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SUBSECTION 12-1 INTRODUCTION

12-1.1 Scope of Section 12

This section of the Fleet Modernization Program (FMP) Management and Operations Manual defines the policies, procedures and programs for Type Commander (TYCOM) alterations which include Title "D" and "F" Ship Alterations (SHIPALTs) and Alterations Equivalent to Repair (AERs) that are authorized for accomplishment. Previous sections of this manual address all SHIPALTs with distinctions made, as appropriate, to differentiate between the various SHIPALT types. This section consolidates, into a single section, the policies, procedures and unique programs associated with the approval, programming, management and installation of TYCOM alterations. Accomplishment for these alterations includes (where applicable) alteration initiation, design (preparation of the SHIPALT Installation Drawings (SIDs) and Ship Selected Records (SSRs)), installation, modification of the Integrated Logistic Support (ILS) products and provides completion confirmation to the Ship Program Manager (SPM), TYCOM (FMP Manager), Configuration Data Manager (CDM) and the Planning Yard (PY). The various management philosophies of each TYCOM as well as special alteration initiatives are discussed in the following subsections.

12-1.2 Exceptions to Section 12

The Deputy Commander for Nuclear Propulsion (Naval Sea Systems Command (NAVSEA) 08) is responsible for all technical matters pertaining to nuclear propulsion of US Navy ships and craft, including all aspects of integration of the nuclear plant into the ship system. Nothing in this section detracts in any way from those responsibilities. Accordingly, NAVSEA 08 will be consulted in all matters related to or affecting the nuclear support facilities. In addition, the procedures and requirements in this section are not applicable to changes under the cognizance of the Deputy Commander for Nuclear Propulsion (NAVSEA 08). Strategic Systems Program Alterations (SPALTs) affecting the configuration and/or capabilities of systems and equipment under the cognizance of the Director, Strategic Systems Programs (DIRSSP) and exempt from Section 12 also. Alterations affecting the configuration of hardware, software, firmware and support equipment of the TRIDENT System under the cognizance of NAVSEA PMS392 and are also exempt from Section 12.

12-1.3 References for Section 12

The following references are the principal documents that govern the actions of the TYCOMs in executing their alteration programs.

S12(a) Appendix A, NAVSEA Tech Spec 9090-310 (Series) Subj: Alterations To Ships Accomplished by Alteration Installation Teams (AITs)

S12(b) OPNAVINST 4720.2 (Series) Subj: Fleet Modernization Program (FMP) Policy

S12(c) CINCLANTFLT/CINCPACFLT INST 4790.3 (Series) Joint Fleet Maintenance Manual

S12(d) NAVSEA Technical Specification 9090-700 (Series) Subj: Ship Configuration and Logistics Support Information System

12-1.4 TYCOM Alterations Definitions

TYCOM alterations are approved by the SPM for accomplishment as a Title "D" or "F" SHIPALT or AER depending on the scope and effects of the change. TYCOM alterations are programmed for installation by the TYCOM, as well as funded for accomplishment by the TYCOM or other organization as agreed upon. TYCOM alterations are maintenance alterations normally accomplished to improve reliability or maintainability. A TYCOM alteration is a technical alteration that has one or more of the following attributes:

- a. The use of different materials that have been approved for similar use and such materials are available from standard stock.
- b. The replacement of obsolete, worn-out or damaged parts, assemblies or components requiring renewal by those of later and more efficient design which has been previously approved by the SPM and such replacement does not cause a change to the systems or equipments normally associated with the military characteristics of the ship.
- c. The strengthening of parts that requires repair or replacement in order to improve reliability of the parts and of the unit provided no other change in design is involved.
- d. Minor modifications involving no significant changes in design or functioning of equipment but considered essential to prevent recurrence of unsatisfactory conditions.
- e. The replacement of parts, assemblies or equipment with like items of later or more efficient design where it can be demonstrated that the cost of the installation and maintenance of the new parts, assemblies or components is less than the cost of maintaining the installed parts, assemblies or components, and such replacement does not cause a change to the existing system design or affect any interfacing system design and does not effect a change to the systems or equipment normally associated with the military or technical characteristics of the ship.
- f. The proposed alteration is an inspection or documentation change requiring no equipment modification, but requires a vehicle to monitor accomplishment.

A definition of each type of TYCOM alteration is as follows:

- a. Title "D" SHIPALT - A Title "D" SHIPALT is a permanent alteration that does not affect the military characteristics of a ship. It is formally approved by the SPM in the form of a Justification/Cost Form (JCF) and a SHIPALT Record (SAR). It may require Centrally Provided Material (CPM), but it does not require Headquarters Centrally Provided Material (HCPM). A Title "D" SHIPALT may specify whether it should be accomplished only by a depot level maintenance facility. They generally include more efficient, cost effective designs that improve ship maintainability, and meets one or more of the TYCOM alterations attributes described above.
- b. Title "F" SHIPALT - A Title "F" SHIPALT is a permanent alteration that is formally approved by the SPM in the form of a JCF and a SAR. It does not require HCPM or CPM and is within ship's force capability for accomplishment; however, it may be accomplished by an Intermediate Maintenance Activity (IMA). It shall also meet one or more of the TYCOM alterations attributes described above.
- c. Alteration Equivalent to Repair (AER) - An AER (formerly known as a Letter AER for Surface Ships, an Alteration & Improvement (A&I) for Submarines, and an Alteration Request (AR) for Aircraft Carriers) is a permanent alteration formally approved by the SPM, typically via letter, that meets one or more of the above described TYCOM alterations attributes and all of the following criteria:
 - It does not impact Battle Force Interoperability (BFI).

- It does not impact the ship's stability records (weight and moment).
- It does not impact or alter the 3-dimensional footprint of the equipment it is replacing.
- It does not impact shipboard distributive systems (i.e. water, ventilation, electrical, power), their SSR or interfacing equipment or systems; compartmental arrangement records; or Damage Control records.
- It does not impact Manpower and Personnel.

The following procedures will be followed if the SPM internal review determines that the proposed AER should be accomplished as a SHIPALT (Title "F", "D", "K-P", or "K") or is already under development as a SHIPALT:

- a. An AER can be a prerequisite to a SHIPALT such as Title "F" and "D" SHIPALTs. In this case, information relating to the development of the SHIPALT will be included in the body of the AER recommendation letter. Additionally, it should be stated that ILS products affected will be covered during SHIPALT development and execution.
- b. AERs can be accomplished in place of SHIPALTs where an emergent requirement of limited applicability dictates. In this case, the body of the recommendation letter shall state that the PY shall prepare AER installation procedures.
 - 1) If a proposed inspection AER is required until accomplishment of a SHIPALT, the AER recommendation letter will identify the ship alteration and its estimated completion date. All detailed procedures, material requirements, and ILS requirements will be excluded from the letter.

12-1.5 Policies for TYCOMs in FMP

Key FMP management policies that should be followed by all TYCOMs are as follows:

- a. All TYCOM alterations must be approved by the cognizant SPM prior to accomplishment, however, the SPM may delegate limited approval authority.
- b. All TYCOM alterations (including AERs) shall be entered into and accomplishment status maintained in the Navy Data Environment-Navy Modernization (NDE-NM) module (formerly known as the FMP Management Information System (FMPMIS)).
- c. All proposed TYCOM alterations (including AERs) shall be evaluated for ILS impacts as described in Section 8 of this manual. The ILS Certification Form contained in Section 8 shall be prepared and provided by the TYCOM for all TYCOM alterations (including AERs) prior to approval of the alteration for accomplishment. The SPM will logistically certify TYCOM alterations in accordance with Section 8 of this manual.
- d. All TYCOM alterations shall specify that upon completion, accomplishment will be reported to the CDM electronically through the Configuration Data Managers Database-Open Architecture (CDMD-OA) using the Ship Configuration and Logistics Support Information System (SCLISIS). Ship's force accomplished alterations will be reported to the CDM through the normal Shipboard Non-Tactical ADP Program (SNAP) process. Completion reporting of alterations accomplished by Alteration Installation Teams (AITs) will be in accordance with reference S12(a).
- e. The Systems Command (SYSCOM) exercising technical control over the article, or the authority to which such technical control has been delegated by that command, shall approve TYCOM alterations for accomplishment prior to SPM approval.
- f. For SYSCOM/Life Cycle Manager (LCM) controlled ship systems or equipments, the proposed TYCOM alterations must be reviewed by and have technical approval of the cognizant

SYSCOM/LCM prior to final SPM approval. SPMs have sole authority and responsibility for issuing approval for accomplishing TYCOM alterations.

g. TYCOMs shall recommend to the SPM cancellation of those alterations no longer desired or required.

h. Title "D" and "F" SHIPALTs shall be programmed in NDE-NM in time to permit the design process to commence at Start Of Availability (A)-12.

i. TYCOMs are responsible for authorizing, scheduling and executing Title "D" and "F" SHIPALTs and AERs.

12-1.6 Alteration Classification Determination

An alteration request can be initiated by any number of activities, i.e. ship's force, SPM, PY, TYCOM, etc. The request when received shall be evaluated to determine what type of alteration it should ultimately become, if approved by the SPM, based on the definitions of the types of FMP alterations contained in reference S12(b). If an alteration initially classified as an AER is later determined to not meet the criteria of an AER it shall be reclassified as the appropriate SHIPALT type based on the definitions contained in reference S12(b). All AER planning, programming and installations shall cease at that time. Alteration planning, programming and installations shall not recommence until the appropriate SHIPALT and requisite ILS products are developed.

SUBSECTION 12-2 SURFACE FORCE ALTERATION MANAGEMENT

12-2.1 Scope

This subsection details the processes by which both Surface Force TYCOMs execute their alteration programs. Since procedurally both TYCOMs share the same management philosophies, the procedures detailed below apply to both Commander, Naval Surface Force Pacific Fleet (COMNAVSURFPAC) and Commander, Naval Surface Force Atlantic Fleet (COMNAVSURFLANT).

12-2.2 General Subsection 12-2 Information

Reference S12(c) is the governing instruction that applies to alteration management by COMNAVSURFPAC and COMNAVSURFLANT.

12-2.3 Rapid Development of Ship Alterations (SHIPALTs) and Alterations Equivalent to Repair (AERs)

The Rapid "D ALT/AER" process is an optional process for the TYCOM to use in expediting maintenance alteration SAR, SID, and ILS products development. The main difference between this process and the standard FMP process is that many steps are combined or executed in parallel. In exchange for the rapid development, the TYCOM, rather than the SPM, tasks and funds the development of the Short-Form SAR, SIDs, and ILS. The process is:

- a. The TYCOM receives an alteration request and enters a proposed alteration into NDE-NM for SPM approval. In parallel, the TYCOM tasks and funds the PY to develop a Short-Form SAR (for the Title "D" SHIPALTs), SIDs, and the appropriate activity to develop/modify the applicable ILS products.
- b. The PY develops the Short-Form SAR and obtains the SPM's approval. In parallel, the PY develops SIDs and identifies ILS requirements. If the proposed alteration does not have technical merit, is not considered cost effective or is not feasible, the PY will advise the TYCOM.
- c. The SPM approves the alteration and enters an AER or SHIPALT number into NDE-NM.
- d. The TYCOM programs the alteration in NDE-NM and schedules the alteration's installation.
- e. The Installing Activity (IA) installs the alteration and delivers the ILS products to the ship. The IA submits marked-up drawings to the PY to reflect installed alterations. The IA reports completion.
- f. The PY updates the Drawings and SSRs.

12-2.4 Reporting TYCOM SHIPALTS

The IA reports SHIPALT completion in the Ship Alteration Completion Report NAVSEA Form 4790/14 and the Departure Report, NAVSEA Form 4790/13, when applicable. TYCOM alteration completions and alterations will be reported to the CDM electronically through the CDMD-OA using the SCLSIS in accordance with reference S12(d). Ship's force accomplished alterations will be reported to the CDM through the normal SNAP process. Completion reporting of alterations accomplished by AITs will be in accordance with reference S12(a).

SUBSECTION 12-3 AIR SURFACE FORCE ALTERATION MANAGEMENT

12-3.1 Scope

This subsection details the processes by which both the Atlantic and Pacific Fleet Air Force TYCOMs execute their alteration programs. Since procedurally both TYCOMs share the same management philosophies, the procedures detailed below apply to both Commander, Naval Air Force Atlantic (COMNAVAIRLANT) and Commander, Naval Air Force Pacific (COMNAVAIRPAC). Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP) Newport News (NN) Code 1800 provides the planning, analysis, data management and processes applied to the FMP program for both TYCOMs.

12-3.2 General Subsection 12-3 Information

Reference S12(c) is the governing instruction that applies to the management of COMNAVAIRLANT and COMNAVAIRPAC alterations.

The Aircraft Carrier community, through a process improvement review, is undergoing changes in how its traditional PY functions are performed. The Integrated Design Engineering Activity (IDEA) concept is an effort to partner the three Aircraft Carrier shipyards (Norfolk Naval Shipyard, Puget Sound Naval Shipyard and Newport News Shipbuilding) to better perform the PY functions.

12-3.3 Programming TYCOM Air Surface Force Alterations

Both TYCOMs hold semi-annual Ship Modernization Requirements Review (SMRR) meetings. These meetings consider input from individual ship representatives to establish Title "D" and "F" SHIPALT programming and ship "Top Twenty" AER listings. The SMRRs also establish Title "K" SHIPALT programming recommendations for submission to the SPM.

SUPSHIPNN Code 1800 enters the SMRR results in the NDE-NM and maintains the data. In addition, they evaluate alterations for conformance to SPM guidance and installation cost estimates, identify IA other than industrial facilities (i.e., AITs) and make programming recommendations.

12-3.4 Tasking TYCOM Air Surface Force Alterations SHIPALTS

As the TYCOM agent, SUPSHIPNN Code 1800 tasks the PY and industrial accomplishing activity at approximately A-23 in a Modernization Advance Planning Guidance Letter for Title "D" SHIPALTs and issues revisions as required.

After the Project Review Conference (PRC) at A-5/7 Title "D" and "F" SHIPALTs and AERs authorization for accomplishment is adjudicated by the approved Availability Work Package (AWP) issued by the TYCOM or their designated representative. Alterations tasked for accomplishment by ship's force will also be included in the AWP.

Title "F" SHIPALTs (and Title "D" SHIPALTs within the capability of ship's force to accomplish that are not completed or only partially completed, and completion is desired) will have an OPNAV Form 4790/2K deferral entered in the Current Ship Maintenance Project

(CSMP) and will be accomplished as ship's force workload permits.

12-3.5 Material Management for TYCOM Air Surface Force Alterations

12-3.5.1 SUPSHIP Newport News Code 1800 Responsibilities

- a. Manage NDE-NM Material Programs as identified in the Fiscal Year Planning Management Task Letter.
- b. Manage and maintain SHIPALT Bill Of Material (BOM) in NDE-NM from priority and sequence of the following documents:
 - 1) JCF.
 - 2) Approved SAR (A-12).
 - 3) Liaison Action Record (LAR) (as required).
 - 4) Non-standard material requirements will not be entered into NDE-NM after A-14.
 - 5) No NDE-NM BOM additions are authorized after A-10.
- c. Report the status of SHIPALT material at A-15, A-12, A-9, A-6 and monthly thereafter until Start Of Availability (SOA) from reports received from the Naval Supervising Activity (NSA) and Naval Inventory Control Point-Mechanicsburg (NAVICP-M)/Defense Logistics Agency (DLA).
- d. Resolve material identification and availability problems.

12-3.5.2 Integrated Design Engineering Activity (IDEA) Responsibilities

Provide SUPSHIPNN Code 1800 the following documents which identify NDE-NM worthy material:

- a. Approved SAR (No Later Than (NLT) A-20) or when approved SAR is received from the SPM.
- b. Marked-up NDE-NM 4720/3 Report with LARs at A-9 based on completed SIDs.

12-3.5.3 NSA Responsibilities

- a. Review NDE-NM 4720/3 Report at A-23 to ensure consistency between the SHIPALTs listed and those identified by the guidance letter. Periodically monitor this report for changes in material requirements, and take the necessary actions to procure via the supply system and cancel requisitions as changes occur.
- b. Issue funded requisitions for NDE-NM material Planned Program Requirements (PPRs)/Special Program Requirements (SPRs) rejections and for Long Lead Time Material (LLTM) procurement for SHIPALTs listed in the guidance letter as they occur.
- c. Determine/request the amount of funding required to procure the remaining NDE-NM material identified on the 4720/3 Report by letter at A-16.
- d. Review NDE-NM 4720/3 Report, at A-16 and requisition all material whose Procurement Lead Time (PLT) is greater than or equal to 12 months. Requisition all remaining NDE-NM material by A-9 for DLA cognizance items and A-8 for NAVICP-M cognizant items.
- e. Provide material requisition/procurement status report (SSMP-800 or equivalent) to SUPSHIPNN Code 1800 NLT A-16, A-13 and monthly thereafter until SOA. Identify any problems or deficiencies to ensure corrective action.
- f. For SHIPALTs identified by NDE-NM, cancel requisitions for any items that are no longer required.
- g. At the conclusion of ship's availability, identify all excess SHIPALT material as follows:

- 1) For Hardware Systems Command (HSC) excesses, consult the applicable material manager for disposition instructions.
- 2) For Inventory Control Point (ICP) excesses consult the SPM/TYCOM and SUPSHIPNN Code 1800 for disposition instructions.

12-3.5.4 Ship's Force Accomplished TYCOM Alterations

- a. The IDEA takes the NDE-NM SHIPALT BOM to the ship and updates the BOM based upon its ship check.
- b. SUPSHIPNN Code 1800 reviews the alteration and SHIPALT BOMs on a continuing basis and identifies potential alteration material problems.
- c. The applicable NSA requisitions material at A-15 to A-8 depending on SID availability.
- d. For Title "D" SHIPALTs tasked ship's force for accomplishment, Operating Target (OPTAR) funds will be utilized for material procurement.

12-3.6 Installation of TYCOM Alterations

The NSA supervises Title "D" and "F" SHIPALT and AER installations.

12-3.7 Reporting TYCOM Alterations

TYCOM alteration completions will be reported to the CDM electronically through the CDMD-OA using the SCLSIS in accordance with reference S12(d). Ship's force accomplished alterations will be reported to the CDM through the normal SNAP process. Completion reporting of alterations accomplished by AITs will be in accordance with reference S12(a).

12-3.8 Identification and Documentation of TYCOM Alterations

SUPSHIPNN Code 1800 is tasked to identify, analyze and maintain the NDE-NM and SHIPALT working files (JCF, SAR, LAR and correspondence) for all Aircraft Carrier TYCOM alterations.

12-3.8.1 AER Numbering System

At AER origination a unique number shall be assigned to the AER. The AER numbering system uses a two-digit originating designator to indicate the general origin of the AR. The two-digit fiscal year designator follows this, which is in turn followed by a three-digit sequential number. The format is as follows:

XX-FY-001, examples being 01-97-034 or 73-98-067

The originator numbers are:

- Number 01. Designates an AIRLANT origination.
- Number 02. Designates an AIRPAC origination.
- Number 03. Designates a NAVSEA origination.
- Number 04. Designates a SRF Yokosuka origination.
- Number 05. Designates a NAVSHIPYD Norfolk origination.
- Number 06. Designates a NAVSHIPYD Puget Sound origination.
- Ship Number XX. Designates a ship origination, or ship generated, using the hull number.

12-3.8.2 NDE-NM Support and SHIPALT Working Files

In providing support to the TYCOMs, SUPSHIPNN Code 1800 is tasked to:

- a. Liaison with the SPM to identify new SHIPALTs for inclusion in the NDE-NM.
- b. Develop briefs for newly identified Title "D" and "F" SHIPALTs.
- c. Request Ship Managers identify SHIPALTs to be accomplished by AITs. Input identified SHIPALTs into the SHIPALT Working Files and database including accomplishing activity and a point of contact.
- d. Coordinate, track and maintain an AIT Data Base and SHIPALT Working File for all Aircraft Carrier Title "D" and "F" SHIPALTs scheduled for accomplishment by an AIT activity.
- e. Indicate in the SHIPALT Working Files and data base those Title "D" and "F" SHIPALTs that have guidance and/or material problems.

12-3.8.3 Support of the TYCOMs SMRR

SUPSHIPNN 1800 will:

- a. Develop a "proposed" Title "D" and "F" SHIPALT and AER FMP file. This file will include the results of the latest SMRR and all official changes.
- b. Enter the results of SMRRs into the SHIPALT Working File and the NDE-NM with the results published as workbooks.

12-3.8.4 Actions Accomplished After the SMRR Conferences

After the SMRR Conference SUPSHIPNN Code 1800 will:

- a. Enter changes/programming into NDE-NM and update the NDE-NM from verified SHIPALT Working File.
- b. Issue:
 - 1) Results of SMRR books.
 - 2) SHIPALT Data Bank (Rainbow Book).
 - 3) AIT SHIPALT Results.
 - 4) AER status/programming results of the TYCOM and SMRR Conferences.

SUBSECTION 12-4 SUBMARINE FORCE ALTERATION MANAGEMENT

12-4.1 Scope

This subsection details the processes by which both the Atlantic and Pacific Fleet Submarine TYCOMs execute their alteration programs. Since procedurally both TYCOMs share the same management philosophies, the procedures detailed below apply to both Commander, Submarine Force Atlantic (COMSUBLANT) and Commander, Submarine Force Pacific (COMSUBPAC).

12-4.2 General Subsection 12-4 Information

Reference S12(c) is the governing instruction that applies to the management of COMSUBLANT and COMSUBPAC alterations.

12-4.2.1 Data Bases Used to Monitor Alteration Status

12-4.2.1.1 TYCOM Alteration Management System (TAMS)

TAMS is an automated system operated by the TYCOMs containing information related to alteration status, authorization, scheduling and accomplished activity for all Reactor Plant SHIPALTs, Non-Reactor Plant Title "D", "F" and "K-P" SHIPALTs and all AERs. TAMS is the official TYCOM instrument by which all Reactor Plant SHIPALTs, Non-Reactor Plant Title "D" and "F" SHIPALTs and all AERs are authorized for accomplishment and completion status maintained.

12-4.2.1.2 Navy Data Environment-Navy Modernization

NDE-NM, as the official Navy automated system for FMP, is maintained current by uploads of the TYCOM TAMS database. Status and programming of non-reactor plant Title "D" and "F" SHIPALTs and AERs are updated electronically from TAMS.

12-4.2.2 Special Alteration Programs

12-4.2.2.1 TYCOM Alteration Kit (TYKIT)

TYKIT is a joint COMSUBLANT/COMSUBPAC program managed and funded by the TYCOMs to facilitate installation of selected Title "D" and "F" SHIPALTs and AERs by ship's force through centralized material identification, procurement, pre-fabrication and kitting. TYKITs are discussed in detail in Subsection 12-4.6.

12-4.2.2 2 AER Program

The AER program (formerly known as the Alteration & Improvement (A&I) program) is managed and funded by the TYCOMs for authorizing and monitoring the status of accomplishment of minor ship modifications, inspections and tests. AERs are discussed in detail in Section 12-4.5.2.

12-4.3 TYCOM Alterations Responsibilities

12-4.3.1 TYCOM Responsibilities for Submarine Alterations

- a. Prioritize development of new alterations by assignment of a merit score to each AR.

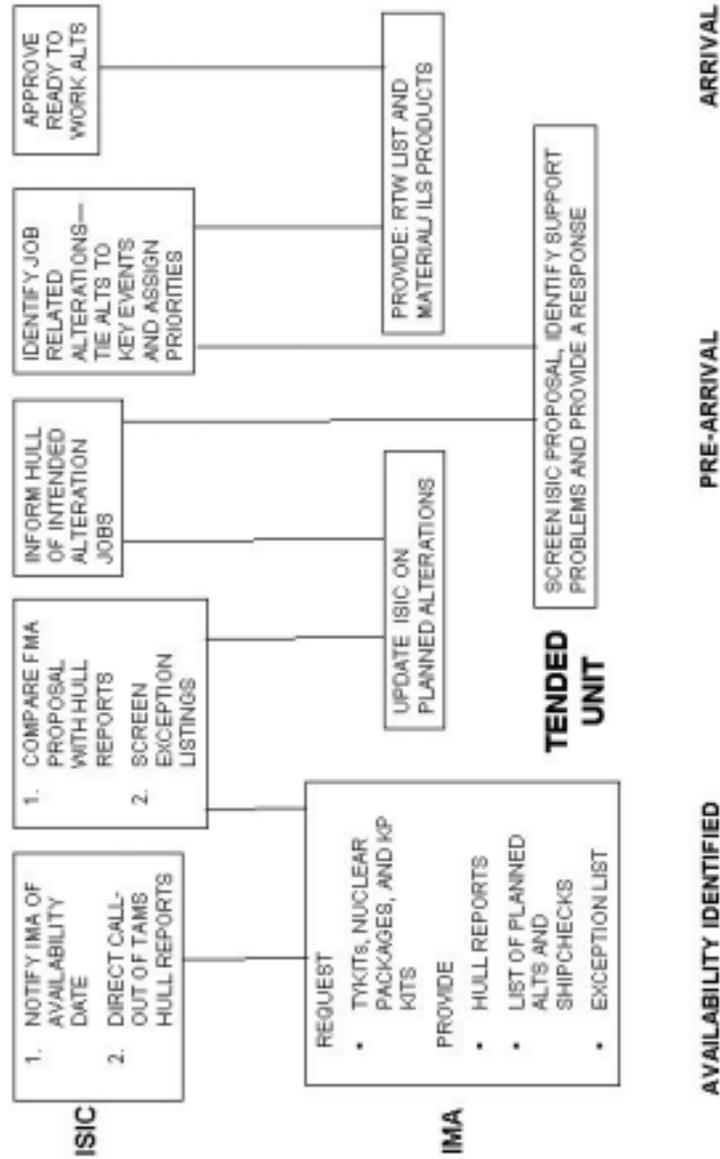
- b. Monitor completion of Category A, Ship Safety, AERs within one year of authorization in accordance with reference S12(c).
- c. Closely monitor new alterations being issued to ensure that those alterations within ship's force capability are assigned to the TYKIT or other packaging program where feasible. For those alterations not selected for inclusion in the TYKIT program, verify the availability of material, design, and ILS products prior to authorizing accomplishment.
- d. Enter in TAMS an authorization or completion status for all SHIPALTs and AERs. For those alterations that are outstanding, assign a Fiscal Year Programmed (FYPR) and designated accomplishment level.
- e. Monitor completion status and electronically update SHIPALTs and AERs in NDE-NM with an authorization or completion status code, FYPR and installing activity.
- f. Distribute TAMS reports on a periodic basis.
- g. Direct Submarine Maintenance, Engineering, Planning and Procurement (SUBMEPP) to provide Master Job Catalog (MJC) records of outstanding SHIPALTs and AERs to each IMA.
- h. Authorize Temporary Alterations' (TEMPALTs') installation, and monitor their installation and removal.

12-4.3.2 Immediate Superiors In Command (ISICs)

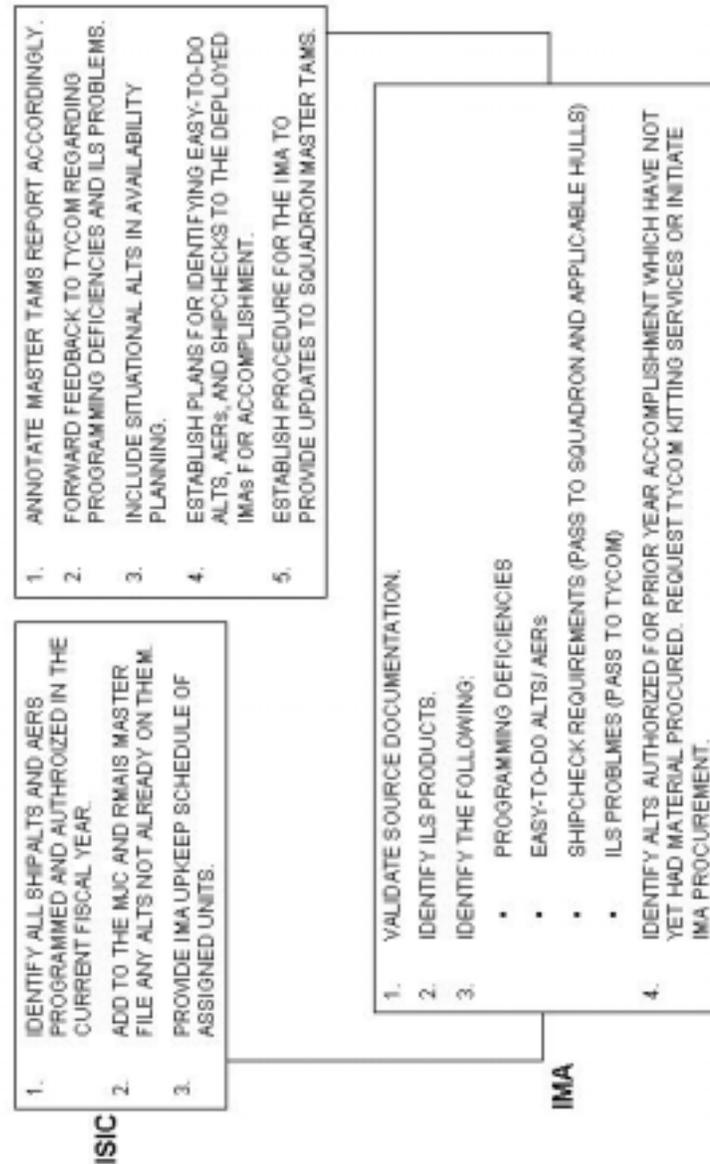
ISICs are responsible for managing the alteration program for each unit in the squadron and shall:

- a. Inform IMA personnel of all upcoming availabilities and provide a current TAMS report containing all alterations authorized for ship's force accomplishment.
- b. Establish installation priorities.
- c. Ensure that the IMA draws down TYKITs or other package alterations that are authorized and ready to use.
- d. Ensure that no action is taken to begin material procurement on alterations that are designated as TYKITs or other type packages. In the event that material procurement was started prior to the time the alteration was designated as a package, notify the TYCOM to preclude duplicate material procurement.
- e. Maintain a file of TAMS and NDE-NM reports, SHIPALT and AER briefs, and other related documentation.
- f. Maintain current status of alterations by annotating TAMS and NDE-NM reports.
- g. Inform the TYCOM of any programming deficiencies found or changes required to TAMS/NDE-NM programming related to hull applicability, the non-availability of material or software for an authorized alteration, or the availability of material and software on an unauthorized alteration.
- h. Ensure that only authorized SHIPALTs and AERs appear on the individual CSMP.
- i. Respond to alterations designated in TAMS as requiring a ship check by ensuring that they are conducted during the next upkeep by either ship's force or IMA.
- j. Review reports of alteration completions provided by the shipyard during availabilities. Submit reports of discrepancies to the TYCOM for resolution.
- k. Short and long-range planning responsibilities are shown in Figures S12-1 and S12-2.
- l. Monitor completion report submissions to report Non-Reactor Plant alteration accomplishments.

**FIGURE S12-1
SHORT-RANGE (AVAILABILITY) PLANNING**



**FIGURE S12-2
LONG-RANGE PLANNING**



12-4.3.3 IMAs Submarine Alteration Responsibilities

The IMA will establish and maintain an Alteration Management Group that will:

- Using the priorities established by the ISIC, commence the alteration planning effort in time to permit accomplishment of alterations on designated units by the end of the Fiscal Year (FY) indicated by the TYCOM (FYPR in TAMS).
- Ensure requested ship checks are conducted in a timely manner by ship's force.
- Ensure TYKITS that are authorized and noted in TAMS as Ready-For-Issue (RFI) are in hand far enough in advance to ensure its availability for installation during an upcoming upkeep. In addition, ensure that material necessary for installation of alterations not designated as TYKIT is ordered well in advance of desired installation. This includes obtaining all hardware and software required for ship's force responsible items.
- Ensure no action is taken to accomplish alterations that are not designated for ship's force accomplishment or alterations that are not currently authorized without concurrence from the

TYCOM.

- e. Ensure no action is taken to begin material procurement on alterations that are designated as TYKIT or other type packages.
- f. Provide for proper storage of TYKITs and other alteration material. This includes taking adequate measures for marking material to identify the alteration and submarine for which it is intended. Positive control of alteration material is required. Proper controls will allow transfer of material between IMAs in the event of ship transfer and minimize the chance of material losses.
- g. Report TYCOM alteration completions to the CDM electronically through the CDMD-OA using the SCLSIS for Non-Reactor Plant alterations completions.
- h. Maintain a file of TAMS and NDE-NM reports, SHIPALT and AER briefs, and other related documents.
- i. Short and long-range planning responsibilities are shown in Figures S12-1 and S12-2.

12-4.3.4 Ship's Force Responsibilities

Ship's force will designate, in writing, the Maintenance and Material Management (3-M) Coordinator or designated assistant as the Alteration Coordinator who will:

- a. Submit verification reports of alteration status as required by the TYCOM.
- b. Respond to specific requests for ship checks made by the IMA, ISIC or TYCOM to verify alteration status in a timely manner.
- c. Maintain a current set of TAMS and NDE-NM reports and annotate any status changes reported.
- d. Verify TAMS/NDE-NM reports for accuracy upon receipt and report any discrepancies to the ISIC.
- e. Track the accomplishment of alterations during depot availabilities by both the industrial activity and the ship's force to ensure a comprehensive completion report at the End Of Availability (EOA).
- f. Monitor the submission of CDMD-OA data to report completion of all alterations accomplished on the ship regardless of the NSA or when it is installed, (i.e. Regular Overhaul (ROH), Selected Restricted Availability (SRA), Extended Refit Period (ERP), AIT, IMA, etc.)

12-4.4 Source Documentation for Submarine TYCOM Alterations

The following source documentation is available to ship's force to assist in the management and execution of the TYCOM alteration program:

- a. MJC records of all active SHIPALTs and AERs.
- b. TAMS reports containing information on all SHIPALTs and AERs.
- c. SHIPALT and AER briefs.
- d. Indices of Title "D" and "F" SHIPALT software/drawings providing the status and completion of software and drawings (Alterations and Projects Report).
- e. Forces Afloat Software Package (FASP) SHIPALT software documents providing instructions for ship's force installation.

12-4.5 TYCOM Submarine Alteration Planning and Programming**12-4.5.1 Title "D" and "F" SHIPALTs**

Title "D" and "F" SHIPALT programming process begins when the alteration is first issued by

the SPM. Each SHIPALT is handled on a case-by-case basis.

a. TYCOMs review for desirability and, if accomplishment is desired, initially assign a TYST of "A", FYPR of "00" and PRRMK of "TYC" in TAMS. This alerts the fleet that this new alteration is applicable to the hulls listed. However, it is not yet authorized for accomplishment until the TYCOMs determine the FY and level of accomplishment.

b. Evaluated for inclusion in TYKIT or accomplishment by an AIT.

c. If the alteration is not selected for inclusion in the TYKIT or AIT programs, programming in TAMS will be as follows:

- 1) Determine level of accomplishment and enter the appropriate level in the PRRMK field. FYPR and TYST will be adjusted accordingly.
- 2) If the SHIPALT is a shipyard only accomplishment, it is programmed TYST = A or B (depending on whether it is being placed in a package within the next year or not), FYPR = FY of the next shipyard availability and the PRRMK = applicable availability. The Work Definition Conference (WDC), usually conducted at between A-15 and A-12, produces a work package that is considered the authorization package for Title "D" and "F" SHIPALTs installed by the designated industrial activity.
- 3) If the SHIPALT is not included in an availability work package, it is programmed TYST = A, FYPR = Current/Next/Next + 1FY (depending on the design and LLTM required) and PRRMK = IMA. The SHIPALT will be authorized for forces afloat accomplishment when the design is issued and material is available.

d. Review source documentation and authorize accomplishment of alterations when software and materials are available.

e. Completion status is monitored in the TAMS database.

12-4.5.2 Alteration Equivalent To Repair (AER) Items

AERs are issued by the TYCOM subsequent to SPM technical approval. They may be originated in response to an AR or based directly on correspondence from a technical authority requesting an AER. All technical modifications affecting ship's configuration (both major and minor) shall be accomplished as a SHIPALT and require SPM approval. All AERs must contain an ILS assessment. Non-technical AERs may be originated by the TYCOM to account for inspections and tests for which a specific record of accomplishment is desired.

AER numbers are assigned for accounting purposes by the SPM. In cases where an AER is applicable to more than one submarine type or class or when the AER is issued by both Atlantic and Pacific fleets, the number assigned will be the same.

TYCOMs will review each AER for possible induction in the TYKIT program. If not selected for inclusion in the TYKIT program, an appropriate FYPR and installing activity will be assigned. Accomplishment will be authorized when software, material are available. Completion status is monitored in the TAMS database and NDE-NM.

12-4.5.3 TYKIT Programming

Alterations selected for inclusion in the TYKIT program will initially be programmed in TAMS as TYST = A, FYPR = Two (2) Years Out, PRRMK = TKT and REMKS = Under Procurement with Estimated Availability Date (when known). If the TYKIT is to be included in a depot availability work package, FYPR will be changed to the FY of the availability, TYST will be

changed to "B" and PRRMK will be changed to TSY". REMKS will note "SY utilize TYKIT to accomplish". When the TYKIT becomes available, TYST will be changed to "B" and REMKS will note that the kit is "Ready For Issue". Shipping information will also be noted in the REMKS field as kits are shipped.

12-4.5.4 TYKIT Material

TRIDENT Refit Facility (TRIREFFAC) Kings Bay, GA procures all TYKIT material (including all NDE-NM material), and assembles and ships the TYKITs for both COMSUBLANT and COMSUBPAC.

12-4.5.5 Material Requirements for Submarine Alterations

Material, including Incidental Material (IM), requirements for Title "D" and "F" SHIPALTs installed by ship's force are reviewed by the TYCOMs. As often as possible, Title "D" SHIPALTs assigned to ship's force for installation are packaged by the TYKIT program. Material requirements are reviewed, researched, identified and procured in bulk. Material requirements for Title "D" SHIPALTs will be tracked in NDE-NM. SUBMEPP manages the non-standard LLTM program for the TYCOM. With TYCOM authorization and funding, SUBMEPP procures the material and manages the overall program. Other material is requisitioned by the NSA whether it is a shipyard or IMA. For those ship's force alterations that are kitted by the TYKIT program, material is requisitioned by the TRIREFFAC Kings Bay.

12-4.5.6 Completion Reporting for Submarine Alterations

TYCOM alteration completions for Non-Reactor Plant SHIPALTs and AERs will be reported to the CDM electronically through the CDMD-OA using the SCLISIS in accordance with reference S12(d). Ship's Force accomplished alterations will be reported to the CDM through the normal SNAP process. Completion reporting of alterations accomplished by AITs will be in accordance with reference S12(a).

12-4.6 TYKIT PROGRAM

TYKIT is a joint COMSUBLANT/COMSUBPAC program developed and managed by the TYCOMs to facilitate installation of selected Title "D" and "F" SHIPALTs and AER items by ship's force. All hardware and software required for planning accomplishment and completion reporting of the alterations selected for the TYKIT program is assembled for ship's force. Supplemental procedures will be provided in the TYKIT when the FASP software is inadequate for installation. No action should be taken by ship's force to obtain hardware to accomplish these installations. Accomplishment will be authorized by the TYCOM via TAMS when the TYKIT is available.

12-4.6.1 TYKIT Shipment, Receipt and Storage

Secure storage and a chain of receipt signatures for each TYKIT should be ensured from the time of initial receipt to installation. A TYKIT marked for one submarine must not be used for another submarine without prior concurrence of the TYCOM.