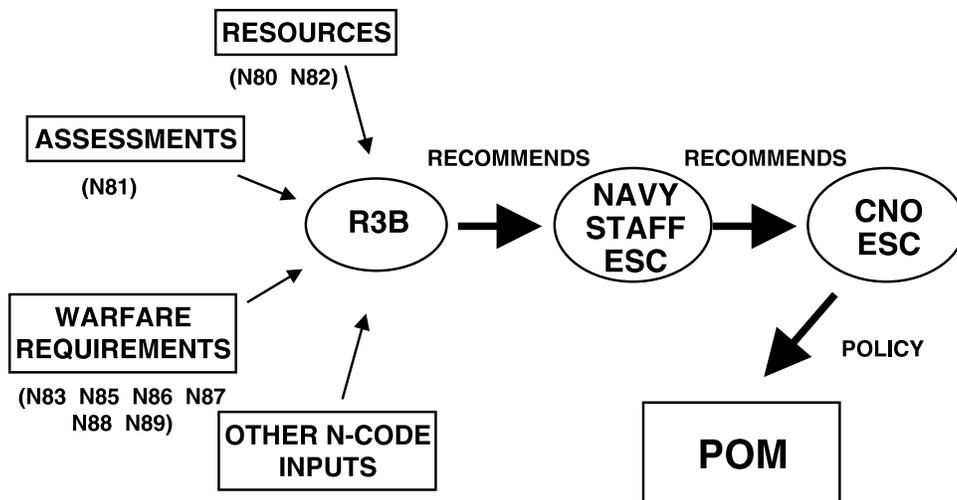


Figure 4-6. New Framework for OPNAV Decision Making

prioritize requirements used in making decisions on modifications and upgrades.

The surface warfare section describes the process used to effect the modifications and upgrades on ships. This is an important aspect of the modernization process. Without an efficient system by which modifications and upgrades are installed on ships, any time gained in the acquisition process will have little effect on how fast the changes are implemented in the Fleet. In the Navy's system, one cannot divorce acquisition from fleet maintenance and support.

Air Warfare

Naval Aviation (N88) has a process to review and validate perceived requirements and deficiencies, thus recommending program derived solutions. This process is conducted parallel to the budgeting process. The first step is the Operation Analysis Group (OAG) which defines requirements by platform model. The membership of the OAG consists of representatives from the aircraft type Wings and Squadrons, and the Type Commanders (TYCOMs) (i.e., Commander Naval Air Forces Atlantic and Commander Naval Air Forces Pacific). The product of each platform group is a message that prioritizes deficiencies and thus prioritizes the war fighting requirements. This level does not consider cost effectiveness.

A new level to the aviation review process is under development. In this process, each type of aircraft has an Executive Steering Committee (ESC) whose membership consists of senior level people from Naval Air Systems Command (NAVAIR), N88 requirements group, and the TYCOMs. These committees consider cost by taking the OAG product and adding some level of cost effectiveness and cost reality. This group has

not yet had sufficient time to develop its first product.

The Naval Aviation Liaison Group (NALG), whose membership consists of 06/07 Naval Aviators and the Commander, Naval Air Systems Command (COMNAVAIR), meets early in the budget cycle and prioritizes the naval air requirements.

The basis for this prioritization is a Memorandum of Agreement signed by the Director, Air Warfare Division (N88) and COMNAVAIR in January 1995 that delineates the Naval Aviation requirement categories and priorities. The decisions are based on three major program issues:

- Safety, basically anything that will ground an aircraft;
- Readiness and maintainability; and
- Mission performance.⁸

Once the proposed prioritization is complete, the Aviation Flag Board, comprised of senior members of Naval and Marine Corps aviation, meets to finalize the sponsor program proposal for input into the Navy POM. The Flag Board makes major programmatic decisions based on the OAG and the NALG recommendations.

Naval Air Systems Command (NAVAIR) is an integral part of this decision process. Because of this, the warfare fighting needs and the modification and upgrade acquisition process are inextricably linked.

Submarine Warfare

The Director Submarine Warfare Division (N87) is the resource sponsor for programs related to submarines and submarine war-

fare. The submarine community is a small force and the process for determining requirements for modifications and upgrades is well controlled, as is the configuration of the submarines.

Submarines use nuclear propulsion and the Director of Naval Nuclear Propulsion Program (OPNAV code N00N) has complete cognizance over the modification and upgrades to the power plant. These types of changes are called nuclear ship alterations. The Fleet knows that the nuclear part of the boat is untouchable and is very tightly controlled. This is true for all classes of submarines.

The fast attack submarines (SSNs) are included in the Fleet Modernization Program (FMP) for non-nuclear alterations. The Ship Alteration (SHIPALT) program would be used to effect modifications on board submarines. (The FMP and SHIPALT process will be discussed in more detail in the surface warfare section.) Because of the Sub-Safe program, there is a policy of no deviation from the original design. However, if there is to be a change, the design shipyard must be involved. The proposed SHIPALTs come through Naval Sea Systems Command (NAVSEA) with a recommended prioritization, and N87 makes the final call to pursue the modification or upgrade. For the non-nuclear parts of the SSN, the submarine Fleet knows a change cannot be made without going through the process. This is important because there are certain types of SHIPALTs (Title D and F) that are approved and funded by the TYCOM, e.g., Commander, Naval Submarine Forces, U.S. Atlantic/Pacific Fleet (SUBLANT/SUBPAC). Even for these smaller alterations, the Submarine Force knows it must go through the TYCOM in order to effect the change. Commander, SUBLANT and

SUBPAC have quite a bit of engineering experience because of the nuclear trained officers. This provides a better opportunity for the alterations to be done in an orderly and technically correct way.

The ballistic missile submarines (SSBNs) are not included in the FMP and have separate processes to effect change. Changes to the strategic weapon systems are controlled by Strategic Systems Programs (SSP) under its SP Alteration (SPALT) system. The remainder of the boat is under the TRIDENT Alterations system, controlled by the Strategic Submarine Program (PMS396); which is part of NAVSEA. (The TRIDENT alteration system is discussed later in this chapter.)

For both of these submarine types, the long range investment plan is predicated on Fleet input from the TYCOM, as to the needs of the user and maintainer. These inputs are essential in the prioritization of the proposed modifications and upgrades. Another fundamental ingredient is the close working relationship and information flow among the user, NAVSEA (for SSNs) or NAVSEA/SSP (for SSBNs) (along with the prime contractors) and the sponsor (N87). This allows the submarine community to act as a team in determining which modifications and upgrades are needed and are affordable, in order to meet submarine related mission needs.

Surface Warfare and the Fleet Modernization Program

The Director, Surface Warfare Division (N86) is the resource sponsor for surface ships (less aircraft carriers that belong to N88, Air Warfare Division). NAVSEA processes proposed modifications and upgrades within the appropriate program office. The

acquisition part of the modification and upgrade process is done in accordance with DoD Instruction 5000.2. Modernization of surface ships, which involves the installation of modification and upgrades, is generally accomplished in conjunction with a maintenance overhaul or availability. During this time, a ship, with its crew, is taken out of operational service and is an unusable asset for the CINC. Changes incorporated aboard ships are part of the FMP, using the SHIPALT process. Fleet modernization and maintenance is not controlled under the acquisition process. However, the subsystem that is being put on the ship may be under the milestone process. In fact, an upgrade to a ship's capability may require a milestone decision. Figure 4-7 is an illustration of where the acquisition process stops and fleet support begins.

The FMP is a structure for planning, programming, budgeting and installing improvements to ships of the active and reserve fleets. A SHIPALT is defined as: "Any change in the hull, machinery, equipment, or fittings which involves change in design, materials, number, location, or relationship or the component parts of an assembly."⁹ There are other types of alterations that are part of the FMP. These are ordnance alterations (ORDALTs) and machinery alterations (MACHALTs).

An ORDALT is defined as: "A Change effected on naval ordnance equipment or their computer programs by the addition, deletion, rework, or replacement of parts in assemblies or equipment, or by change in assembly procedures."¹⁰ A SHIPALT may require accomplishment of one or more ORDALTs

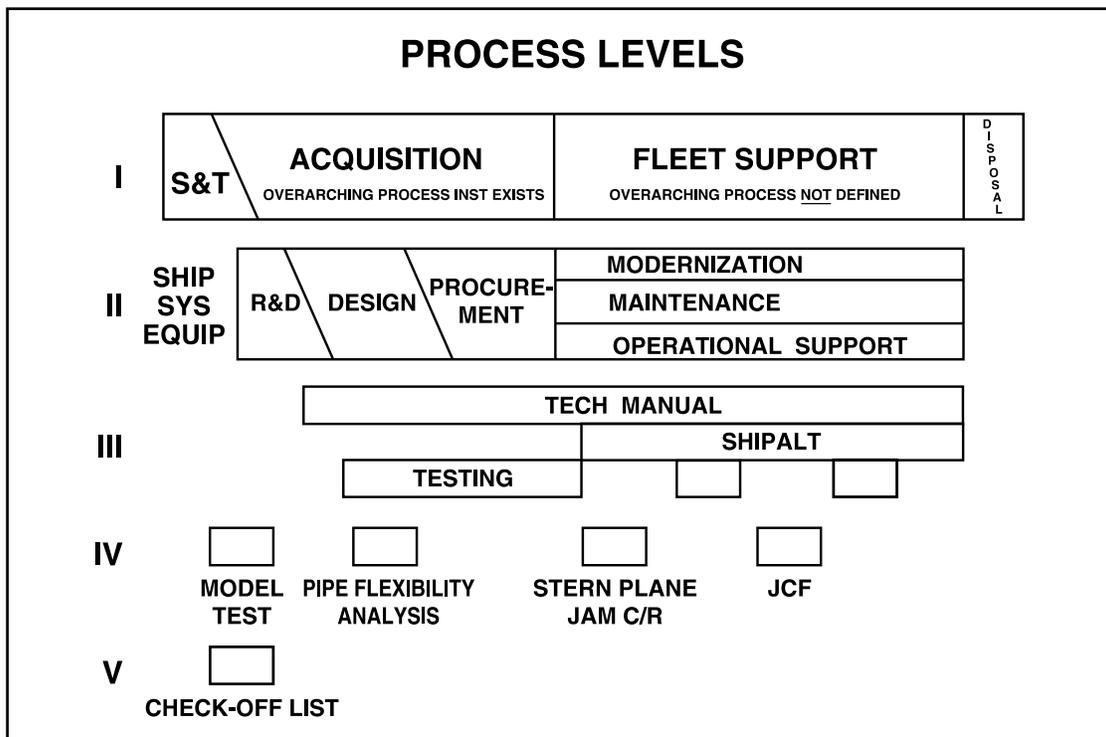


Figure 4-7. Process Levels

in conjunction with the SHIPALT. On the other hand, a MACHALT is: “A kit concept which enables HM&E (Hull, Machinery and Electrical) changes to be accomplished in an expeditious manner eliminating these changes from the formal SHIPALT process. A MACHALT is defined as a planned change, modification, or alteration to any HM&E equipment in service (shipboard or shore activities) when it has been determined by the MACHALT Configuration [Change] Control Board (CCB) that the alteration of modification meets all of the following conditions:

- Can be accomplished without changing an interface external to the equipment or system.
- Is a modification made within the equipment boundary or is a direct replacement of the original equipment design.
- Can be accomplished without the ship being in an industrial activity.

- Will be accomplished individually and not conjunctively with a SHIPALT or other MACHALT.”¹¹

Although ship modernization is generally accomplished in conjunction with a maintenance availability or an overhaul, there are some distinctions between modernization and maintenance. These differences are compared in Figure 4-8.

The system is set up so that anyone can submit a proposed SHIPALT. All proposed SHIPALTs are reviewed for technical merit. Those considered feasible and desirable are screened by the CCB, during which a decision is made for further SHIPALT development. Factors under consideration in the decision include:

- Advantages gained commensurate with cost;
- Mission needs;

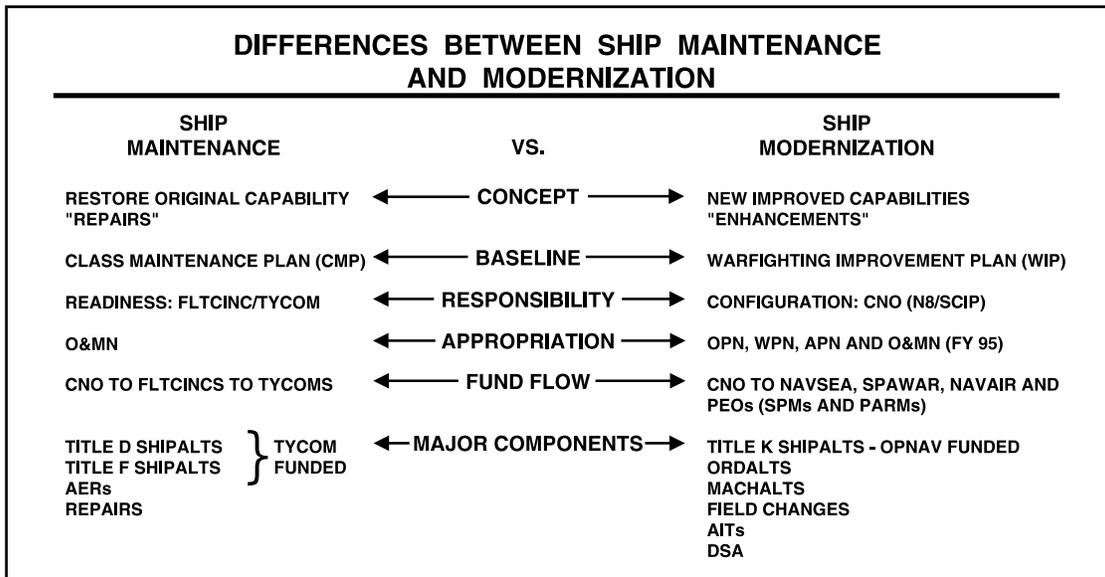


Figure 4-8. Differences Between Ship Maintenance and Modernization

- Relative priority of alteration; and
- Method of implementation (type of SHIPALT)

An annual FMP Prioritization Conference is held each summer to review all applicable SHIPALTs. Based on the recommendations and inputs from the Fleet CINCs, TYCOMs and the NAVSEA Ship's PM, the resource sponsors from OPNAV decide the relative priority of the alterations. The decision as to which Title K SHIPALTs will be accomplished on which ships and during which availability belongs to the OPNAV platform sponsor.¹² A Title K SHIPALT is the most

complex of SHIPALTs; it requires depot level expertise to install and usually requires headquarters centrally provided materials (HCPM). The SHIPALT development process is illustrated in Figure 4-9. As the figure shows, the process can be lengthy. However, the process time can be significantly accelerated to accommodate emergent installations.

Four cost elements comprise the FMP:

- Procurement of HCPM;
- Title K SHIPALT execution and advanced planning funding;

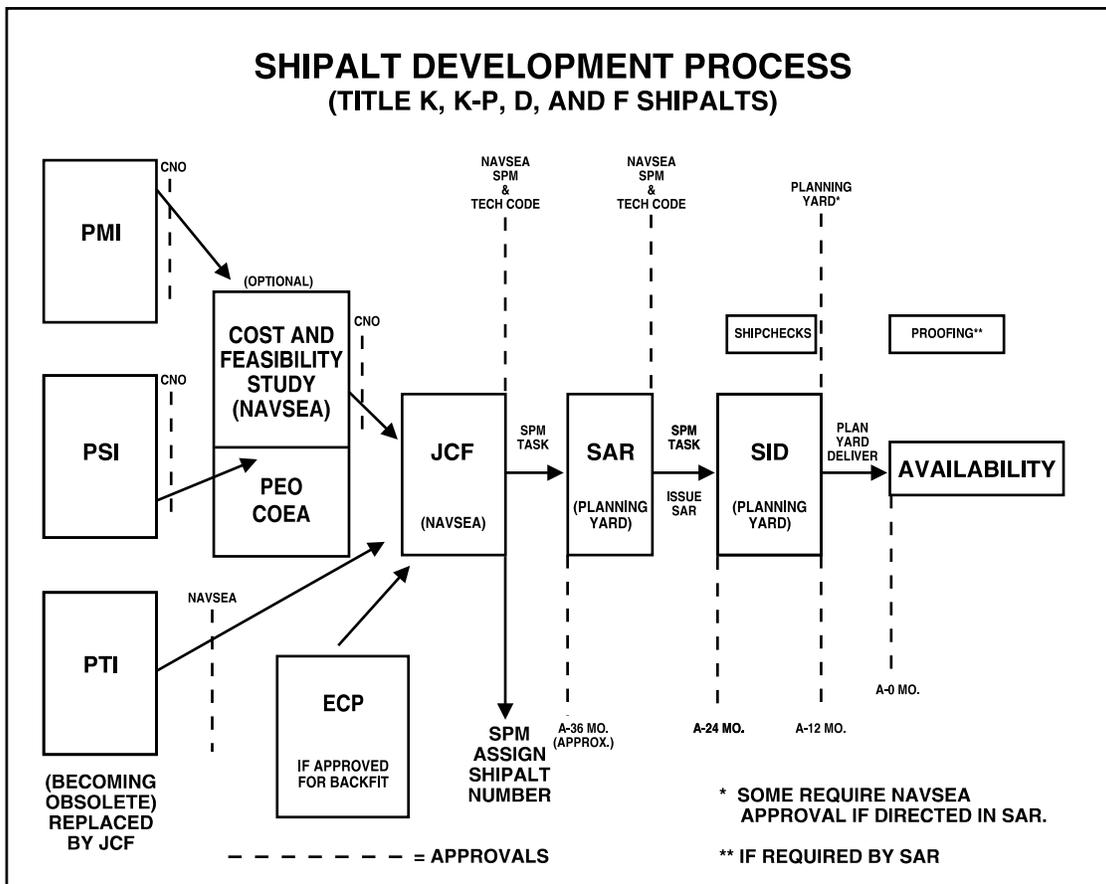


Figure 4-9. Shipalt Development Process

- Design support (DSA); and
- Alteration Installation Team and program support.

One of the complexities of the FMP is the series of financial policy changes occurring over the past 5-6 years. Prior to 1990, operation and maintenance, Navy (O&MN) annual funding was used to install the SHIPALTs. There were three lines of accounting with the funding split out by platform sponsor. The problem was the lack of linkage between the procurement money (OPN) and the installation money (O&MN). In 1990, Congress directed the budgeting of all FMP procurement and installation costs into the OPN/WPN/APN appropriations. These “fully funded” appropriations have a three year obligation authority; and equipment procurement and installation were thus put into the same appropriation line and year. As a result, FMP installation funds appear in more than 85 separate budget/accounting (P-1) lines. As of FY 1995, the Navy Comptroller (NAVCOMPT) directed the annualization of the FMP budget. What this means is that the requirements are funded in the year in which the installation takes place and not funded in the year the HCPM is procured. These requirements include advance planning and installation. Also, as of FY 1995, all SHIPALT installation design efforts (including OPN/WPN), as well as accomplishment of alterations which do not require HCPM, were moved to the O&MN line.¹³

The FMP process is so important to the Navy’s modernization strategy that the Navy has nominated it for cycle time reduction. NAVSEA is reviewing ways to improve the program. Part of the review includes the results from a FMP Visionary Working Group, formed to explore the root problems and rec-

ommend solutions. This working group includes representatives from NAVSEA, OPNAV, Space and Naval Warfare Systems Command and the Fleet. Their findings, as to the root problems in the system, focused on such areas as infrastructure, the funding process and the supporting Automatic Data Processing (ADP) systems.

The current infrastructure for FMP is fragmented; there is no single advocate on the OPNAV staff for this program, for both requirements and funding. The FMP funding process is very complex and there is a lack of documented NAVCOMPT procedures. It seems that the budget process has overtaken the modernization process and has become more important than the ships and the Sailors. The Fleet Modernization Program Management Information System (FMPMIS) requires upgrading to reflect the current changes in budget, planning and reporting requirements; it is not currently structured to provide consolidated and timely information. One other comment was that the development and the design of the alterations themselves are not organized around the process. The Ship’s PM (SPM) has the responsibility for the life cycle support of the ship. However, the SPMs really have no control over all aspects of the SHIPALT process.

There were several recommendations from this group and some recommendations from the Surface Ship Directorate (SEA 91) of NAVSEA (FMP Program Management Division (SEA914) is part of SEA 91). The recommendations regarding infrastructure included the establishment of one OPNAV FMP sponsor for ship modernization. Today, both N8 (DCNO (Resources, Warfare Requirements and Assessment)) and N6 (Director of Space and Electronic Warfare) are responsible for this function. The rec-

ommendation would combine N6 (for FMP only) and N8. This would cause the FMP funding to flow from one source. The planning, programming and budgeting of FMP should be through a single appropriation. NAVCOMPT should be required to issue a policy on FMP. In developing this policy, an executive board for Sponsors and NAVCOMPT should be established to resolve major issues. The SPMs should be made totally responsible for platform modernization; having “cradle to grave” responsibility. (Other comments from outside this visionary working group have supported the FMP Visionary Working Group recommendation that the funding should be controlled by the SPMs and thus would establish more centralized control.) There should be a single path for the flow of funds and the process/organization should be reorganized to focus on platform requirements. The last recommendation, regarding the FMPMIS, is that the recommended ADP improvements be implemented.

Recommendations by NAVSEA 91 involve continuing the work begun by the Visionary Working Group through the initiative of reducing FMP cycle time and implementing the approved recommendations. NAVSEA 914 will continue with the redesign of the FMPMIS and implement Working Group recommended ADP improvements.

This working group is a step in the right direction, but there is more work to do. In other discussions the indication was too many people touch the design with little value added. There needs to be some discipline in the development process to minimize the engineering accomplished on a proposed SHIPALT before the alteration gets to the decision process and is disapproved.

The Navy is working to make FMP better. One of the things that seems to be necessary is good communication among the Systems Commands, Resource Sponsors and the Fleet. This is not always the case. Certainly, establishing a team with the primary goal of supporting the Fleet needs and that of the Sailor is essential. There are many constraints in the system that drive portions of it to be inflexible. However, when it comes to ship schedules, flexibility is an essential part of any system that is used to implement shipboard modernization. Because of current budget requirements, when a SHIPALT is not executed on schedule, it costs the Fleet money and the Sailor suffers in the long run. One perspective from the Fleet maintenance community is that there is no FMP process, despite the existence of the FMP Manual. This would suggest a total overhaul of the system and in times of declining budgets, this seems to be the right course of action. (This is being reviewed via the cycle time reduction initiative.)

While the consensus is that the modification and upgrade approval process is fairly straight forward, the process that puts them on ships is far from being such. Improvements need to be effected in the FMP if the Fleet is to reap the benefits of any efficiencies in the acquisition process.

Exemptions from the Fleet Modernization Program (FMP)

There are certain programs that are exempted from the FMP.

- “Strategic Systems Program Alterations (SPALT) affecting configuration and capabilities of systems and equipment under the cognizance of the Director, Strategic Systems Programs (DIRSSP).

- Technical Directives affecting ship configuration of Marine Gas Turbine Engines and Gas Turbine Engineering Control Systems under the cognizance of the Naval Sea Systems Command (NAVSEA 03X3).

- Alterations under the cognizance of the Director, Naval Nuclear Propulsion Program...

- Alterations affecting configuration of hardware, software and support equipment of TRIDENT System under the cognizance of NAVSEA PMS 396. The TRIDENT system comprises OHIO Class submarines; dedicated maintenance, training and logistics facilities; and replacement equipment pools.

- Temporary modifications authorized by the Type Commander required for test and evaluation, research and development programs or in support of mission or exercise requirements.”¹⁴

Since its purpose is the same as that of the FMP, it is useful to compare the TRIDENT system established for the OHIO class submarines with the FMP.

In the TRIDENT program, alterations are a part of the whole configuration management scheme. Up front planning intended it to be a “cradle to grave” program, managed and funded through the program office, PMS 396, working in conjunction with the DIRSSP. What makes TRIDENT different from other ship classes is that new construction, alteration and operational support for the submarines and the associated funding are all managed through the same office.

The configuration management plan runs through the life cycle of the submarine. It

applies, not only to the submarine itself, but also to the training facilities and any other shore based evaluation sites. It includes everything except the strategic weapon system and nuclear propulsion. Budgeting for all costs is through the program office. In most cases, funding documents are issued to participating managers in other activities to procure equipment for the alteration. The process allows for the system design to be done in parallel to the submarine design. Although TRIDENT has more than one sponsor (e.g., N86 funds command and control training), all the money is funneled through the program office.

In the review process for proposed SHIPALTs, the program office receives the Justification Cost Form (JCF) submitted by whomever is proposing a change. That form is then sent to the TYCOMs for both the SUBLANT and SUBPAC. The TYCOMs submit comments on the change proposal. They comment on whether or not to implement the change if given the opportunity, give an opinion of the SHIPALT, and assign it a relative priority. Fleet feedback is done early in the process, prior to the approval of the JCF. When the proposal goes to the Change Control Board (CCB), the Fleet’s comments are included along with the man-hour and material cost. (Figure 4-10 illustrates this process.) The program office then assigns a Ship Alteration Manager (SAM) who is responsible for getting the entire package together. The SAM is the single point of contact for the particular SHIPALT and is responsible for getting the alteration through the process.

TRIDENT also has the luxury of having TRIDENT Refit Facilities, one at Submarine Base, Silverdale, Washington, and one at Submarine Base, Kings Bay, Georgia. These two facilities complete most of the

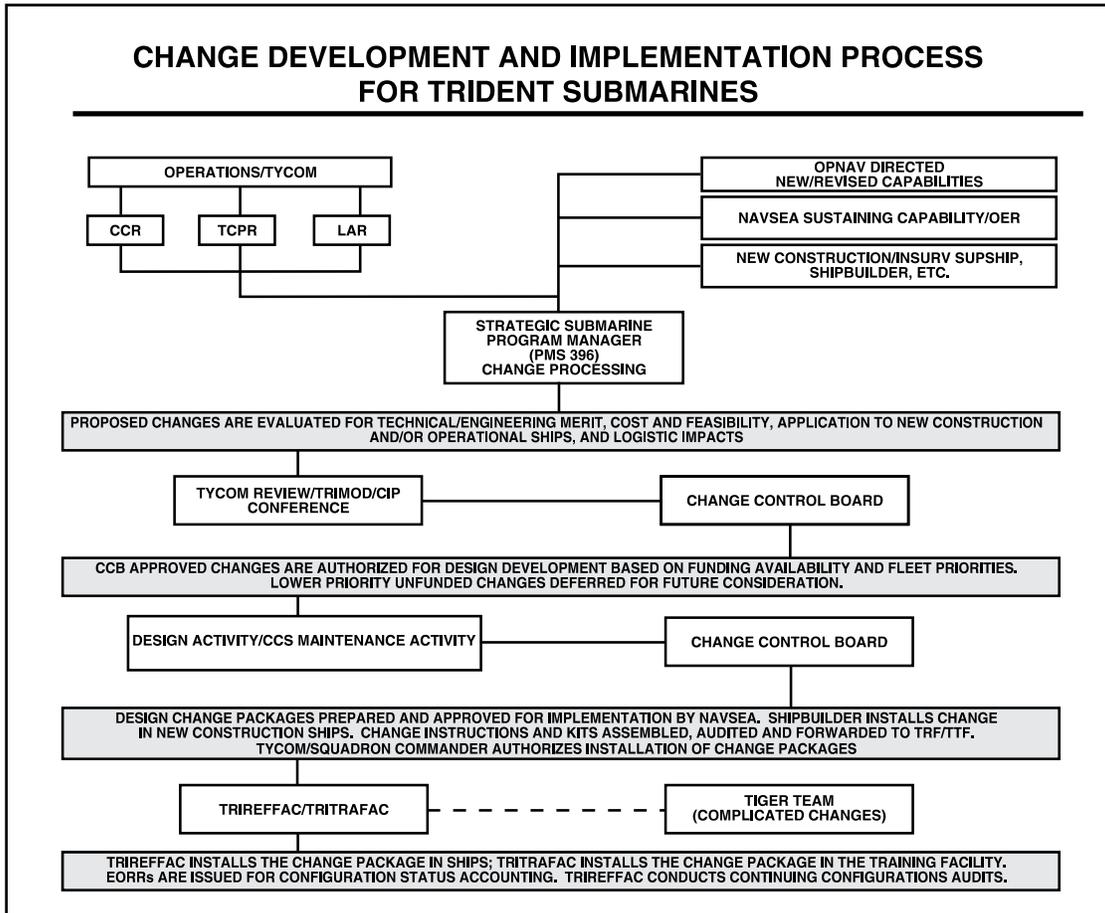


Figure 4-10. Change Development and Implementation Process for Trident Submarines

alteration work, except for those requiring an extended availability or overhaul. TRIDENTs have a fixed operating cycle, and that, along with the dedicated facilities, makes a difference in planning for the accomplishment of alterations. By having these refit periods and designing the submarine for a progressive overhaul (there are logistic hatches designed for easy access without having to cut the hull), alterations take a relatively short time.

Another program that is exempt from the FMP is the SSP (SSP). Management and control of any changes to the systems under

the cognizance of DIRSSP fall under the Strategic Systems Programs Alteration (SPALT) process. DIRSSP is a life cycle manager and has total “cradle to grave” responsibility for the strategic weapons system. All the budget for procurement, training, operations and support of the program comes through DIRSSP. Since the PM has control of the logistics support, this provides an advantage to make decisions on the cost effectiveness of modifications and upgrades. For example, the TRIDENT Navigation Commonality Program was approved by N8, with a budget adjustment from NAVCOMPT, based strictly on a cost sav-

ing for the life cycle support of the TRIDENT I (C4) program. It would be more cost effective to replace the C4 navigation system with the TRIDENT II (D5) navigation system than it would have been to try to support an obsolescent system. This change was accomplished through the SPALT process; the entire approval process to getting on contract took about four months. As with the PMS 396 system, the SPALT process makes changes to everything affected by the alteration, including logistics support, training, maintenance manuals and publications. The key here is total life cycle responsibility and accountability.

Two common aspects of TRIDENT program and SSP are the centralized funding control and life cycle support responsibilities. Both of these allow the PMs to make better decisions when a modification or upgrade is proposed.

In comparison, the FMP program is more complex and thus more confusing. It has grown bureaucratically and the Navy is taking the right steps to improve the system.

Marine Corps

Marine Corps Systems Command (MARCORPSYSCOM) is responsible for the research, development and acquisition (RDA) for the Marine Corps ground forces. Marine Aviation is integrated into the N88 process for Naval Aviation. The Marine Corps Combat Development Command (MCCDC) handles the mission requirements and writes MNSs and ORDs. The MARCORPSYSCOM is responsible for fulfilling those requirements through acquisition programs. This is done for new developments as well as modification and upgrades. The MCCDC, along with the rest of the Marine Corps, sets the priorities for the MARCORPSYSCOM budget execution.

There are presently no modification programs that the Marine Corps manages as the lead service. During the interview with the Marine Corps, it was noted that eighty-five percent of the Marine Corps procurement money goes to joint service programs or non-developmental commercial off-the-shelf. The Marine Corps treats upgrades in accordance with DoD Instruction 5000.2 and they go to Milestone 0. This has caused some administrative heartache, especially when you have a low cost, low risk upgrade. An example was an upgrade program that put a new trigger guard on a small weapon; the program cost \$100K. As written today, the 5000 series does not give any latitude on this; it must go to Milestone 0.

In an attempt to improve the acquisition process, the MARCORPSYSCOM proposed a change to the DoDI 5000.2 through the Assistant Secretary of the Navy (RDA). This proposal tries to correct the deficiency in DoDI 5000.2 that fails to distinguish between a major and minor upgrade. In essence it defines a minor upgrade ACAT:

“The minor upgrade acquisition category would consist of upgrades that meet the following criteria:

- a. Cost less than \$5M Research, Development, Test & Evaluation and less than \$15M Procurement (PMC, O&M,MC).
- b. Do not require a new Mission Need Statement (MNS) or a new Operational Requirements Document (ORD).
- c. Provide no new capability beyond that required in the approved ORD.
- d. Have low technical risk and low programmatic risk.”¹⁵

(Subsequent to writing this chapter, Dr. Kaminski, USD(A&T), deleted Milestone IV, Major Modification Approval (see Appendix B).)

Summary

The DON is attempting a more coordinated approach in establishing requirements, as evidenced by the reorganization of the OPNAV. Requirements are an integral part of the Navy's acquisition process. In this process, the PMs and PEOs continue to work within the framework of the DoDI 5000.2 for modifications and upgrades.

During the interview process many PEOs and PMs expressed a concern about the lack

of definition of a major upgrade. Any upgrade, whether or not it is high cost and high risk, must go to a Milestone 0 decision. This adds time to the process and thus also adds cost. A distinction between major and minor upgrades needs to be included in the 5000 series; this should reflect a definition similar to that used for major modifications.

For the Navy, one cannot look at streamlining an acquisition process without looking at the system used to modernize and maintain the Fleet. The system that the Navy uses to put the modifications and upgrades on ships, SHIPALTs, needs restructuring. The Navy recognizes the need to make improvements in this area and is actively looking at this process.

ENDNOTES

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3. Ibid., p. 21
4. Ibid., p. 21
5. Ibid., p. 22
6. Ibid., p. 22-23
7. Ibid., p. 28
8. Naval Air Systems Command, N88/5U108. (1995, January 30). Naval Aviation Requirements Categorization. (Memorandum of Agreement). Washington, DC.
9. Department of the Navy. (1993, August 18). *Fleet Modernization Program Management and Operations Manual*, Volume 1, Revision 1 (SL720-AA-MAN-010, p. GL-17/Naval Sea System Command). Washington, DC: Author.
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11. Ibid., p. GL-12
12. Ibid., p. EXSUM 15
13. Ibid., p. EXSUM 3,4
14. Ibid., p. 1-3
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