NAVY MODERNIZATION PROGRAM
MANAGEMENT AND OPERATIONS MANUAL
(NMP-MOM)

APPENDIX H

ALTERATIONS TO SHIPS ACCOMPLISHED BY ALTERATION INSTALLATION TEAMS

TECHNICAL SPECIFICATION

TS9090-310G

12 FEBUARY 2015

SUPERSEDES: TS9090-310F, DATED 1 JUNE 2011

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APPENDIX H

ALTERATIONS TO SHIPS ACCOMPLISHED BY ALTERATION INSTALLATION TEAMS

SUBSECTION H-1

SCOPE

This specification establishes requirements and procedures applicable for all modernization of U.S. Naval vessels when accomplished by Alteration Installation Teams (AITs) and any other team or organization (e.g., Customer Contracted Team (CCT), Technical Assist Visit (TAV), etc.) who performs the duties or functions of an AIT.

Note: When Naval Shipyards (NSYs) perform AIT modernization work at other locations as an installation team (i.e., Tiger Team), they are subject to the requirements of this Technical Specification (TS) including the local RMMCO process. NSYs normally perform all the roles of AIT, On-Site Installation Coordinator (OSIC) and AIT Manager under these circumstances.

H-1.1 General

This specification provides requirements for the planning, scheduling, and accomplishment of logistically supported alterations/Ship Changes (SCs) on active and reserve U.S. Navy ships by AITs and provisions for a Quality Management System (QMS) for accomplishment of such work.

a) Planning

Only alterations and SCs approved by the Navy Modernization Program (NMP), as applicable, will be installed in U.S. Navy ships. This includes Emergent installations that meet the criteria and follow the NMP Emergent process IAW reference H(ac).

Note: The above paragraph applies only to changes funded outside of new construction Shipbuilding and Conversion, Navy (SCN) accounts. New construction SCN-funded change processing questions should be referred to the respective Ship Acquisition Program Managers (SHAPMs). However, new construction SCN-funded AITs will still abide by the requirements of this TS.

For ships within 5 years of deactivation, modernization must meet the Secretary of the Navy (SECNAV) Waiver process requirements of reference H(ac) SUBSECTION 1-6.

b) Scheduling

(1) Submarine AIT installations are scheduled and authorized in the Navy Tool for Interoperability and Risk Assessment/Submarine Modernization and Alteration Requirements Tool (NTIRA/SMART). In addition, Submarine Type Commander (TYCOM) ALTs are managed in the TYCOM Alteration Management System (TAMS) and Program ALTs are managed in Navy Data Environment-Navy Modernization (NDE-NM) with the exception of OHIO Class alterations which are managed in the Maintenance Figure of Merit - Submarine Acquisition and Support (MFOM-SAS) System.

(2) All Littoral Combat Ship (LCS) AIT installations are scheduled in the LCS Hull Modernization Plan (LHMP) IAW reference H(bb).

(3) Surface Ship and Carrier modernization is scheduled in NDE-NM. In addition, SCs that are ship modifications (legacy “K” and “D” SHIPALTs) are scheduled/programmed by the Sponsor or their designate in the NDE program module.

(4) For New Construction Carriers, Surface Combatants, and Amphibious Ships, configuration is managed by the respective SHAPMs while the ship is in the SCN Window, from the ship's Delivery to the Obligating Work Limiting Date (OWLD).

c) Accomplishment

The installation of alterations/SCs are accomplished through established procedures noted in this specification, references H(n), and H(ac).

Note: Milestones within this document are expressed in calendar days for Surface Ships and Aircraft Carriers, and in months for Submarines.

H-1.2 Definitions

As used in this document, the definitions contained in Exhibit H-8 herein apply.

H-1.3 Applicability

This specification applies to all legacy alterations and SCs accomplished by AITs on U.S. Navy ships, including Surface Ships, Aircraft Carriers and Submarines. Exceptions are noted in SUBSECTION H-1.4.

This Naval Sea Systems Command (NAVSEA) TS cancels and supersedes TS9090-310F.

H-1.4 Exceptions

This specification does not apply to the following:

a) Alterations to nuclear components and systems under the cognizance of the Deputy Commander for Nuclear Propulsion (NAVSEA 08).

b) Strategic Systems Program Alterations (SPALTs) issued by the Director, Strategic Systems Programs (DIRSSP) and alterations under the TRIDENT SYSTEM Change Management Program.

c) Temporary modifications performed as part of a shipyard availability to support industrial work or associated testing.

d) Temporary Alterations (TEMPALTs) to be accomplished on Submarines. References H(aa) and H(ag) provide specific policy and procedures for Submarine TEMPALTs.

e) Technical support personnel and certification teams who only provide technical guidance, equipment check-out and grooming or certification of systems or on-site training for Ship's Force not associated with the accomplishment of an alteration/SC.

f) Per reference H(ac), boats, small craft, service craft, equipage and other exceptions including items that are not permanently installed and are portable.

H-1.5 Roles and Responsibilities

The general roles and responsibilities for the following activities are identified to provide guidance for AIT installations. These roles and responsibilities are further defined throughout this TS and can be refined, if required, in a Memorandum of Agreement (MOA). It is recommended that Headquarters System Commands (HSC)/AIT units that use alternative AIT titles within their organization use the terminology of TS9090-310 (Series) in position description/billet assignments of personnel. If alternative titles are used, ensure personnel assigned parallel AIT duties are familiar with TS9090-310 (Series) responsibilities. All activities identified in this TS are responsible for entering and maintaining accurate data in NDE.

H-1.5.1 Naval Supervisory Authority

The Naval Supervisory Authority (NSA) is the single naval activity responsible for the integration, oversight, and verification of all work accomplished by all activities (i.e. NSYs, Regional Maintenance Centers (RMCs), Supervisors of Shipbuilding, Conversion, and Repair (SUPSHIPs) contractors, TYCOM sponsored contractors, Fleet Maintenance Activities (FMAs), AITs, and Ship's Force) working within the assigned availability, and acts as the single point of contact for this work. The NSA will verify and substantiate the oversight required to ensure that all work in the assigned availability is authorized and completed in compliance with applicable technical/engineering requirements and maintenance/modernization policy, and that all work meets schedule, cost, quality, and environmental/safety requirements. In accordance with (IAW) reference H(n) Volume VI, Chapter 43 (Guidance For Enhanced Modernization And Alteration Installation Team Integration During Availabilities) the NSA has overall responsibility for the availability, and possesses the authority to organize, structure, and coordinate all availability execution matters. To oversee compliance with engineering requirements IAW reference H(s),

the NSA must possess a NAVSEA Technical Warrant. All other participants will support the NSA in this regard. The NSA will employ a variety of strategies to accomplish this oversight, which will include methods to progress phases of work and communicate with the AIT managers/AIT OSIC to resolve deficiencies or clarify specifications. However, the most successful availabilities include an integrated planning, work control, schedule progress, surveillance and ship certification process working jointly to achieve on-time completion.

Note: The NSA Chief Engineer (CHENG) plays the support role to ensure engineering requirements are in compliance with all applicable technical documentation.

a) Depending on the complexity of the availability, the NSA responsibilities include but are not limited to:

   (1) Integrate efforts with other Maintenance Activities (i.e. NSYs, RMCs, SUPSHIPs, AITs, Ship's Force, and other participating activities) through an authorized MOA.

   (2) Act as the single point of contact for the Lead Maintenance Activity (LMA), shipboard personnel and AIT Manager.

   (3) Verify completion of work for milestones, key events, end of availability, and availability departure report based on documentation provided by all activities.

   (4) Based on the amount of work accomplished, the NSA may also assume the role of LMA.

b) When assigned to an availability, the NSA will perform the following functions:

   (1) For NSYs only, serve additionally as LMA, when applicable.

   (2) Participate in selected work definition and planning conferences.

   (3) Facilitate planning efforts. Ensure detailed planning and integration of the work package is accomplished to provide a schedule that incorporates the work and testing of all organizations involved in the availability. The schedule will address work definition, key events, ship checks, job summaries, material preparations, and strategy preparations. Identify milestones with sufficient detail to measure intermediate progress toward each key event. Ensure orientation briefings and training are conducted as necessary so that personnel understand applicable project processes and requirements IAW Exhibit H-9. Communicate with the AIT Manager to provide examples of documents (Plan of Actions and Milestones (POA&Ms), MOAs, AIT Support Services Request Forms, etc.) IAW SUBSECTIONs H-3.5.1 and H-3.6.1 if further clarification of the templates in the exhibits of this document are needed.

   (4) During work execution on nuclear powered ships, review all changes to specifications and work items impacting propulsion plant or designated areas of nuclear powered ships to ensure requirements are met.

(5) Prior to Fast Cruise, Sea Trials, and availability completion, verify all authorized work has been completed unless waived. Prior to undocking, validate that all work which cannot be accomplished waterborne has been completed.

(6) Monitor the effectiveness and the quality of AIT Managers'/OSICs' execution of their Quality Assurance (QA) oversight responsibilities. Assess their execution of QA oversight responsibilities and conduct Quality Surveillance of AIT performance.

(7) Ensure required participants are notified of all applicable planning meetings and review meetings to discuss and resolve any issues related to the alteration:

(a) For Surface Ships: Integrated Product Team Development (IPTD) meetings and Work Package Execution Review (WPER)

Note: The Work Package Integration Conferences (WPICs) are integrated into the IPTDs.

(b) For Submarines: NSA Final Planning Meeting/AIT Meeting

(c) For Aircraft Carriers: Modernization Readiness Assessment (MRA) meetings

(8) Verify the delivery of all required Integrated Logistics Support (ILS) products and report any ILS problems or deficiencies to the appropriate authorities (Ship Program Manager (SPM), TYCOM, Participating Acquisition Resource Manager (PARM), In-Service Engineering Agent (ISEA), and Ship's Force).

(9) Perform surveillances of installations on a sampling basis, and use the sampling evidence to indicate conformance or nonconformance with NAVSEA requirements.

(10) Attend AIT In-Briefs and Out-Briefs, and coordinate with the AIT Manager/AIT OSIC and Ship's Force to ensure satisfactory completion of alterations.

(11) Act as the final arbiter for conflict resolution IAW reference H(n) Volume VI, Chapter 43.

(12) In cases where the AIT is unable to complete the installation within the availability, the NSA will:

(a) Perform an independent assessment of the impact of the unfinished work. Contact Planning Yard (PY), as required, to complete this assessment.

(b) Determine required mitigating actions as appropriate.

(c) Ensure a Liaison Action Record (LAR) and/or Departure From Specification (DFS) is provided.

(d) Determine if temporary changes to watch bills, training aid booklets, operating procedures, etc., are required, and ensure required changes are implemented.

(e) Provide a complete package to Ship's Force, the PY, the appropriate TYCOM, and the appropriate Program Executive Office (PEO) detailing how above items (a) through (d) have been adjudicated.

(f) Provide concurrence to the AIT Manager that the availability may complete (certify) without the alteration completing within the availability.

(g) Ensure the AIT Sponsor is involved in this process.

(h) Notify the applicable Program Office and NAVSEA 04 of any AIT work suspension/cancellation.

(13) Oversee AIT work on critical systems IAW SUBSECTION H-3.5.2.

(14) The NSA will initiate the MOA and engage all assigned activities to support the development of the MOA as detailed in SUBSECTION H-3.6.1. The MOA will be IAW reference H(n), Standard Work Practices (SWP), and/or NAVSEA SIs (SIs), and be in place prior to starting work. The MOA will clarify the responsibilities of all participating activities involved in the installation of alterations/SCs by AITs for all availabilities.

(15) Verify that the AIT has physically checked in with the Regional Maintenance and Modernization Coordination Office (RMMCO) prior to commencing the in-brief.

H-1.5.2 Lead Maintenance Activity

The LMA is the single activity responsible for work being accomplished on U.S. Navy ships during any type of availability. IAW reference H(n) Volume VI, Chapter 43 (Guidance for Enhanced Modernization and Alteration Installation Team Integration During Availabilities), the LMA has overall responsibility for the availability, and possesses the authority to organize, structure, and coordinate all availability execution matters. All other participants will support the LMA in this regard. Specific LMA strategies to accomplish this oversight will vary; however, an integrated planning process, work control process, and ship certification process are essential to the success of the availability. The LMA is responsible to the NSA when an NSA is assigned or the Immediate Superior In Command (ISIC) if no NSA is assigned.

LMAs responsibilities include the following activities:

a) Conduct or attend routine and special progress review meetings (e.g., Daily Priority List (DPL) or Short Range View (SRV) at NSYs) with all assigned activities. Identify and resolve coordination or integration problems and work conflicts. Advise the appropriate alteration/SC sponsors (e.g. NSA, NAVSEA, TYCOM, AIT Sponsor, SPM, etc.) of significant quality, cost, and schedule problems and impacts.

b) For CNO and SCN Availabilities:

(1) Coordinate work and testing controls to include Work Authorization Forms (WAFs), tag-outs, and test sequencing per the authorized test package.

(2) Coordinate preparations by assigned activities for all key events (i.e. docking, undocking, hot operations, dock trials, fast cruise, sea trials, etc.) to include verification signature checklists of readiness to start.

(3) Coordinate crane operations, pier lay-down areas, dry dock work areas, and resolve other real estate conflicts which may impede efficient execution of the availability.

c) For CNO Availabilities only: Provide sea trials agenda with all participating activities input for Ship Commanding Officer (CO) concurrence and TYCOM approval.

d) Integrate the work of all activities:

(1) For CNO Availabilities: This includes integrated work and testing schedules.

(2) For non-CNO Availabilities: Integrated schedules may be used based on the complexity of the work as determined by the LMA. The schedule shall ensure adequate time is provided for crew training.

e) For Submarine CNO Availabilities only: Provide a copy of all DFSs to Ship's Force QA Officer and the TYCOM N43 organization.

f) For Submarines only:

(1) Provide management oversight of ship safety council IAW reference H(q).

(2) Coordinate all safety programs (such as sail safety and sail closeout) efforts by assigned activities.

(3) Ensure that the MOA identifies the certifying activity for Submarine Safety (SUBSAFE), Deep Submergence System-Scope of Certification (DSS-SOC), and Fly-By-Wire (FBW) work.

g) Maintain a list of activities working on the ship. Ensure the list is updated weekly or on an as-needed basis. Ensure activities working on the ship have the proper

credentials, work schedule, and pedigree (authorized activity) prior to being added on the work authorization list (e.g., SUBSAFE, DSS-SOC, FBW, radiological, etc.).

h) Track progress of all activities.

i) Provide local POCs to AIT and OSIC (see SUBSECTION H-3.6.1).

j) Attend all production management meetings to communicate/resolve priorities, problems, job interferences, and issues.

k) Participate in critiques and problem investigations (e.g., Trouble Reports) as necessary.

l) Conduct Ship's Force and AIT orientation briefings and training IAW this TS and reference H(ak).

m) When no NSA is assigned, LMA will initiate the MOA and engage all assigned activities to support the development of the MOA as detailed in SUBSECTION H-3.6.1. The MOA will be IAW reference H(n), SWPs, and/or NAVSEA Standard Items (SIs), and be in place prior to starting work. The MOA will clarify the responsibilities of all participating activities involved in the installation of alterations/SCs by AITs for all availabilities.

H-1.5.3 Ship Acquisition Program Manager

For SCN funded AITs on New Construction ships, the SHAPM has the programmatic responsibility, accountability, and authority for ship configuration. SHAPM responsibilities include the following activities:

a) Fulfill the roles and responsibilities of the TYCOM for configuration control throughout the SCN Window, and be the final authority for the installation of any alteration/SC during the SCN Window.

b) Coordinate with each of the PARMs/ISEAs to establish Points of Contact (POCs) for AIT advanced planning requirements.

c) Fulfill the roles and responsibilities of the NSA pertaining to the following activities:

(1) All AIT work not tasked to the executing shipyard for industrial work or support items with exceptions regarding the following matters:

(a) Post Shakedown Availability (PSA) Executing Shipyard Administering Contracting Officer (ACO) and Technical Warrant Holder (TWH) responsibilities

(b) Environmental and safety

(c) Local area AIT training requirements IAW Exhibit H-9.

(d) Clearance and visit request distribution to ships and shipyards

(2) Distribution of ILS products and reporting of any ILS problems or deficiencies to the appropriate authorities.

d) Attend AIT In/Out Briefs and coordinate with the AIT Manager and Ship's Force to ensure satisfactory completion of alterations.

e) Fulfill the roles and responsibilities of the LMA:

(1) Develop the consolidated Sea Trials agenda with input from all participating activities for ship CO's concurrence.

(2) Check in and log all AIT personnel, except those directly contracted or subcontracted by the executing shipyard.

f) Perform the functions of RMMCO, including Gatekeeping and Production during the SCN Window.

g) Assume all the roles and responsibilities of the RMC pertaining to AIT management, coordination, integration, scheduling, oversight, reporting, resolution of technical issues, and logistics.

h) Provide and manage C5I Surveillance and Reconnaissance (C5ISR) configuration status IAW reference H(o).

i) Coordinate OWLD extension requests with the appropriate Fleet Commander (FLTCDR) prior to extension taking effect in order to assure alignment with operational considerations.

j) Develop and submit a Completion Report for all availabilities.

H-1.5.4 AIT Sponsor

The AIT Sponsor is the government activity that tasks and funds the AIT Manager. The AIT Sponsor will perform the following activities:

a) Ensure TS9090-310 (Series) requirements are invoked.

b) Ensure AITs and associated activities are fully funded in a timely manner to support planning requirements and milestones established by references H(n), H(ac), and H(at), and this TS.

c) Ensure annual AIT quality assessments are performed by AIT Managers as delineated in SUBSECTION H-3.11.2.3.

d) Ensure all work within the SUBSAFE Certification Boundary is performed by a reference H(ai) activity and that Supervisory Authority functions required by reference H(x) are performed by a Government Activity identified by reference H(ai).

e) Ensure all work within FBW Certification Boundary is performed by an activity authorized IAW references H(ai) and H(as).

f) Ensure all DSS-SOC work is performed IAW reference H(p).

g) Ensure AIT Manager requires activity submit a letter to AIT Sponsor certifying that all SUBSAFE boundary work has been identified for their completion before commencement of the actual work IAW reference H(y) and H(ai).

h) Per Exhibit H-4, AIT installations should be funded to the level to ensure all QMS requirements are met including AIT Manager/OSIC execution of AIT Manager's Quality Assurance Program (AMQAP).

i) Fund the NSA to perform NSA oversight when the NSA and/or LMA contracts critical work to a qualified contractor, or approves the AIT Manager assignment of critical work to a qualified contractor IAW SUBSECTION H-3.5.2.

j) For Aircraft Carriers, submit to TYCOM N432, AIT Manager POC information for each Ship Change Document (SCD) assigned by hull.

H-1.5.5 AIT Manager

The AIT Manager is the government activity, represented by a government employee or military personnel, tasked and funded by the AIT Sponsor to initiate, fund, plan, coordinate, schedule, manage, and oversee the successful accomplishment of the alteration/SC.

The AIT Manager, at the Organization level, will perform the following activities:

a) Develop and maintain an AMQAP to ensure AIT compliance with specified technical and quality requirements. Guidelines and provisions for an AMQAP are provided in Exhibit H-5.

b) Ensure all QMS requirements are met, appropriate quality oversight during installation is provided and qualified/trained personnel are in place to perform

requisite technical and quality oversight responsibilities, including in-process monitoring on all shifts conducting work.

c) Review AIT QA workbook and ensure it is available on-site for each installation IAW SUBSECTION 3.2.2.1.4.

d) Provide a copy of any surveillance reports or audits conducted to the NSA when requested.

e) Investigate significant problems and submit critique and Trouble Reports IAW references H(af) and H(at). The ship and the contractor(s) involved, and the applicable NSA and LMA will be parties to the investigation and will assist in the preparation of the Trouble Report. Implement the corrective actions addressed in the Trouble Report.

f) Review AIT quality trends and take corrective action when negative trends can degrade product quality.

g) Perform annual quality assessments to support the AIT Sponsor's assessment IAW the AMQAP and SUBSECTION H-3.11.2.3.

h) Recommend to AIT Sponsor and NAVSEA 04RP the revoking of QMS acceptances when AITs are not in compliance with this or other invoked specifications.

The AIT Manager is also responsible for the following activities, which may be delegated to individuals within the AIT Manager organization:

a) Ensure that the AIT effort is fully coordinated with the SPM, SHAPM, Life Cycle Manager (LCM), NSA, LMA, TYCOM, and PY, including participation in AIT integration efforts directed by the NSA during the availability advance planning process.

b) Ensure alteration/SC is authorized for installation and is properly scheduled in NDE-NM for Surface Ships and Carriers, and in NTIRA for Submarines.

c) Follow the impact assessment/risk assessment process when warranted, as outlined in reference H(ac).

d) Identify the AIT and manage AIT funding IAW SUBSECTION H-3.2.1.

e) When accomplishing a Quick Reaction Alteration (QRA)/Emergent SC IAW SUBSECTION H-3.2.2.3.1, the AIT Manager will begin immediate liaison with the NSA, LMA, and/or RMMCO to facilitate rapid installation completion.

f) Ensure AITs have a QMS plan accepted by NAVSEA 04RP that complies with Exhibit H-4 and NAVSEA SI 009-04, and that proper training, certifications, and QA controls are in place for the work identified. Within the three years' timeframe

discussed in SUBSECTION H-3.11.1.3, ensure the AIT either (i) notifies NAVSEA that "no changes to the documented QMS have occurred and that the documented QMS meets the current Fiscal Year (FY) NAVSEA SI 009-04 requirements" or (ii) resubmits their QMS documented procedures.

g) Ensure the AIT has a designated AIT Lead.

h) Ensure the AIT complies with applicable Occupational Safety and Health Administration (OSHA) Standards and NAVSEA SIs.

i) Ensure an AIT OSIC is assigned to an installation prior to RMMCO electronic check-in. (A single AIT OSIC may be designated for multiple alterations/SCs.) If the OSIC is from a different organization than the AIT Manager, the AIT Manager shall ensure that scope of authority designated to the OSIC is documented via a MOA.

   Note: AITs that do not have an assigned AIT OSIC will be denied access to the ship.

j) Assign an AIT OSIC for each shift if multiple-shift work is to be accomplished.

k) Use discretion and experience to determine the amount of physical on-the-ship presence that is required of the AIT OSIC based on production work complexity, critical system work, contractor experience, etc. OSIC manning will be discussed during the Planning Phase of the Availability.

l) Ensure representatives are present at applicable Planning Conferences and review meetings, to discuss and resolve any issues related to the alteration

   (1) For Surface Ships: IPTD and WPER

   (2) For Submarines: NSA Final Planning Meeting/AIT Conference

   (3) For Aircraft Carriers: MRA Meeting and/or equivalent New Construction Conferences

   Note: Representatives may opt out of personal attendance if it is cost prohibitive (e.g., held overseas on a deployed unit). Teleconferencing or video-teleconferencing may be employed, if reasonably available. For New Construction Surface Ships and Aircraft Carriers, attend PSA Planning Conferences and Work Package Scrubs as required by the SHAPM.

m) Identify Critical System work IAW SUBSECTION H-3.5.2.

n) Sign MOAs IAW SUBSECTION H-3.6.1.

o) Define AIT support services requirements and provide funding IAW SUBSECTIONs 3.6.4 and 3.7.

p) Provide POA&M to the NSA and LMA IAW SUBSECTION H-3.5.1. The templates for the POA&M submittal are provided in Exhibit H-2.

q) Provide information for the creation of Job Control Numbers (JCNs) by one of the following methods:

(1) For Surface Ships, coordinate with SURFMEPP to generate a Work Item for alteration installation. If required, coordinate with local RMC for Support Services requests.

(2) For Submarines, provide this information to the TYCOM Representative for loading in Current Ship Maintenance Project (CSMP).

(3) For Aircraft Carriers (except for RCOH), coordinate with the Carrier Planning Activity (CPA) to generate a Work Item for alteration installation. If required, coordinate with TYCOM for Support Services requests

(4) For RCOH, obtain the Work Task Item from the Availability Work Package (AWP).

(5) For New Construction, provide this information to the SHAPM for incorporation into the AWP.

r) Ensure appropriate Security Clearance information is provided IAW SUBSECTION H-3.8.

s) Verify configuration change data is loaded in CDMD-OA sixty (60) days prior to start of installation and ensure final configuration data is submitted to the LCM/ISEA at installation completion to support CDMD-OA update (see SUBSECTION H-3.22). For New Construction ships, configuration change data is provided to the SHAPM.s CDM representative who will load it into CDMD-OA.

t) Ensure adherence to Pre-Installation Check Out (PICO) requirements IAW SUBSECTION H-3.6.2.

u) For Submarines only: Release readiness to start information IAW SUBSECTION H-3.12.

v) Ensure that reference H(ai) activity submits a letter to the AIT Sponsor certifying that all SUBSAFE, DSS-SOC and FBW boundary work has been identified for their completion before commencement of the actual work.

w) Ensure electronic check in with RMMCO is accomplished IAW SUBSECTION H-3.13.

x) Ensure e-mail address has been authenticated in RMMCO to receive business sensitive e-mails.

y) Ensure physical check in with RMMCO is accomplished including submission of required documentation for review and verification. Refer to SUBSECTION H-3.14.2 for required documentation.

z) Ensure the AIT In-Brief is scheduled and conducted IAW Exhibit H-6.

aa) Ensure adherence to safety, technical, environmental, and production process requirements. Abide by the training requirements and responsibilities IAW Exhibit H-9.

bb) For work on nuclear powered ships, verify requirements of reference H(ah) are met.

cc) Once production work commences for an alteration, ensure production POA&Ms are updated weekly IAW SUBSECTION H-3.18.12 and AIT POA&M Scheduling Guide, Exhibit H-2, providing actual progress and timeframes.

dd) Ensure OSIC executes the assigned portions of the AMQAP.

ee) Provide the relevant elements of the AMQAP in order for the NSA to perform responsibilities assigned in SUBSECTION H-1.5.1, when requested, or when required to endorse or validate any of the elements, the AMQAP, or the management of the AIT for any applicable alteration, or when it is the subject of an investigation or critique by either the AIT, AIT Manager/OSIC or the NSA/LMA.

Note: This supports the NSA's responsibility to verify and substantiate the oversight of all work in the assigned availability. The NSA should, at a minimum, review the following AMQAP program elements: AIT Document/Procedure Review, Process Surveillance and Product Inspections, and Corrective Action as defined in Exhibit H-5.

ff) Ensure adherence to control and protection of unclassified and classified information IAW SUBSECTION H-3.18.5.

gg) Review and submit LAR requests and incorporate into future installs if applicable

hh) Ensure red line drawings in support of tag-out boundary shifts during the installation are provided to the tag out and work control group.

ii) Coordinate and schedule any required Ship’s Force installation training, as well as component/system testing and/or System Operational Verification Test (SOVT).

jj) Ensure all Ship's Force training has been accomplished IAW SUBSECTION H-3.21.

kk) Ensure proper completion of inspection/installation records by reviewing completed Sections 6 and 7 of the AIT QA Workbook (refer to SUBSECTION H-3.11.1.5).

ll) Upon completion of the installation, report alteration/SC completion IAW SUBSECTION H-3.24.2.

mm) Ensure RMMCO Check-Out is completed IAW SUBSECTION H-3.24.3.

nn) Upon completion of each installation, ensure that red-lined SIDs are provided to the ship and PY IAW SUBSECTION H-3.24.4.

oo) In cases where the AIT is unable to complete the installation within the availability, the AIT Manager will:

(1) Document the amount of work left to be accomplished via a LAR and/or DFS.

(2) Ensure the SPM, NSA, LMA, Ship CO, and AIT Sponsor have been informed.

(3) Verify and concur in writing that the AIT assessment of the impact of the missing equipment or capability and function is accurate and complete.

(4) Add amplifications or clarifications as appropriate.

(5) Obtain NSA and LMA concurrence that all required mitigating actions and documentations have been performed.

pp) Any post-installation lessons learned meetings, including ensuring representation at post-Chief of Naval Operations (CNO) Availability Hot Washes, if funded by the Sponsor.

qq) Support any post-installation lessons learned meetings, including ensuring representation at post-Chief of Naval Operations (CNO) Availability Hot Washes, if funded by the Sponsor.

H-1.5.6 AIT On-Site Installation Coordinator

The AIT OSIC is the government or military employee designated by and acting with the authority of the AIT Manager. The AIT OSIC will perform the following activities:

a) Be assigned and present during each installation, particularly for key/critical milestones and events IAW SUBSECTION H-3.2.2.2. Maintain an on-site presence as dictated by the scope of work, AIT Manager, and as further described in SUBSECTION H-3.2.2.2.

b) Have general responsibility for the conduct of the AIT and installation.

c) Attend advance planning meetings at the direction of the AIT Manager.

d) Be knowledgeable of and responsible for AIT adherence to all invoked requirements including safety, environmental, workmanship, quality, technical instructions, and any NSA/LMA MOA in effect with the NSA, LMA, and AIT Manager.

e) Abide by all training requirements and responsibilities IAW Exhibit H-9.

f) Ensure adherence to control and protection of unclassified and classified information IAW SUBSECTION H-3.18.5.

g) Assist in providing visit requests and clearance information IAW SUBSECTION H-3.8.

h) Participate in negotiating and signing MOAs.

i) Support electronic RMMCO Check-In as designated by the AIT Manager.

j) Ensure e-mail address has been authenticated in RMMCO to receive business sensitive e-mails.

k) Support RMMCO/NSA physical check-in.

l) Schedule and conduct ship's in-brief IAW Exhibit H-6 and notify the NSA/LMA.

m) Ensure AIT provides weekly updated POA&Ms providing the NSA/LMA current status, timeframes, and projected progress IAW SUBSECTION H-3.18.12 and the AIT POA&M Scheduling Guide, Exhibit H-2.

n) Participate in Daily Production and Weekly Progress Meetings to provide updated progress on installations and changes to production schedule.

o) Obtain POC from the ship and provide AIT POC to the ship at the in-brief.

p) Ensure NSA and LMA has contact information for after normal duty hours in the local geographical area.

q) Be the primary POC for all matters regarding the AIT installation. Resolve AIT issues, particularly those relating to a stop work order.

r) Support PICO.

s) Execute the AMQAP to ensure AIT compliance with specified technical and quality requirements. Guidelines and provisions for an AMQAP are provided in Exhibit H-5.

t) Employ the Corrective Action Request (CAR) process IAW Exhibit H-5.

u) Assist in coordinating work by other activities for associated or conjunctive alterations, including the coordination of test/certification plans.

v) Ensure the AIT complies with applicable OSHA standards and NAVSEA SIs.

w) Ensure that proper housekeeping IAW SUBSECTION H-3.18.6 and Environment, Safety, and Occupational Health (ESOH) requirements are maintained. Proper housekeeping extends to all areas designated for use by the AIT, including lay-down areas, assembly/disassembly areas, etc. Each shift is required to follow these requirements. Additional guidance for fire prevention is provided in reference H(ax).

x) Ensure that work on a nuclear powered ship is in compliance with references H(k), H(ah), and H(ak). Notify the NSA and LMA to assist in review of changes to specifications.

y) Ensure AIT contractor is maintaining a QA workbook on-site during the installation.

z) Be responsible for verifying AIT accomplishment of Inspection (I) and Verification (V) check points and for conducting and signing Government (G) check points. Ensure the NSA, LMA, and Ship's Force are notified when scheduling or conducting IV&G checkpoints IAW the MOA. Receive notifications of and take appropriate corrective action for any AIT QA deficiencies from NSA, LMA, or Ship's Force.

aa) Provide a periodic task status report to the AIT Manager. Report shall address overall alteration status, AIT progress, problems encountered, and Lessons Learned.

bb) Ensure all requested AIT support services required for the installation have been provided. Ensure AIT support services are coordinated and tracked. Mediate any discrepancies regarding AIT support services in a timely fashion. Report any discrepancies to the AIT Manager.

cc) Ensure AIT SUBSAFE, DSS-SOC, and FBW work is performed IAW references H(p), H (y), H(ai) and H(as).

dd) Keep the NSA, LMA and ship informed of all Stage and SOVT Testing status. Provide a complete set of test reports to Ship's Force, NSA and LMA at the completion of the alteration/SC testing. Forward certification test results to the AIT Manager as provided by the AIT.

ee) Ensure AIT is maintaining red-lined mark-ups of all drawings that they are funded to execute and documents all approved changes made during the installation. Ensure final red-lines are provided IAW SUBSECTION 3-24.4.

ff) Ensure LARs are generated and submitted IAW references H(a) and H(ac). Ensure the AIT Manager is aware of any changes requiring LARs.

gg) Present signature verification that marked-up/red -lined CDMD-OA workfile for all configuration alterations (adds/deletes/modifications) has been provided to the designated Ship's Force representative or designated NSA representative at RMMCO Check-Out IAW SUBSECTION H-3.24.3.

hh) Ensure delivery of ILS Support Documentation to the designated recipients as part of the RMMCO Check-Out process IAW SUBSECTION H-3.23.

ii) Ensure any ILS products not provided prior to installation completion are reported and documented IAW SUBSECTION H-3.23.

jj) Coordinate and conduct Ship's Force/NSA Out-Brief.

kk) Provide the draft of the Completion Report Message at the out-brief for post-OWLD installations.

ll) Conduct final walk-through with the ship and obtain signatures on the Alteration/SC Completion Report (ACR).

mm) Conduct RMMCO/NSA Check-Out IAW SUBSECTION H-3.24.3.

nn) Return completed ACR to AIT Manager

oo) Ensure all training to be provided at the time of installation IAW SUBSECTION H-3.21 has been accomplished.

pp) Provide red line drawings in support of tag-out boundary shifts during the installation to the tag out and work control group.

qq) Ensure the AIT is following its QMS procedures, quality inspection and test plan, applicable safety and environmental compliance requirements, and technical instructions.

rr) Ensure the QMS, applicable work instructions/procedures, including contractually related procedures requiring acceptance, evidence of required personnel training/qualification, and evidence of required procedure approval/qualification are available upon request by NSA/RMMCO.

ss) In cases where the AIT is comprised of all government personnel and the change is an internal equipment modification where no QA is required, the OSIC and AIT Lead functions can be performed by the OSIC.

tt) Sign necessary documents as identified in the MOA.

H-1.5.7 AIT Lead

The AIT Lead is the senior member of the AIT. The AIT Lead will report directly to the AIT OSIC, execute contract requirements, and will perform the following activities:

a) Ensure successful execution of the installation as tasked.

b) Ensure the AIT adheres to all aspects of TS9090-310 (Series) and requirements defined in applicable MOAs, NAVSEA SIs, Work Specification Items and/or NSY Uniform Industrial Process Instruction (UIPI) and adhere to LAR and change authorization processes IAW SUBSECTION H-3.4.2.5 and SHAPM Trial Card disposition process.

c) Ensure adherence to control and protection of unclassified and classified information IAW SUBSECTION H-3.18.5.

d) Attend AIT in-brief and scheduled out-briefs.

e) Sign the ACR once all work has been satisfactorily completed.

f) Abide by all training requirements and responsibilities of Exhibit H-9.

g) Provide final redlines to AIT OSIC for delivery to ship and PY NLT 30 days after the ship's out-brief per SUBSECTION 3-24.4.

h) The AIT Lead is accountable for a Test and Inspection (T&I) Plan which meets the requirements of NAVSEA SI 009-04 (reference H(d)) and amplify that (I), (V) and (G) points are not all inclusive. Any other tests and inspections required by other applicable references will be included in the T&I Plan as well.

i) As tasked, update the notional POA&M and provide it to the AIT OSIC/AIT Manager.

j) In cases where the AIT is unable to complete the installation within the availability, the AIT Lead will take the following actions:

(1) Inform the AIT OSIC as early in the process as possible.

(2) Completely describe in writing the extent of the unfinished work including valve numbers, piping, missing wiring, etc. This will include red-line drawings at a minimum.

(3) Completely describe in writing the impact of the missing equipment on capability or function if known.

H-1.5.8 Alteration Installation Team

An AIT is a unit (military, government activity and/or contractor and subcontractors), consisting of one or more members under the direction of an AIT Manager that is trained and equipped to

accomplish specific alterations/SCs on specified ships as defined in reference H(ac). The AIT is responsible for the installation, performance and completion of the alteration/SC.

The AIT will perform the following activities:

a) Maintain an up-to-date accepted QMS that complies with Exhibit H-4. Submit one legible copy, in hard copy or approved transferrable media, of any revisions to the accepted QMS identified in NAVSEA SI 009-04, paragraph 3.1 to QMS Acceptance Authority (NAVSEA/SUPSHIP/RMC) within 7 days of AIT approval. Three years from the NAVSEA acceptance letter date, the AIT will receive a RMMCO warning reiterating that changes to the AIT's QMS documented procedures require resubmittal. Within this three years' timeframe, the AIT shall either (i) notify NAVSEA that "no changes to the documented QMS have occurred and that the documented QMS meets the current FY NAVSEA SI 009-04 requirements" or (ii) resubmit their QMS documented procedures.

b) Perform all work IAW the requirements of this TS, NAVSEA SIs, MOA, Work Specification Items, and/or NSY Uniform Industrial Process Instruction (UIPI) as applicable.

c) Ensure AIT SUBSAFE, DSS-SOC, and FBW work is performed IAW references H (p), H (y), H(ai) and H(as).

d) Abide by all training requirements and responsibilities of Exhibit H-9.

e) Ensure adherence to control and protection of unclassified and classified information IAW SUBSECTION H-3.18.5.

f) Attend advance planning meetings as tasked (IPTD, WPER, AIT Meeting, Final Planning Meeting, etc., or appropriate New Construction Conferences).

g) Provide AIT Manager with a POA&M (IAW SUBSECTION H-3.5.1 using templates in Exhibit H-2) to support development of an integrated schedule IAW SUBSECTION H-3.6.3.

h) Provide visit clearance information to the ship, TYCOM, NSA, or other appropriate naval activities IAW regional procedures.

i) Along with OSIC, accomplish RMMCO Check-In and Ship In-Brief.

j) Supply, assemble, and transport all of the material (e.g., IAF or CFM) that is not Headquarters Centrally Procured Material (HCPM) for the installation.

k) Receive, inspect, and maintain control of all HCPM provided for the alteration/SC.

l) Provide proper handling and storage of Hazardous Material (HM)/Hazardous Waste (HW) during the installation process IAW references H(l), H(n) and H(ax).

m) Provide all required environmental reports cited in NAVSEA SI 009-02 (reference H(d)) to the AIT OSIC, who will then provide to the NSA via the environmental coordinator.

n) Witness or conduct PICO of applicable systems IAW SUBSECTION H-3.6.2, as tasked.

o) Comply with all NSA, LMA, and regional environmental instructions and procedures.

p) Maintain on-site AIT QA workbook, and provide to the NSA and LMA for review when requested.

q) Attend meetings as tasked.

r) Report and update installation status, problems encountered, and Lessons Learned to AIT Lead.

s) Notify AIT Lead of all instances where the installation cannot be executed IAW approved design documentation, including "as found" conditions and instances of delay and disruption.

t) Maintain red-lined mark-ups of all required drawings that they are funded to execute and authorized LARs reflecting any changes made during the installation.

u) Perform testing as tasked.

v) Provide certification test results to the AIT Manager/OSIC.

w) Along with AIT OSIC, accomplish Ship Out-Brief and RMMCO/NSA Check-Out.

H-1.5.9 Regional Maintenance and Modernization Coordination Offices

RMMCO is a regionally-aligned organization that serves as the initial point of entry for all waterfront-related alteration/SC installations performed by AITs. The RMMCO Gatekeeper is designated by and acting with the authority of the NSA/ RMC/SHAPM.

The RMMCO will perform the following activities:

a) Serve as the control point (i.e., Gatekeeper) for AIT check-in and check-out for all alterations/SCs.

b) Verify alterations/SCs are authorized by SPM or TYCOM as scheduled in NDE-NM. If not authorized, RMMCO will document maturity issues by placing the Alteration/SC on Gatekeeper Hold for resolution by the AIT Manager.

c) Operate and maintain the RMMCO website, which allows entry and tracking of alteration/SC installations performed by AITs. This website generates the authorized RMMCO/AIT Installation Check-In/Check-Out Form:

https://rmmco.sscno.nmci.navy.mil

d) Submit the RMMCO Concept of Operations (CONOPS) to NAVSEA 04RP for annual review.

e) Submit RMMCO Form changes to NAVSEA 04RP for review.

Note: To foster standardization across all regions, if RMMCO personnel are assigned additional NSA responsibilities (i.e., becoming "dual-hatted" staff), then those responsibilities shall be kept separate from the RMMCO roles and responsibilities.

H-1.5.10 Regional Maintenance Centers/Ship Repair Facilities

RMCs/Ship Repair Facilities (SRFs) are responsible for work accomplished by all activities and act as the single point of contact. When not acting as an NSA, these responsibilities include, but are not limited to, the following activities:

a) Broker all Intermediate (I) and Depot (D) level work to assigned shipyards or appropriate activities as applicable.

b) Obtain all NAVSEA Availability Letter of Authorization (LOA)/Hull Modernization Plan (HMP) and monitor the CNO Availabilities in NDE (except Submarines).

c) Review all planned alterations/SCs for equipment removal and disposal request by the SPM/PARM (except Submarines).

d) Collect Lessons Learned metrics and schedule post-availability hot washes (except Submarines).

Note: In areas where no RMC/SRFs are delineated, these responsibilities will be performed by the NSA.

H-1.5.11 Planning Yard

The PY is the Ship Class Engineering Design Agent responsible for life cycle and configuration change control to assigned ships. For Aircraft Carriers, PY responsibilities including those listed below are divided among the Aircraft Carrier shipyards IAW reference H(ao). For New Construction ships, the roles and responsibilities of the PY are accomplished by the Building Yard, when tasked. When tasked and funded, the PY shall perform the following responsibilities:

a) Participate in planning conferences, design reviews, and problem reviews with the SPM, TYCOM, etc.

b) For Aircraft Carriers, LPD 17 Class and VIRGINIA Class Submarines only: Maintain and coordinate Fiber Optic Cable Plant (FOCP) or Fiber Optic Cable System (FOCS) path reservation assignments with FOCP ISEA (Naval Surface Warfare Center (NSWC), Dahlgren Division).

c) Provide LAR services, including on-site engineering field services, to NSAs/Installing Activities for clarification of requirements, review, and approval of changes.

d) Provide Design Service Allocation (DSA) services including Configuration Overhaul Planning (COP), Bill of Materials (BOM), Ship Selected Record (SSR), Design Change (DC), and Configuration Data Managers Database-Open Architecture (CDMD-OA), as funded.

e) Maintain a weight control baseline system.

f) Provide configuration control and maintain configuration data.

g) Develop test requirements for complex alterations/SCs when specified in the Ship Alteration (SHIPALT) Records (SARs)/SCDs.

h) Develop, review, and approve Ship Installation Drawings (SIDs) as tasked.

i) Provide a complete set of SIDs to the NSA and the ship receiving the alteration/SC.

j) Participate in accomplishing ship checks as tasked.

H-1.5.12 Configuration Data Manager

The Configuration Data Manager (CDM) is the designated activity, assigned by ship class, that has total responsibility for the completeness and accuracy of data within the CDMD-OA. The CDM will perform the following activities:

a) Identify and track all configuration changes IAW reference H(c).

b) Process end-of-installation configuration work file updates submitted by the applicable PARM/ISEA, and change the Installation/Alteration Status Codes (ASCs) within 30 days of installation completion.

H-1.5.13 In-Service Engineering Agent

The ISEA is the activity delegated to perform functions for the overall Combat System/Weapon System/Hull, Mechanical and Electrical (HM&E)/Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) technical, engineering, logistics support , test, and maintenance requirements for assigned systems. The ISEA, as tasked and funded by the PARM who is ultimately responsible for ILS development and delivery, is responsible for the following:

a) Provide technical expertise to the NSA, LMA, PY, SPM, TYCOM, and AIT Manager/OSIC as required.

b) Perform ILS planning and installation execution functions as tasked and funded by the PARM/PEO, specifically:

(1) Provide a POA&M for delivery of required ILS products (e.g., Maintenance Requirements, Technical Manuals (TMs), Operational Sequencing System (OSS), Provisioning and Supply Support and Calibration Support to the PARM/LCM

(2) Coordinate with AIT Manager/OSIC to ensure ILS product turnover is properly documented and any deficiencies are identified to the SPM, NSA, LMA, RMC, Ship CO, Executive Officer (XO), and Supply Officer (SUPPO).

(3) Provide training of system/equipment as required.

(4) Submit configuration planning data to the CDM for SCs planned during an availability via the Ship Configuration and Logistics Support Information (SCLSI) process IAW reference H(c). Coordinate with the AIT Manager/OSIC to ensure end-of-installation configuration workfile updates are provided to the applicable CDM for processing via the SCLSI process upon installation completion.

c) Provide following support for SOVT/Stage testing, as required:

(1) Provide SOVT/Test Procedure(s), as identified in NDE-NM, to the NSA, LMA, TYCOM, AIT Manager, and PY as required.

(2) If available, a copy of the required SOVT/Test Procedure title page identifying the alteration shall be attached to the electronically-submitted RMMCO Form.

(3) Accomplish SOVT/system testing as required.

H-1.5.14 Immediate Superior In Command

The ISIC is responsible for providing oversight during modernization availabilities for all assigned units. The ISIC will perform the following activities:

a) Prepare the TYCOM LOA for Fleet alterations/SCs when this action has been delegated by TYCOM or for New Construction ships, when this action has been delegated by the SHAPM (e.g., LCS).

b) Participate in the availability advance planning process.

H-1.5.15 NAVSEA 04RP – Modernization Planning and Sustainability Office

NAVSEA 04RP, the Modernization Planning and Sustainability Office, is responsible to NAVSEA 04 via NAVSEA 04R for revising this TS and for monitoring the effectiveness of the overall AIT program. NAVSEA 04RP will perform the following activities:

a) Maintain direct contact with AIT Subject Matter Experts (SMEs) in the Surface Ship, Aircraft Carrier, and Submarine communities who perform AIT tasks and

who recommend changes to revise TS 9090-310 to improve documenting the AIT process.

b) Support AIT process as defined by this TS and reply in timely manner when any AIT stakeholder request assistance in enforcing its requirements.

c) Ensure TS is written to provide requirements to individuals and activities directly involved in the installation of ship alterations.

d) Serve as the process administrator.

e) Provide Advance Change Notices (ACNs) for process updates prior to releasing each revision.

f) Revise the TS by incorporating/adjudicating all changes recommended, discussed, reviewed, and approved by the AIT Process SMEs Working Groups (WGs).

g) Prepare and submit a draft of TS proposed revisions to SMEs WGs for their review and concurrence.

h) Post revisions of TS as Appendix H to the Navy Modernization Program – Management Operations Manual (NMP-MOM) website:

https://www.nde.navy.mil

i) Monitor compliance with quality responsibilities of AIT Sponsors, AIT Managers, AIT OSICs and AITs. This will include efforts to develop audit plans, schedule and conduct annual audits of AIT Sponsors and AIT Managers to ensure compliance to TS9090-310 (Series).

j) Review and accept AIT QMSs for compliance with NAVSEA SI 009-04. Within three years from NAVSEA acceptance, the AIT shall either (i) notify NAVSEA that "no changes to the documented QMS have occurred and that the documented QMS meets the current FY NAVSEA SI 009-04 requirements" or (ii) resubmit their QMS documented procedures.

k) Revoke a QMS acceptance where evidence exists (via audit reports, Trouble Reports, Method D letters, AIT Manager recommendations, AIT Sponsor evaluations, etc.) of significant quality issues or non-compliance to the QMS with prior notification to the AIT Sponsor.

l) Maintain list of AIT organizations with NAVSEA Accepted Quality Systems (AQS) in the RMMCO website.

SUBSECTION H-2

REFERENCED DOCUMENTS

The following documents listed in Table H-1 form a part of this TS to the extent specified herein. Use current revision where the version referenced has been superseded.

Note: Although this TS has references that are identified numerically, this document is also designated as Appendix H for the NMP-MOM, where references are identified alphabetically. To avoid confusion with other NMP-MOM references, the documents cited in Appendix H are preceded with the letter H.

Table H-1. Reference Documents for TS9090-310G, ALTs to Ships Accomplished by AITs

App H Ref #	Reference Tracking Number and Title
H-2.1 Specifications/Standards	
H-2.1.1 Naval Sea Systems Command (NAVSEA) Specifications	
H(a)	Technical Specification 9090-100 (Series), *Liaison Action Record (LAR)*
H(b)	Technical Specification 9090-600 (Series), *Ship Alteration (SHIPALT) Installation Drawing (SID) Preparation*
H(c)	Technical Specification 9090-700 (Series), *Ship Configuration and Logistics Support Information Systems (SCLSIS)*
H(d)	NAVSEA Standard Items (SIs), http://www.sermc.surfor.navy.mil/ssrac1/standard.htm
H-2.1.2 DoD/Military Standards	
H(e)	DOD-STD-2003 (Navy), *Electrical Plant Installation Standard Methods for Surface Ships and Submarines*
H(f)	MIL-STD-1689, *Fabrication, Welding and Inspection of Ships Structures*
H(g)	MIL-STD-2042, *Fiber Optic Cable Topology Installation STD Methods for Naval Ships*
H(h)	MIL-STD-2106, *Development of Shipboard Industrial Test Procedures*

App H Ref #	Reference Tracking Number and Title
H-2.2 Publications/Instructions	
H-2.2.1 DoD/Chief of Naval Operations	
H(i)	DoD Manual 5200.01, *DoD Information Security Program*
H(j)	DoD 5220.22-M, *National Industrial Security Program Operating Manual*
H(k)	OPNAVINST 4700.7 (Series), *Maintenance Policy for U.S. Navy Ships*
H(l)	OPNAVINST 5100.19, *Navy Safety and Occupational Health (SOH)*
H(m)	OPNAVINST N9210.3, *Safeguarding of Naval Nuclear Propulsion Information (NNPI)*
H-2.2.2 Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM)/ Commander, U.S. Pacific Fleet (COMPACFLT)	
H(n)	COMUSFLTFORCOMINST 4790.3, *Joint Fleet Maintenance Manual (JFMM)*
H(o)	Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM/ Commander, U.S. Pacific Fleet (COMPACFLT 4720.3 (Series), *(C5ISR) Modernization Policy*
H-2.2.3 Naval Sea Systems Command (NAVSEA)	
H(p)	NAVSEA SS800-AG-MAN-010/P-9290 (Series), *System Certification Procedures and Criteria Manual for Deep Submergence Systems*
H(q)	NAVSEA 0905-LP-485-6010 (Series), *Manual for Control of Testing and Ship Conditions*
H(r)	NAVSEA S0400-AD-URM-010 (Series), *Tag-out Users Manual (TUM)*
H(s)	NAVSEAINST 5400.95(Series), *Naval Shipyard, SUPSHIP and Fleet Engineering and Technical Authority Policy*
H(t)	NAVSEA 0948-LP-045-7010 (Series), *Material Control Standard, Volume 1*
H(u)	NAVSEA S9074-AR-GIB-010/278(Series), *Requirements for Fabrication Welding and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels*
H(v)	NAVSEA 0900-LP-001-7000 (Series), *Fabrication and Inspection of Brazed Piping Systems, w/CHG 1*
H(w)	NAVSEA TL855-AA-STD-010 (Series), *Naval Shipyard Quality Program Manual*
H(x)	NAVSEA 0902-LP-018-2010 (Series), *General Overhaul Specifications for Deep Diving Submarines (DDGOS)*
H(y)	NAVSEA 0924-LP-062-0010 (Series), *Submarine Safety (SUBSAFE) Requirements Manual, Revision C, w/CHGS 1-2*
H(z)	NAVSEA S9040-AA-GTP-010 (Series), *Shipboard Systems Certification Requirements for Surface Ship Industrial Periods (Non-Nuclear)*

App H Ref #	Reference Tracking Number and Title
H(aa)	NAVSEA S9070-AA-MME-010 (Series), *Guidance Manual for Temporary Submarine Alterations*
H(ab)	NAVSEA S9AA-AB-GOS-010 (Series), *General Specification for Overhaul of Surface Ships, Including the AEGIS Supplement*
H(ac)	NAVSEA SL720-AA-MAN-030, *Navy Modernization Program – Management and Operations Manual (NMP-MOM)*
H(ad)	NAVSEAINST 4855.30 (Series), *Control of Non-Level Material*
H(ae)	NAVSEA 0989-LP-037-2000 - Commissioned Submarine General Reactor Plant Overhaul and Repair Specifications
H(af)	NAVSEAINST 4700.17(Series), *Preparation and Review of Trouble Reports*
H(ag)	NAVSEAINST 4720.14(Series), *Temporary Alterations to Active Fleet Submarines*
H(ah)	NAVSEAINST C9210.4(Series), *Changes, Repair and Maintenance to Nuclear Powered Ships*
H(ai)	NAVSEANOTE 5000 (Series), *Activities Authorized to Perform SUBSAFE, FBW SCS, and DSS-SOC*
H(aj)	NAVSEAINST 5400.108 (Series), *Policy for Quality Management of Work on Non-Nuclear Surface Ship Critical Systems*
H(ak)	NAVSEAINST 4350.2C, *Contract Work Onboard Nuclear-Powered Ships*
H(al)	SSPINST 8822.15 Policies and Procedures for SSGN Attack Weapon System (AWS) Coordination Drawings
H(am)	NAVSEA T9074-AD-GIB-010/1688, *Requirements for Fabrication, Welding and Inspection of Submarine Structure*
H(an)	NAVSEA S0300-B2-MAN-010 (Series), *SUPSHIP Operations Manual (SOM)*
H(ao)	NAVSEA SL 130-AF-CCD-010, *Integrated Design and Engineering Activity (IDEA) Operations Manual*
H(ap)	NAVSEA M-5510.2, *NAVSEA Access and Movement Control Manual*
H(aq)	NAVSEA T9410-HD-PRO-010, *OHIO Class (SSBN/SSGN) Command and Control System (CCS) and Non-Propulsion Electronic System (NPES) Alteration Installation Team Standard Operating Procedures*
H(ar)	NAVSEA S9AA0-AB-GOS-020/GSO, *Supply General Specifications for Overhaul of Surface Ships (GSO) Nuclear Supplement*
H(as)	NAVSEA T9044-AD-MAN-010, *Requirements Manual for Submarine Fly-By-Wire Ship Control Systems*
H(at)	NAVSEA INST 4790.23 (Series), *Baseline Project Management Plan*
H(au)	NAVSEA T9074-AS-GIB-010, *Requirements for Nondestructive Testing Methods*
H(av)	NAVSEA S9074-AQ-GIB-010/248, *Requirements for Welding and Brazing Procedures and Performance Qualifications*
H(aw)	PEO SHIPS FL, *Logistics and Material Support Plan for Aegis Destroyers (DDG 51 Class) Post Shakedown Availabilities*
H(ax)	NAVSEA Technical Publication S0570-AC-CCM-010/8010, *Industrial Ship Safety Manual for Fire Prevention and Response*

App H Ref #	Reference Tracking Number and Title
H(ay)	SUBSAFEGRAM 87C, Serial 9077/07Q23 of 13 March 2013, *Standard Elements of a Memorandum of Agreement Addressing SUBSAFE Work*
H(az)	SSPINST 8822.7 Policies and Procedures for Strategic Systems Programs (SSP) Coordination Documents
H(ba)	NAVSEA Technical Publication S9095-AD-TRQ-010, *Total Ship Test Program Manual*
H(bb)	PEO LCS PMS501/505 Instruction 3128.1, *Littoral Combat Ship (LCS) Alteration Installation Team (AIT) Installation and Visit Management*

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SUBSECTION H-3

REQUIREMENTS

This specification outlines the process to be followed for the planning, scheduling and accomplishment of all permanent alterations/SCs and TEMPALTs/Non-Permanent Changes (NPCs), except as defined in SUBSECTION H-1.4, to ships by AITs. This section provides a description of all AIT process flow responsibilities. A representative AIT Process Flow Diagram is shown in Figure H-1. Each block in this flowchart corresponds with a SUBSECTION, e.g., H-3.x, that provides details on the process in that block. Sequencing of an individual AIT process flow may vary slightly from the diagram below, based on local NSA and LMA policies, guidance, and other factors.

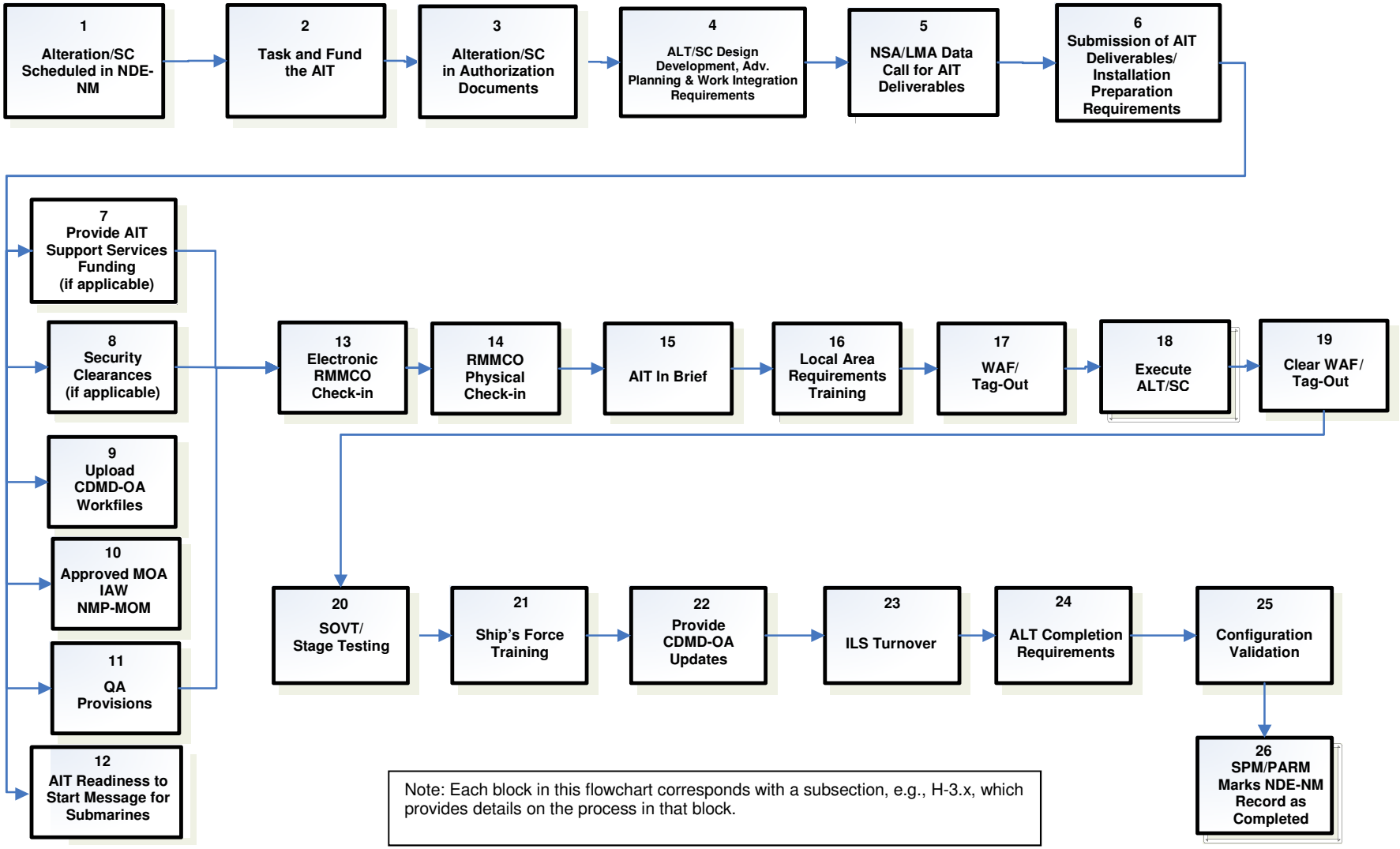


Figure H-1. AIT Process Flow Diagram

H-3.1 Alteration/SC Scheduled in NDE-NM

For specific details on scheduling in NDE-NM, see reference H(ac), Section 3 for Surface Ships and Aircraft Carriers, and Section 9 for Submarines. The NDE-NM Website URL follows:

https://www.nde.navy.mil

H-3.1.1 Alteration/SC Scheduling in NDE-NM

An alteration/SC is scheduled in NDE-NM reflecting planned installation dates. The scheduled alteration/SC may be inside or outside a Modernization Window (MW). Additionally, the scheduled alteration/SC can be in a CNO Availability or a Non-CNO Availability.

For Surface Ships and Aircraft Carriers, the SPM, PARM, ISEA or AIT Manager enters scheduling dates in NDE-NM. For New Construction, SCN-funded alteration/SC scheduling is done with the SHAPM.

For Submarines, scheduling of Title "K" and "KP" alterations is via the programming in the program module of NDE and NTIRA. Submarine PARMs schedule Engineering Changes (ECs), Field Changes (FCs), Ordnance Alterations (ORDALTs), Software Delivery (SWD) in NDE and ECs, FCs, and SWD in NTIRA. Submarine TEMPALTs and OPALTs are exempt from this process and are tracked internally by the SPM and TYCOM. In addition, Submarine TYCOM Alts are managed in the TAMS. OHIO Class Submarine Alts are managed in MFOM-SAS.

H-3.1.2 Availability Types

There are two basic types of availabilities:

a) CNO Availabilities: Depot Planned Incremental Availability (DPIA), Planned Incremental Availability (PIA), Depot Modernization Period (DMP), Regular Overhaul (ROH), Engineered Overhaul (EOH), Selected Restricted Availability (SRA), Depot Selected Restricted Availability (DSRA), Phased Maintenance Availability (PMA), Drydocking Phased Maintenance Availability (DPMA), and SRA Drydocking (SRA(d)), etc.

b) Non-CNO Availabilities:

   (1) TYCOM Availabilities: Continuous Maintenance Availability (CMAV), Window of Opportunity (WOO), Restricted Availability (RAV), Technical Availability (TAV), etc.

   (2) New Construction (SCN) Availabilities: Extended Post Delivery Availability (EPDA), Follow On Availability (FOA), Industrial Post Delivery Availability (IPDA), PSA, etc.

For a complete listing of all the different types of availabilities, categorized as CNO and Non-CNO, see NDE-NM.

H-3.1.3 Modernization Window

The MWs are noted in NDE-NM. For New Construction, the MW is from Delivery to Target Configuration Date (TCD) or OWLD, whichever comes first. TCD for New Construction occurs 60 days after the completion of PSA.

Any alteration/SC scheduled outside of the MW is a TCD ”Bust" and will need to follow the TCD Offer Process IAW reference H(o). The final approval of the TCD Offer is the authorization needed to satisfy RMMCO Check-in.

H-3.2 Task and Fund the AIT

The following subsections provide details of the tasking assigned by the AIT Sponsor and AIT Manager.

H-3.2.1 AIT Sponsor Assigns AIT Manager

The AIT Sponsor shall task the AIT Manager to accomplish a specific alteration/SC. Multiple installing activities or multiple AIT Managers may be required to accomplish a specific alteration/SC. The AIT Sponsor needs to fund the AIT Manager as soon as funding is available in order to allow for maximum possible planning time, support meeting attendance, material procurement, planning, AIT funding, etc. Ensure reference H(y) requirements are invoked for any SUBSAFE boundary work, reference H(p) for DSS-SOC boundary work, and reference H(as) for FBW boundary work that is specified in the SHIPALT installation drawings. When SUBSAFE, DSS-SOC or FBW boundary work is identified in the approved SHIPALT drawings, activities listed in reference H(ai) are required to perform the work and are the only activities authorized to perform the work.

H-3.2.1.1 AIT Sponsor Tasking Elements

Tasking for accomplishment of alterations/SCs will authorize procurement of required long lead-time and incidental material and accomplishment of the applicable alteration/SC. The tasking may include design development. Tasking will address the following:

a) Specific alteration/SC(s) covered by the task

b) Specific applicable hull(s) covered by the task

c) Type of task (alteration/SC design or accomplishment)

d) Whether reference H(x), reference H(aa), reference H(ab), or another general specification is invoked for basic guidance for design, installation, material selection, testing, and certification requirements, tasking will require the AIT to be in compliance with the requirements of this TS.

e) SPM POCs

f) Equipment/System PARM/ISEA POC, and when certification IAW reference H(z) is a requirement, the designated Certifying Authority.

g) AIT Manager and financial POCs (if other than the PARM/ISEA or the SPM)

h) Applicable Class PY POCs

i) Approval requirements for installation design products (SIDs, test procedures, etc.) for installation design tasks

j) For Submarines, when SUBSAFE work is required and verification the SUBSAFE, DSS-SOC, or FBW work is tasked to an activity authorized by reference H(ai) to perform SUBSAFE work.

k) Submittal of AIT quality data analysis to support Sponsor's Annual Quality Assessment Report submittal to NAVSEA 04.

l) Any other financial/status reporting requirements desired of the AIT by the AIT Sponsor.

H-3.2.2 AIT Manager Tasking

The following subsections provide the details of AIT tasking assigned by the AIT Manager.

H-3.2.2.1 AIT Manager Assigns AIT

The make-up and management of the AIT is the responsibility of the AIT Manager tasked to accomplish the alteration/SC. The AIT can be comprised of government, contractor, or military personnel.

H-3.2.2.1.1 AIT Contract/SOW Preparation

For alterations/SCs accomplished by AIT (using contractor entities), the AIT Manager will have in place the AIT contract IAW reference H(n) Volume VII, Chapter 13, “Shipboard Contracting Strategy and Utilization,” and reference H(ac) modernization milestones. ASN Memorandum of 27 Mar 2009 provides policy for non-nuclear Navy maintenance and modernization contracting strategy (Memo is provided as Exhibit H-10). The contract/Statement of Work (SOW) shall ensure that requirements of this TS are invoked. Contract/SOW tasking will include support for, but not limited to, ship check, installation execution, production POA&M, procurement of incidental and consumable material, testing, and, if applicable, delivery of SID redlines and ILS products. To perform an alteration/SC, the AIT Manager will ensure that the selected contractor has a NAVSEA 04-accepted QMS, before accomplishment of shipboard industrial work. The AIT Manager will ensure that the contract/SOW identifies all contractor deliverables necessary to facilitate pre-planning, execution, and/or completion of alteration/SC. AIT contract award should support the LMA integration requirements IAW reference H(ac) Appendix G . All work practices shall conform to the latest version of reference H(d). For SUBSAFE, DSS-SOC, and FBW work to be contracted, the AIT Manager will verify compliance with the requirements of references H(y), H(p) and H(as), respectively.

H-3.2.2.1.2 AIT Formulation

The make-up of the AIT will be as determined by the AIT Manager based on the skill level requirements of the work to be accomplished and the number of shifts the AIT is planned to work. For those skills that require specific training, qualification, and/or certification (welding, electrical connector assembly, SUBSAFE, and Signal Security (SIGSEC), Telecommunications and Electrical Machinery Protected from Emanations Security (TEMPEST), Passive Countermeasure System (PCMS) installation, Level 1, fiber optic cable/equipment installation, FBW, etc.), AIT members performing these functions will be fully trained, qualified and/or certified IAW Exhibit H-9. Substantiating documents shall be made available for review by the NSA and/or LMA upon request.

H-3.2.2.1.3 Transportation and Billeting

The AIT Manager will ensure that the AIT is tasked with transporting AIT personnel, tools, material, and support equipment to and from the installation site. All billet arrangements will be the responsibility of the AIT.

H-3.2.2.1.4 AIT Quality Assurance Workbook

The AIT Manager must ensure that the selected AIT is tasked to develop an AIT QA Workbook IAW SUBSECTION H-3.11.1.5 for each installation.

H-3.2.2.1.5 Participation of Other Activities

At the tasking phase, the AIT Manager will assess the necessity of participation of other activities required for accomplishment of required conjunctive or associated alterations/SCs, or for testing or certification of equipment or systems associated with the accomplishment of the tasked alterations/SCs. The AIT Manager will coordinate participation of the applicable system/equipment ISEA, PARM, or other designated activity to ensure responsibilities for work are clearly defined and how certification of the alterations/SCs will be accomplished.

H-3.2.2.2 AIT Manager Assigns OSIC

For each alteration/SC, the AIT Manager will assign an AIT OSIC. The AIT OSIC will be a government employee or military personnel and will be present during each installation. The AIT OSIC will act with the authority of the AIT Manager.

The AIT OSIC will have general responsibility for the conduct of the installation and will be the point of contact with the ship, AIT Manager, NSA, and LMA. The AIT OSIC will be knowledgeable of and responsible for AIT adherence to all invoked requirements including safety, quality plan, technical instructions, and when applicable, as identified in references H(an) or H(d), or any NSA MOA in effect with the NSA and AIT Manager.

A single AIT OSIC may be designated for multiple installations dependent upon the complexity of the alterations. If multiple-shift work is to be accomplished, an AIT OSIC for each shift shall be identified. AIT Managers will use their discretion and experience to determine the amount of physical on-the-ship presence required of the AIT OSIC based on production work complexity,

critical system work, contractor experience, etc. AIT OSIC manning will be discussed during NSA Planning meetings. If off-site at any time, the AIT OSIC must remain on call and be available to respond on-site within two (2) hours of request. Installations that do not have an assigned AIT OSIC, or documented approval from the SPM, TYCOM, or FLTCDR that an AIT OSIC is not required, will not attempt to accomplish alterations to ships and will be denied access to ships.

H-3.2.2.3 AIT Manager Conducts Advance Planning

The AIT Manager will initiate a planning strategy for alteration/SC accomplishment as soon as the determination is made to accomplish the alteration/SC by an AIT. This strategy shall incorporate advance planning milestones as dictated by reference H(ac). For alterations/SCs, the planning schedule will be based on SPM/PY approval of the SAR/SCD, SIDs, and ILS certification. In addition, AIT Managers will include as part of their planning strategy the following:

a) Schedule of equipment/kit delivery

b) Availability of AITs

c) Availability of ILS products

d) PICO requirements

e) Test procedures and/or system certifications/SOVT

f) Anticipated industrial availability schedules of applicable ships

H-3.2.2.3.1 Scheduling and Pre-Installation Coordination Requirements

The following section provides the AIT Manager scheduling and coordination requirements for alterations/SCs including Emergent alterations/SCs and Late Adds:

a) Routine Scheduling and Coordination: The AIT Manager will ensure that the alteration/SC is scheduled IAW SUBSECTION H-3.1.

   (1) During Scheduled CNO Availabilities: The AIT Manager will ensure the alteration/SC is authorized for accomplishment during a CNO Availability via the SPM's Advance Planning Letter, LOA, MRA, or from the TYCOM Authorization Letter/Message, and NDE and NTIRA for Submarine Program alterations and NTIRA only for Submarine TYCOM alterations.

   The AIT Manager will coordinate all planning for the alteration/SC with the NSA and LMA IAW SUBSECTION H-3.6, including industrial services support (e.g., crane and rigging services, welding/burning, or compressed air).

The AIT Manager will keep the ISEA/PARM, TYCOM, SPM, CNO availability planning activity, CDM, PY, LMA, and NSA informed of the AIT's schedule and any schedule changes.

(2) Outside of Scheduled CNO Availabilities: The AIT Manager will ensure that the alteration/SC is scheduled via established TYCOM directives (Air/Surface/Subs). The AIT Manager will verify that the alteration/SC is authorized and scheduled in NDE, and has TYCOM approval in NTIRA for submarine alterations, prior to the AIT initiating RMMCO processing.

If a C5I alteration/SC is scheduled outside a MW, the AIT Manager will ensure that a TCD waiver request is submitted IAW reference H(o).

Note: Unlike an availability executed in an industrial facility, pierside availabilities generally do not include provision of AIT support services. The AIT Manager/AIT OSIC will ensure that all required support services are provided by the AIT or arranged via third-party providers. The AIT Manager will keep the ISEA/PARM, TYCOM, SPM, CNO Availability planning activity, CDM, PY, LMA, and NSA informed of the AIT's schedule and any schedule changes.

(3) During New Construction SCN Availabilities: Throughout the New Construction MW, the FLTCDR has operational control (OPCON) of the ship and is responsible for the ship fulfilling its operational requirements. The SHAPM has the responsibility, accountability, and authority for the configuration management of the ship. The AIT Manager or designated representative shall present the proposed alteration/SC accomplishment schedule to the SHAPM for coordination and concurrence. Notification for these alterations/SCs will be discussed at the PSA Planning Conference Work Package review or other planning meetings. If authorized for install during the SCN Window (inside or outside of a shipyard availability), the alteration/SC will be incorporated into the AWP for tracking.

Note: The late add and emergent processes are not applicable during New Construction SCN Availabilities. Proposed Late Add installations shall be coordinated directly with the SHAPM.

During SCN shipyard availabilities for any non-SCN funded alteration/SC work, the AIT Manager will coordinate all planning with the ACO IAW SUBSECTION H-3.6, including industrial support service requirements (e.g., crane and rigging services, welding/burning, or compressed air). The AIT Manager shall keep the SHAPM and ACO informed of the AIT's schedule and schedule changes.

When a planned alteration/SC is not required to support a SCN event (Combat System Ship Qualification Trial (CSSQT), Post Delivery Test and Trials (PDT&T), Shock, Development Test/Operational Test (DT/OT), etc.), the

installation should be scheduled during a SCN shipyard availability (EPDA, FOA, IPDA, PSA, etc.). For all other AIT work during a SCN shipyard availability, the AIT Manager will coordinate all planning with the SHAPM or SHAPM representative.

During pierside (non-shipyard) availabilities within the SCN MW, the AIT Manager will coordinate all alteration/SC planning with the SHAPM or SHAPM representative. Special consideration is given to alterations/SCs which support the operational requirements of an upcoming SCN event (CSSQT, PDT&T, Shock Trials, DT/OT, etc.). Since pierside availabilities generally do not include provision of AIT industrial support services, the AIT Manager/OSIC shall ensure that all required support services are provided by the AIT or arranged via third-party providers. The AIT Manager shall keep the SHAPM or SHAPM representative informed of the AIT's schedule and any schedule changes.

b) Emergent Alterations/SCs Requirements: The Emergent Process, as defined by reference H(ac), applies to alterations/SCs that require immediate installation and that do not have an SCD approved for the required hull and FY. When the Emergent Process applies, the AIT Sponsor/Manager will coordinate all planning for Emergent Alterations/SCs with RMMCO, NSA and LMA, TYCOM, and/or FLTCDRs.

c) Late Add Process: Any alteration/SC added to an availability for installation after reference H(ac) milestones, is considered a late addition and must either be mature with concurrence from the Platform TYCOM, or have an approved Hull Installation Impact Assessment. See reference H(ac) for additional details.

H-3.3 Alteration/SC in Authorization Documents

The following subsections provide alteration/SC authorization details.

H-3.3.1 Alteration/SC Authorization for a CNO Availability

SPM authorization is required for Program Funded Alteration/SCs during a CNO Availability. This is accomplished through the use of LOAs or the MRA process and programming in the NDE-NM module.

For Submarines ECs, FCs, and SWD are scheduled in NDE-NM by the PARM and approved for installation in NITRA. ORDALTs are scheduled in NDE-NM by the PARM and authorized via the SPM's LOA. The TYCOM provides authorization for Fleet funded alteration/SCs in a CNO Availability in the AWP in addition to authorizing in NTIRA.

H-3.3.2 Alteration/SC Authorization Outside a CNO Availability

For Surface Ship Non-CNO Availabilities, the TYCOM provides installation approval for both Fleet and Program authorized alteration/SCs via the TYCOM Quarterly Installation Scheduling

message, as noted in Section 7 of reference H(ac). The Quarterly Scheduling Message provides guidance for submitting additional alteration/SCs for approval.

For Submarines, AIT installations are scheduled and authorized by TYCOM in NTIRA. In addition, submarine TYCOM alts are managed in the TAMS and Program alts are managed in NDE, with the exception of OHIO Class alts which are managed in the MFOM-SAS system. SPM authorization is required for Program Funded Alterations. The TYCOM provides installation approval for both Program and Fleet Alterations.

For Aircraft Carriers, alterations/SCs shall be approved and scheduled in NDE-NM (in agreement with the approved NDE-EP fielding plan) and are tracked through the MRA database. AITs must go through RMMCO to install alterations/SCs outside of CNO Availabilities. Coordination with TYCOM is required. AIT POA&Ms are still required IAW reference H(ac) milestones.

For LCS class ships, authorization to install a change outside a CNO availability must be documented as approved in the LHMP to be authorized for installation.

H-3.3.3 Authorization During a New Construction Availability

For specific details for authorization, contact the applicable New Construction SHAPM.

H-3.4 Alteration/SC Design Development, Advance Planning, & Work Integration Requirements

The following subsections provide guidance for ship checks and design products, test procedures, alterations/SCs affecting Nuclear Powered Ships, FOCP, advanced planning and work integration.

H-3.4.1 Alteration/SC Design Ship Check

A Design Ship Check will be conducted on each hull when the AIT Sponsor and SPM determine that the technical risk warrants the cost. When a non-PY party is performing the ship check, participation by the PY may be requested by the AIT Sponsor or directed by the SPM, depending on the complexity of the SC. Funding will be provided by the AIT Sponsor to the PY. In either case, ship checks must be performed in time to meet milestones specified in references H(ac) and H(n). For Submarines only, the SPM will be the only activity to task PY efforts. For Surface Ships only, the SPM must approve the tasking of third-party SID development efforts.

For LCS class ships, shipcheck approvals are documented via the LHMP IAW reference H(bb).

H-3.4.1.1 Scheduling of Alteration/SC Design Ship Checks

Design Ship Checks will be conducted at the convenience of the ship being checked, following the policies of the TYCOM, on a not-to-interfere basis. In preparation for the Design Ship Check, ship availability dates will be coordinated between the activity developing the alteration design and the respective TYCOM or TYCOM designee, employing local coordination policies. AIT Manager, design activity or PY will notify applicable ships and NSA of the intent to

accomplish the alteration/SC ship check via the port engineer or maintenance ISIC, as applicable. For RCOHs, the NSA coordinates all ship checks.

H-3.4.1.2 Design Ship Check Security Clearances

Where access is required to secure areas or equipment, the individual Design Ship Check team members requiring such access are required to have the proper level of clearance for access without escort. Whether a ship check is to be accomplished in or out of a scheduled CNO Availability, the AIT Manager/AIT Lead, design activity or PY will provide visit clearance information to the ship, TYCOM, and other appropriate Naval activities a minimum of seven (7) days prior to the scheduled ship check date or as established by TYCOM or regional policy. Prior to sending the clearance requests, the AIT Manager/AIT Lead will verify with the ship/ISIC/LMA/NSA that ship and/or industrial activity operations will permit completion of ship check requirements during the intended ship check period. If not, it should be re-scheduled.

H-3.4.1.3 Alterations/SCs Affecting Nuclear Powered Ships

Reference H(ah) defines propulsion plant and related systems and spaces in nuclear powered ships that require prior NAVSEA approval before modification or change. As it may not always be readily apparent that modifications or changes in nuclear-powered ships affect reactor plant operations or personnel safety, it is of the utmost importance that reference H(ah) be reviewed when developing alterations/SCs that affect nuclear-powered ships, to ensure the required reviews and approvals are obtained. NAVSEA, the applicable reactor plant PY, ship-class PY, or nuclear-capable shipyard shall be consulted if any uncertainty exists as to the applicability of reference H(ah). Reactor Plant PY approval will be obtained by the AIT Sponsor before drawings are submitted to ship-class PY for final approval.

Reference H(ak) provides policy and direction for contracting work onboard nuclear-powered ships, including requirements for prior NAVSEA approval before contracting work within spaces specified in reference H(ah).

H-3.4.1.4 Fiber Optic Cable Requirements

AIT Managers directing the install of Fiber Optics Systems on ships with centrally managed BOF FOCPs are required to contact the cognizant PY for FOCP path reservation assignments prior to SID development via LAR. If situations arise where deviations from these assignments are necessary, a follow-on LAR shall be submitted to the PY to resolve the deviation prior to work being conducted. Resolution of LARs affecting the FOCP will be coordinated between the PY and the FOCP ISEA. If the plan is to deviate from using the FOCP/FOCS, a LAR/DFS must be submitted and approved by the SPM.

H-3.4.1.5 Design Ship Check In-Brief

A Design Ship Check In-Brief will be conducted upon arrival onboard for appropriate members of Ship's Force, TYCOM, PY On-Site Representative (OSR) and the NSA (if the ship is in availability). The briefing will explain the purpose and extent of the planned ship check, and provide an outline of data to be gathered, spaces requiring access, and other relevant information.

H-3.4.1.6 Design Ship Check Out-Brief

After completion of the Design Ship Check, the team will conduct a Design Ship Check Out-Brief for appropriate members of Ship's Force, TYCOM representative, and the PY OSR. This brief will discuss the extent of work required to accomplish the alteration/SC, as well as any ship-provided support requirements. This will include requirements for PICOs, weapons handling, and other relevant information.

H-3.4.1.7 Design Ship Check Report

The PY or designated third-party Design Agent, as tasked and funded by the AIT Sponsor, will issue a Ship Check Report within fourteen (14) days after the Design Ship Check is completed. For submarines only, the SPM will be the only activity to task PY efforts.

The Ship Check Report shall include detailed sketches showing location and dimensions of existing equipment and systems, existing component designations/markings (e.g., circuit numbers or valve numbers), and interface(s) with other systems. The Ship Check Report will also include red line “as-built” mark-ups, when applicable, to reflect the ship’s unique configuration to the PY, allowing identification and coordination of interferences/interaction with other alteration/SC designs under development by the PY.

For LCS class ships, the PEO LCS HMP Manager will be included in the distribution for the ship check reports.

H-3.4.1.8 Design Ship Checks for New Construction Ships within the SCN Window

The AIT Manager shall notify the SHAPM of the intent to accomplish ship checks. Whenever possible, Design Ship Checks should be accomplished prior to Sailaway. The AIT Manager shall notify the SHAPM of the time and location for all Design Ship Check In-Briefs/Out-Briefs and ensure that the SHAPM is on distribution for all Ship Check Reports.

H-3.4.2 Alteration/SC Design Element Review and Approval

Most design products are developed by the applicable ship-class PY and funded by the AIT Sponsor, PARM, SPM, PEO or Systems Command (SYSCOM). Funding must be provided in time for PY to complete SIDs and meet the milestones of references H(n) and H(ac).

All design products not prepared by the ship-class PY shall be reviewed and approved by the applicable PY prior to the initiation of work on any U.S. Navy ship. Unless prior agreement exists, the AIT Sponsor, PARM, SPM, PEO or SYSCOM will provide funding for the PY to review non-PY developed design products, including drawings. Products and funding must be provided in time to allow PY to meet SID approval milestones as specified in references H(n) and H(ac).

Note: For Surface Ships and Submarines only, the PARM must notify the SPM of the intent to use third party activities for the development of SIDs for AIT installations.

AITs without PY approved drawings will not accomplish alterations/SCs to ships without documented approval from proper authority IAW reference H(ac). AITs without PY approved designs or documented approval will be denied access to ships.

Note: For Submarines only, the SPM will be the only activity to task PY efforts.

H-3.4.2.1 SID Development

Individual SIDs shall be prepared IAW reference H(b) for each hull authorized in the tasking documentation, unless development of class-applicable SIDs has been authorized by the SPM and PY.

The alteration/SC design that is represented in these drawings will be based on criteria presented in the approved SAR (for SHIPALTs) or approved SCD (for SCs), Technical Data Packages (TDPs) provided by the ISEA/PARM, approved guidance LARs, plan schedule, Installation Control Drawings (ICDs)/Installation Requirements Drawings (IRDs), Preliminary Configuration Data (PCD) IAW reference H(ao), Lessons Learned, PY design guidance, actual configuration determined during a Design Ship Check of the applicable ship, references H(x) and H(ab), or other general specifications as applicable. To minimize errors or omissions that could hinder timely approval, SIDs will abide by the requirements of reference H(b).

The PARM/LCM or their designated representative will approve System/Equipment level drawings.

H-3.4.2.2 Review and Approval Alteration/SC Drawings

When specified in the SAR, SCD or tasking documentation, drawings may be reviewed by the SPM, Deputy Commander for Integrated Warfare Systems, NAVSEA CHENG and/or the system/equipment LCM prior to approval by the PY. The drawings will be reviewed for technical accuracy, design adequacy and clarity, compliance with applicable design technical requirements, such as the following:

a) SIGSEC, TEMPEST, Electromagnetic Compatibility (EMC), Electromagnetic Interference (EMI), Radiation Hazard (RADHAZ), Electrostatic Discharge (ESD), EMP, Radar Cross Section (RCS), SUBSAFE, DSS-SOC, and FBW, etc.

b) Technical standards (see references H(e), H(f) and H(g)).

c) Applicable TSs (including General Specifications for Overhaul and New Construction (see references H(x), H(ab), and H(ar)).

d) Drawing format IAW reference H(b).

All SIDs require approval by the applicable PY.

H-3.4.2.3 Alteration/SC Third-Party SID Submission Requirements

Third-party SIDs will be submitted via LAR and must include the following:

a) Scheduled installation date for the specific hull

b) Two POCs with corresponding phone numbers

c) E-mail addresses

d) An explanation of type of submittal (i.e., initial review, comment incorporation validation, etc.).

e) Tasking documentation

f) Supporting calculations (as applicable)

g) Ship Check Report (as defined in SUBSECTION H-3.4.1.7)

h) Applicable guidance documents provided by the ISEA/PARM (i.e., ICDs/IRDs and TDPs), LARs (e.g., LAR to ISEA for systems that will provide the connection for the required Navigation Distribution signal(s)), shock qualification, and topside arrangement, etc.

Except for very large or complex alterations/SCs, the review cycle will be sixty (60) calendar days or less for Surface Ships and Aircraft Carriers and three (3) months or less for Submarines, following PY receipt of drawings and appropriate funding. If the drawings cannot be approved within the allotted time, the PY will coordinate the completion date with the SPM and alteration/SC Sponsor. If a subsequent PY review is required due to rejection/rework of the drawings, the review cycle time will be as agreed to by the PY, SPM and/or Alteration/SC Sponsor (normally no greater than 15 calendar days).

H-3.4.2.4 Electronic Equipment Test Procedure/Record Approvals

The AIT Sponsor shall ensure that approved Test Procedures are used for testing all equipment/systems. When an alteration/SC affects interfaces with other systems or equipment via various signal distribution modes, the ISEAs for each impacted system or equipment shall participate in the test procedure approval process.

H-3.4.2.5 Changes to Approved Alteration/SC Designs

Once SIDs have been approved, only the PY, SPM, or the SPM's designated representative can approve deviations and waivers to the design. IAW reference H(s) all technical and/or configuration change recommendations to approved SIDs must be submitted to the PY (via LAR) for review and approval prior to implementation of those changes. Approved design changes to alterations/SCs may still require that a DFS be submitted IAW reference H(n).

Note: NSA Chief Engineers designated in reference H(s) may approve minor deviations and waivers to the design. Acceptance and agreement by the NSA CHENG to assume this responsibility will be documented in the MOA between the AIT(s) and NSA.

H-3.4.3 Advance Planning and Work Integration

The Advance Planning and Work Integration guidance for alterations/SCs includes:

a) IAW reference H(n), the NSA and LMA are responsible for integration of the AWP. reference H(n) and for Submarines reference H(at), require all activities participating in an availability to support the NSA, LMA, or PEO SUBs Modernization Advance Planning Team (PMAPT), as applicable, in advance planning and work package integration.

For Submarines, the PMAPT will initiate contact with the AIT Manager at A-10 months, as detailed in SUBSECTION H-3.4.5.

For Surface Ships and Aircraft Carriers, the NSA/LMA and SHAPM for new construction are responsible for initial contact with the AIT Manager. Initial contact with the AIT Manager will occur early enough to allow the AIT Manager to develop and submit required deliverables IAW milestones for the specific availability type. In the event that the contact does not occur before A-180 (A-225 for Firm Fixed Price Contracts), the AIT Manager should initiate the contact. At a minimum, AIT Managers will provide Technical POCs to assist the NSA and LMA with advance planning and integration questions, and submit required AIT deliverable items IAW SUBSECTIONs H-3.6 and H-3.9.

When an alteration/SC is planned for execution during a Non-CNO Availability or other WOO, the AIT Manager will coordinate with the NSA and LMA when the alteration/SC is authorized for installation by the TYCOM and ensure participation in advance planning and work integration, as specified by the NSA and LMA. For LCS Class Ships, the authorization for installs outside CNO Availability must be documented on the LHMP IAW with reference H(bb).

b) For each authorized alteration/SC, the AIT Manager will request JCNs IAW SUBSECTION H-1.5.5.

Note: For New Construction, a JCN assignment during a SCN availability is only required for alterations that are not SCN funded. A second JCN for support services may not be required, if support services are tasked in the SCN AWP. Contact the respective SHAPM to verify requirements.

H-3.4.4 Advance Planning Requirements for Nuclear Powered Ships

Reference H(k) defines the work in nuclear powered Surface Ships which must be assigned to nuclear capable activities (e.g., nuclear capable shipyards). Reference H(ak) defines requirements for the conduct of contract work onboard nuclear powered ships (e.g., the work in nuclear-powered ships that need not be assigned to nuclear-capable activities). When conducting work in a nuclear-powered ship, it may not always be readily apparent that modifications or changes in the nuclear-powered ship, affects reactor plant systems, operations, or personnel safety. Therefore, it is of the utmost importance that references H(ah), H(k) and the associated requirements in reference H(ak) be reviewed to ensure that work in a nuclear-powered ship is in

compliance with these requirements. The AIT Manager is responsible for this review during advance planning for alteration/SC installation.

For contracted work onboard nuclear-powered ships, the AIT Manager(s) will ensure that spaces under the cognizance of references H(ah) and H(ak) are identified on the submissions provided under SUBSECTION H-3.5.1. The NSA will review the submissions to ensure that all spaces listed therein are correctly identified with regards to cognizance of references H(ah) and H(ak). Incorrect identification of spaces covered by references H(ah) and H(ak), or the lack of NAVSEA approval letter accompanying a submission and/or a signed MOA as required by reference H(ak) is sufficient reason for the NSA to hold or reject the POA&M acceptance. However, the submission may still be used by the NSA for schedule integration and planning purposes pending the receipt of the required additional documentation and final acceptance.

H-3.4.5 Submarines: AIT Performed Modernization Advance Planning and Schedule Integration

The PMAPT and PEO SUBS LMA/AIT Modernization Coordination and Integration Team facilitates Submarine modernization within availability work packages (both CNO availabilities and Fleet availabilities) as delineated below.

H-3.4.5.1 PEO SUBs Modernization Advance Planning Team

The PMAPT is tasked with Modernization Planning Package Development for Submarines including the following:

a) Providing coordination and integration interface between the joint NSA/LMA Project Team and all individual AITs assigned work during the modernization period.

b) Providing the Advance Modernization Planning Package (AMPP) to the AIT Managers, NSA, and LMA for validation and refinement as applicable to the project's Milestones and Key events.

H-3.4.5.2 PEO SUBS LMA/AIT Modernization Coordination and Integration Team

The PEO SUBS LMA/AIT Modernization Coordination and Integration Team responsibilities, include the following:

a) Provide coordination and integration interface between the joint NSA/LMA Project Team and all individual AITs assigned work during the modernization period.

b) Provide AIT installation planning support to the NSA and LMA to include:

(1) Assisting in organizing, scheduling, and planning AIT integration conferences.

(2) Coordination and schedule support of PICO/ship checks

(3) Resource support for work schedule integration.

(4) Resource support for logistic requirements.

(5) Resource support for MOAs.

(6) Resource support for "Readiness to Start" status tracking.

(7) Resource support for service requests and tracking service requests.

(8) Resource support for modernization execution status tracking.

(9) Resource support for Ship's Force to include integration of training plans as provided by the Submarine Learning Center and Program Offices.

(10) Resource support for integrated SOVT.

(11) Resource support to the NSA, LMA, and AIT Managers to fully integrate the AIT schedules in Advanced Industrial Maintenance-Next Generation (AIM-NG) and/or other master schedules.

(12) Provide Lessons Learned from previous modernization periods, and incorporate into current availability planning and execution.

(13) Conduct on-site evaluations and assessments of Submarine Warfare Federated Tactical System (SWFTS) alterations in progress and provide a weekly status report (for all projects currently being supported) to the joint NSA/LMA Project Team, AIT Managers, SPAWAR, and PEO SUBS. This report is the PEO SUBS LMA/AIT Integration and Coordination Representative's independent, objective assessment of the AITs and the support being provided to the AITs. An advance copy of the weekly report will be provided to the individual availability Superintendent(s)/Manager(s) for review prior to distribution.

H-3.4.5.3 Submarine Advance Modernization Planning Package

The PMAPT will develop and submit a draft of AMPP at A-10 months to the AIT Managers and assigned NSA, LMA, and the PEO SUBS LMA/AIT Modernization Coordination and Integration Team for validation and refinement, as applicable, to the project's Milestones and Key Events. The AIT Managers, the NSA, LMA, and the PEO SUBS LMA/AIT Modernization Coordination and Integration Team will validate and revise the AMPP and provide the updated Modernization Project Plan (MPP) to the NSA and LMA no later than 6.5 months to support the A-6 months AIT Conference. The products supplied by the PMAPT include, but are not limited to, the items shown in Table H-2.

The assigned NSA and/or LMA may provide additional planning documents/data as well. The AIT Manager will validate and revise the AMPP and any additional planning documents/data

from the NSA and provide the updated MPP to the NSA and LMA no later than A-6.5 months to support the A-6 months AIT Conference.

Table H-2. Typical Advance Modernization Planning Package (Submarines Only)

Deliverable	Purpose	Requirement
Integrated AIT List with Ship Alterations and EC/FC.	Support AIT Conference Planning and support AIM Network Development.	NTIRA, the Advance Planning Letter and NDE SHIPALT Programming.
Integrated AIM Modernization Schedule(s)	Supports advance planning and refinement to support the Milestones and Key events of the project.	Validate and Refine the Network(s), Submit to AIT Mangers to support the AIT Conference at A-6.
Integrated MS Excel Support Service Matrix. The integrated support service matrix is developed utilizing years of data from major modernization efforts both in CNO and Non-CNO availabilities.	Provide scope of support service plan to the LMA and NSA. Allow required support services contracting actions as needed.	Validate and provide to Code 1200 for budgeting.
Power System Modifications	Shows changes to the power distribution system due to modernization. Aids in preparing tagouts and integrating work.	Validate at A-4 (or when drawings are available).
SOMS changes	List of expected changes required in SOMS due to modernization. Aids in processing tagouts and integrating work.	Validate at A-4 (or when drawings are available).
List of AIT Tests and SWFTS Test interface Matrix	Ensure On-time delivery to AIT Managers at A-10.	Validate and refine as required with each AIT.
Project Initial Risk Letter	Identify any AIT modernization that could impact the schedule based on past history lessons learned, AIT quality issues and scope of new alterations (first time alterations).	Ensure risk mitigation plans are in place to identify each item. The risk will be tracked at the quarterly Readiness Review.

Note: NSYs use AIM to plan, track, and manage work. References to AIM and associated AIM features (PSS, Component Unit (CU) phases, and CU assemblies) are not applicable to FMAs using other AIS systems.

H-3.4.5.4 Preparations for the AIT Meeting

Upon delivery of the AMPP at A-10, the PEO SUBS LMA/AIT Modernization Coordination and Integration Team will commence planning and integration of all AIT work. Work identified in the AMPP will be aligned to the project's Key Events and Milestones. The objective is to have a draft integrated schedule for review at the A-6 AIT Meeting.

The PEO SUBS LMA/AIT Modernization Coordination and Integration Team will review/prepare the following in support of the AIT Meeting:

a) Distribute MOA template to the AIT Managers.

b) Provide standardized job summaries for all modernization work based on the AMPP.

c) Review most current drawing, material, and ILS status from the monthly PEO SUBS readiness review.

d) Provide updated AIT installation schedules and validated networks to the AIT Managers as schedules are updated.

e) Develop PICO plan/schedule.

f) Review the RMMCO Web Site, and verify all scheduled AITs have a NAVSEA-Approved Quality Plan.

g) Prepare and transmit the "AIT Meeting Notification and Agenda" Naval Message.

h) Develop the AIT Meeting Shipyard Participant List with the Project Superintendent.

i) Finalize LMA work requirements in support of AITs and Critical Systems Work, and determine with the LMA management whether the shipyard has the capacity to perform the work.

j) AIT Managers will provide the PEO SUBS LMA/AIT Modernization Coordination and Integration Team with a list of Critical Systems Work at A-8 for acceptance.

H-3.4.5.5 The A-6 AIT Meeting

The scope of the AIT Meeting will be driven by the amount of AIT work approved and included in the AMPP. AIT Meetings should be planned over a two (2) day period and include the following topics:

a) Project Superintendent Opening Remarks and expectations/goals

b) Project schedule overview with Key Events and Milestones

c) Modernization Package review

d) Lessons Learned and best practices (from AMPP)

e) AIT AIM Network validation/Refinement

f) Review of AIT service requests and contracted work requirements

g) NSA and LMA discussions of their intentions to perform Critical Systems Work previously identified by the AIT Managers at A-8

h) Review of draft MOAs

H-3.4.5.6 AIT Meeting Follow-up Actions

Upon conclusion of the AIT Meeting, the PEO SUBS LMA/AIT Modernization Coordination and Integration Team will:

a) Refine the AIT products provided by the PMAPT, ensuring the LMA's project schedule is updated and supports the project planning Key Events and Milestones.

b) Integrate the AIT work into the project's Resource Constraint Schedule (RCS) which requires joint efforts for planning and validation of the AMPP. Good teaming communication and project goals are essential in development of the AIT integrated schedule. The following work requirements should be compiled and entered into the AIT integrated schedule by the PEO SUBS LMA/AIT Modernization Coordination and Integration Team based upon validation of the AMPP and results of the AIT Conference:

(1) Timeframe for AITs to commence work (if not A-0)

(2) Timeframe for AITs to complete approved work, to include all testing and training.

(3) Number of shifts required to complete work, including overtime requirements for support services

(4) Services required to accomplish work, i.e., crane lifts, power, air, lay-down areas, quality control, work requested for LMA to accomplish (all to be identified in the MOA)

(5) Space close-out schedule to support Habitability Key Event

(6) WAF prioritization (validation of the AMPP submittal)

(7) Fleet Training (comprised of new system maintenance/operability and crew certification on new combat/communication systems)

(8) All other ship's evolutions, certifications, and requirements that may impact schedule performance during the availability

(9) (9) Schedule Integration of AIT Work

Each AIT assigned will have their key work entered into the project's schedule as a CU phase or CU phase assembly. AIT work will be broken down by primary components and tasks affected to identify interfaces with other maintenance providers.

AIT work that is directly tied to shipyard Key Events and/or Milestones (such as Electronics and Auxiliary Fresh Water (EAFW), power restoration, or sail close-out/test) need to be associated with those Key Events and/or Milestones.

The LMA will develop additional schedule activities in PSS or CU phases in AIM, as appropriate, for AIT work that interfaces with other maintenance providers.

H-3.4.6 Advance Planning Requirements for LCS Class Ships

For LCS class ships, reference H(bb) is in effect for both the post-delivery and post-OWLD periods of LCS and ensures that installations and visits (with deliverables) are coordinated in an consistent and integrated manner with the multiple stakeholders in LCS installation execution approval and that the LCS community gets advanced notice on installations and visits. Reference H(bb) requirements include:

a) Submission of an Availability Visitor Team Information Form to the PEO LCS HMP Manager.

b) Required approval on the LHMP for non-CNO availability installations and modernization-driven visits (with deliverables).

H-3.5 NSA and LMA Data Call for AIT Deliverables

The following subsections discuss AIT deliverable requirements and provide guidance for installations impacting Critical Systems or Critical System Boundaries.

H-3.5.1 Pre-Installation Coordination Requirements

The following is guidance for AIT pre-installation deliverables during and outside CNO availabilities.

H-3.5.1.1 Integration/POA&Ms during CNO-Availabilities

The NSA and LMA will require the AIT Manager to provide specific information and documentation in support of availability advance planning and the work integration process. AIT submission of required documentation (POA&M) shall be IAW the Navy Modernization milestones of reference H(ac). The NSA and/or LMA shall provide, no later than A-180, an availability Key Event and Milestone schedule for use by the AIT in developing their POA&M. AIT POA&M shall be submitted to the NSA and/or LMA at or before A-135 to support development of the Integrated Master Schedule (IMS). If the AIT is not under contract at A-135, the Sponsor or their Government designate shall submit a notional POA&M no later than A-135 to be followed by an AIT-produced POA&M as soon as possible after the AIT is under contract. In this case, a revised POA&M to the NSA and /or LMA will be provided no later than A-75 in order to update the IMS by A-60. In order to streamline and standardize AIT deliverable documents, AIT POA&M submissions are to be provided in a specific format per Exhibit H-2. Documents commonly required to be submitted in a specified format include MOAs, PICO requirements, Production and Testing Schedules, POA&M and Industrial Support Service Requests. For RCOHs, notional AIT POA&M will be provided by A-420.

Each POA&M submittal by an AIT shall consist of the following documents:

a) AIT POA&M Cover Sheet (Microsoft Excel template per Exhibit H-2)

b) AIT POA&M Task Details (Microsoft Project template and instructions per Exhibit H-2)

c) AIT Support Services Request (Microsoft Word template per Exhibit H-1).

Note: The Project version of item #b. above includes an export to Excel capability in cases where the NSA/RMC requests an Excel input; however, the Project template is the same for ease of data entry.

Note: Item #c. is required for the initial submittal even if no support services are required, but is only required for subsequent revised submittals if support service requirements change.

In situations where multiple teams under the cognizance of multiple sponsors are required to complete an install covered by a single SCD, the lead sponsor of the complete SCD shall be responsible to ensure that all required submittals IAW this section are made for all teams. This should be done either by incorporating all the inputs into a single submittal, or by packaging the various submittals together, wherever possible. One example of a situation where this may occur is in the case of software restorative installations where a software item that was previously installed on the ship needs to be restored/reinstalled onto a new piece of hardware with no changes to the software. (If the software were to require changes due to the new hardware, it would have its own SCD and separate submittal). As the software is not being modernized, it is not covered under its own SCD and is to be part of the hardware SCD necessitating the reinstall. In the case where the software is under the cognizance of a different Program Office, it is possible that a different team will need to come onboard to perform the software installation action.

H-3.5.1.2 Data Call for AIT Deliverables Outside a CNO Availability

When an alteration/SC is scheduled for execution during a Non-CNO Availability or other WOO, the AIT Manager shall initiate contact with the NSA and/or LMA upon authorization of the alteration/SC by the TYCOM/TYCOM Designee. Submission content requirements will be the same as for a CNO Availability and submissions are due at I-135 (135 days prior to installation start). Unlike an availability executed in an industrial facility, pierside availabilities generally do not include provision of AIT industrial support services. The AIT Manager shall ensure that all required support services are provided by the AIT or arranged via third-party providers.

For Submarines, the advance planning process for large modernization packages scheduled for installation during Non-CNO Availabilities is the same as described in SUBSECTION H-3.4.3.

H-3.5.2 Installations Impacting Critical Systems or Critical System Boundaries

Critical systems are defined as SUBSAFE, FBW, Level 1, DSS-SOC, P1 & P3A piping systems, A-1, A-2, A-3 pressure vessels (including boilers), and M-1 machinery systems, as defined in technical guidance documents and references H(p), H(t), H(u), H(v), H(x), H(y), H(am), and H(as). For Submarines only, modernization work affecting components in the Nuclear Interface drawing (NAVSEA 08 controlled, reference H(ae)) or in Coordinated drawings (DIRSSP controlled, references H(al) and H(az)) shall also be considered critical work.

Critical work consists of production processes, such as fit-up/welding, brazing and mechanical joint assembly, documentation of work, and performance of related tests and inspections on critical systems.

The AIT Manager will ensure that work on critical systems, required to support the alteration/SC, is clearly identified on the Production & Testing Schedules, and in the AIT Support Services Request (if requesting the LMA to perform). For Submarines Only, the AIT Manager shall identify any critical work and the activity that will be contracted to perform the work (LMA, NAVSEA NOTE 5000 Contractor, other qualified contractor) to the LMA prior to the A-6 Meeting. If the LMA performs the critical system work, the AIT Manager will fund the LMA to accomplish production work and related engineering products (including testing) required for any portion of an alteration/SC impacting critical systems boundaries. If the LMA cannot execute the critical work due to resource constraints or other reasons, the NSA and/or LMA may, at their option, contract the critical work to a RMC, obtain the required resources from another LMA, or approve the AIT Manager's assignment of the critical work to a qualified contractor.

When the NSA and/or LMA contracts critical work to a qualified contractor, or approves the AIT Manager assignment of critical work to a qualified contractor, the NSA shall be funded by AIT sponsor and perform QA oversight IAW the requirements of references H(n), H(w) and H(an), as applicable, to ensure compliant production processes, personnel/procedure qualifications, and work documentation and certification. For SUBSAFE, DSS-SOC and FBW work to be contracted, the NSA and LMA will comply with the requirements of references H(y), H(p)and H(as), respectively.

Note: AITs qualified to perform SUBSAFE work IAW reference H(ai) are exempt from the requirement to offer SUBSAFE, Level 1, and P1 piping system work to the LMA.

For contracted work aboard nuclear vessels, the AIT Manager will ensure that spaces under the cognizance of references H(ah) and H(ak) are identified on the submissions provided under SUBSECTION H-3.5.1. The NSA will review the submissions to ensure all spaces listed therein are correctly identified with regards to cognizance of references H(ah) and H(ak). Incorrect identification of spaces covered by references H(ah) and H(ak), or the lack of NAVSEA approval letter accompanying a submission and/or a signed MOA as required by reference H(ak), is sufficient reason for the NSA to hold or reject the submission. However, the submission may still be used by the NSA for schedule integration and planning purposes pending the receipt of the required additional documentation and final acceptance.

H-3.6 Submission of AIT Deliverables/Installation Preparation Requirements

The AIT Manager will ensure installation preparation requirements are provided to the NSA and LMA IAW references H(n) and H(at) for Submarines and reference H(ac) for Surface Ships and Aircraft Carriers. When applicable, the NSA and/or LMA will then provide significant installation preparation requirements, including material, team formulation, and AIT production schedule to the Master Ship Repair (MSR)/Agreement for Boat Repair (ABR) to allow coordination and integration of the alteration/SC.

H-3.6.1 Memorandum of Agreement

While NAVSEA TS 9090-310 (Series) is written to provide requirements to activities involved in the alteration/SC process, the MOA shall be written to provide specific requirements to each activity involved in accomplishing an alteration/SC.

The NSA, or LMA if no NSA is assigned, will initiate the MOA and engage all assigned activities to support the development of the MOA. The MOA will be IAW reference H(n), SWPs, and/or NAVSEA SIs, and be in place prior to starting work. The MOA will clarify the responsibilities of all participating activities involved in the installation of alterations/SCs by AITs for all availabilities including responsibilities for accomplishment of work, control of plant conditions and work area isolation, support services/equipment, testing requirements and waivers, deviations or DFSs.

NSA and LMA support services and funding requirements to accomplish the responsibilities will be clearly defined in the written MOA, and, when applicable, will be IAW reference H(n). Some NSAs have developed standard MOA templates for use during their availabilities. The NSA and LMA will provide each AIT Manager with draft MOA containing information and requirements that are applicable to all participating activities in the availability. Each AIT Manager will respond with the specific requirements of their alteration(s) not addressed in the draft MOA. The NSA and LMA will take action to review and deconflict the AIT-specific requirements (with all involved parties, as appropriate) and incorporate them into the final MOA.

The depth of the specific requirements, identified in the MOA, will depend on the complexity of each alteration/SC and the combined Work Package. Participants include, but are not limited to, the AIT, NSA, LMA, LCM, MSR, Ship, and support activities. MOAs shall be approved and signed by all applicable activities prior to the AIT commencing the alteration/SC.

Note: SUBSAFE, DSS-SOC and FBW work must be documented in a separate MOA or specifically designated SUBSECTION of an MOA.

The following are sample topics:

a) Funding requirements

b) POA&M submittal requirements

c) Meeting attendance

d) NAVSEA SIs that are invoked for the installation

e) Clearly defined Technical Authority responsibilities consistent with reference H(s)

f) Conjunctive or associated alterations/SCs

g) Clearances and insurance requirements

h) AIT Training requirements IAW Exhibit H-9

i) In-Brief/Out-Brief

j) Tag-out and work control

k) General cleanliness

l) Steam plant cleanliness environmental controls

m) Asbestos control

n) HW management

o) Heavy Metals Testing, Control, and Abatement

p) Painting and adhesive application permit

q) Environmental reporting (e.g., paint, solvent, adhesive, fuel, or welding rod usage reports), per reference H(d) (NAVSEA SI 009-02).

r) Quality Assurance

s) Work certification

t) Ship certification

u) General Safety

v) Nuclear Interface

w) Industrial radiation safety

x) Site-specific EPA HW generator ID number, if using a MSR or ABR to dispose of HW

y) Violations of safety/hazardous materials

z) Diesel engine (50 hp or greater) registration/permit

aa) Local POCs related to the above topics where applicable

Note: This is not an all-inclusive topic list. The areas that may warrant inclusion in the MOA may vary with each alteration/SC installation.

H-3.6.2 PICO Requirements

PICO is a test designed to evaluate and baseline the operational status and performance of the equipment, systems, and interfaces. PICO events support the establishment of clear responsibilities for maintenance and modernization communities. PICO events assist to identify any long lead time parts and are beneficial when the availability duration/length is insufficient. PICO is conducted prior to commencing modernization efforts on affected systems in order to identify pre-existing discrepancies which, if uncorrected, could delay or prevent the successful completion of the alteration/SC. PICO should also validate that existing software is current with required updates. PICO completion is of vital importance to both the maintenance and modernization communities to ensure corrective actions and responsibility for discrepancy resolution is effectively and timely identified and completed.

PICO shall be conducted when determined by the PARM, ISEA, or AIT Manager that the complexity and risks associated with an alteration/SC warrant a PICO requirement. Modifications that affect existing interfaces among multiple systems are typical candidates for PICO to baseline the operational status of all interfaces prior to commencing the alteration/SC. A PICO may also be required during the Design Ship Check to determine the complete impact of the modernization effort prior to SID development.

The PARM/ISEA/AIT Manager will ensure that PICO testing requirements are submitted to the coordinating activity (NSA/LMA, ISIC and Ship) IAW Table H-1.

H-3.6.2.1 PICO Coordination Methods

PICOs may be coordinated via the following methods:

a) Between the AIT Manager, PARM and/or ISEA and Ship's Force via TYCOM, ISIC and NSA/LMA.

b) At the discretion of the Regional NSA, LMA, RMC,ISIC and/or Ship , a consolidated PICO event may be coordinated as part of the Availability Advance Planning process, led by a locally-designated PICO Coordinator. The designated PICO Coordinator will contact all AIT Managers to request PICO inputs. AIT Managers provide their requirements to the PICO Coordinator who coordinates resources with the ship, to meet the Milestones of Table H-1. AIT Managers then execute IAW the consolidated PICO test schedule. AIT Managers submit their reports back to the PICO Coordinator who, in turn, will consolidate all completion reports and provide to the NSA/TYCOM.

c) For Surface Ships and Aircraft Carriers, during the new construction window, multiple qualification and certification SCN events are occurring. In order to ensure integration with these events, all PICOs will be scheduled through the SHAPM or SHAPM representative. Every effort shall be made to consolidate and eliminate redundancy with duplicate or similar testing and assessments.

d) Additionally, for LCS class ships, PICOs will be scheduled and approved via the PEO LCS HMP Manager IAW reference H(bb).

Regardless of coordination method, all required PICOs shall be completed prior to start of installation, nominally 60 to 30 days prior to the SOA should the ship's operational schedule and other factors permit.

H-3.6.2.2 PICO Types

The AIT Manager, PARM or ISEA will specify the scope of PICO testing, support requirements and a proposed schedule in one of the following two ways.

a) Planned Maintenance System (PMS)-Based PICO: The AIT Manager, PARM or ISEA, via the TYCOM, may request Ship's Force complete PMS-Based PICO testing. Ship's Force PICO testing shall be limited to current Ship's Force PMS. Ship's Force will complete PMS-based PICO, witnessed and assisted by the AIT OSIC/AIT Lead, if feasible. This approach is selected when the existing PMS is adequate to determine operational status of the affected equipment and interfaces.

b) Non-PMS Based PICO: Any Non-PMS-based PICO requirements will be provided to the OSIC and/or AIT Lead by the cognizant ISEA, PARM or AIT Manager. The responsibilities for conducting and witnessing Non-PMS based PICO testing will be coordinated in advance between Ship's Force and AIT OSIC/AIT Lead, and shall be documented in a POA&M/MOA. A Non-PMS-based PICO approach is required when the affected system and/or interfaces with ship systems is complex and existing PMS will not establish an accurate functional baseline.

H-3.6.2.3 PARM/ISEA/AIT Manager Responsibilities

The PARM, ISEA or AIT Managers are responsible for identifying and ensuring PICO requirements and milestones are submitted to the NSA, LMA, ISIC and Ship. This includes the following activities:

a) Providing technical POCs and designated testing witnesses

b) Providing a list of equipment, systems, or system interfaces to be tested, including required alignment or configuration

c) Providing applicable test procedures (If PMS-based, list Maintenance Index Pages (MIPs)/Maintenance Requirement Cards (MRCs) to be demonstrated or standard SUBMEPP Test Procedures; otherwise, provide a basic description of test procedures)

d) Identifying Ship's Force personnel support requirements (Ship's Force equipment operators, technicians, etc.)

e) Identifying supporting/interfacing equipment and/or systems requirements, including satellite access, Crypto keying material, and requirements for interfacing systems

f) Identifying Auxiliary Support Services (power, chilled water, A/C, Dry Air, etc.)

g) Identifying external service requirements (aircraft, ship's boats, degaussing or Shipboard Electronics Systems Evaluation Facility (SESEF) facilities, etc.)

h) Identifying special requirements to support testing (At Sea testing, EMCON, rotate and radiate, personnel aloft restrictions, etc.)

i) Coordinating with the ISEA or SME for development of PICO requirements for targeted systems

j) Providing scope of PICO support and test requirements to NSA per Table H-1

k) Developing cost estimates and funding any required technical support or witnesses for PICO accomplishment

l) Confirming PICO start dates and estimated duration with ship, TYCOM, ISIC, NSA/LMA and SME per Table H-1

m) Including PICO requirements in pre-installation messages

n) Identifying a SME, if required

o) Finalizing and providing the PICO test plan per Table H-1

p) Conducting a PICO In-Brief per Table H-1, if required

q) Conducting the PICO

r) Drafting a PICO completion report message IAW SUBSECTION H-3.6.2.5.

H-3.6.2.4 NSA/LMA and Fleet Responsibilities

The TYCOM or TYCOM-designated representative shall coordinate the PICO test schedule and execution with the ISIC, NSA/LMA and ship. For all installations (AIT and Non-AIT), Ship's Force will ensure repair requirements are documented in the ship's CSMP and coordinate new work with the NSA/LMA per Table H-1. Ship's Force will continue to track CSMP items discovered during PICO and coordinate required maintenance actions (e.g. equipment repair and parts requisition) to support post installation testing. Ship's Force will also support the documentation requirements for PICO completion as defined in SUBSECTION H-3.6.2.5 below.

H-3.6.2.5 PICO Completion

Within five (5) days of PICO completion, the Ship's Force and AIT OSIC or AIT Lead will jointly produce a PICO completion report. The report will outline Satisfactory (SAT) or Unsatisfactory (UNSAT) performance and will include all known discrepancies that could impact installation or SOVT. If a consolidated PICO event was conducted, the locally designated PICO Coordinator may compile results from multiple PICOs into a consolidated PICO Report. For LCS class ships, a copy of the PICO Report will be provided to the PEO LCS HMP Manager IAW reference H(bb). The Ship's Force, LMA, or Maintenance Team, in coordination with the

ISEA, AIT OSIC or AIT Lead, will evaluate discrepancies and identify the recommended activity responsible for corrective action. The PARM/ISEA/AIT Manager will draft the PICO completion report message with assistance from Ship's Force. The ship will release the message (see Exhibit H-3 for a PICO Completion Naval message example) within 14 days (30 days for Submarines) of PICO completion. The PICO Completion Report Message shall be addressed to the NSA, LMA, ISIC, and TYCOM representatives for record purposes and to other cognizant activities including AIT Sponsors.

In the event the PICO can't be completed due to lack of system availability (no satellite access time, unavailable cryptographic keying material, etc.) or personnel availability, the PARM and TYCOM will work together to determine the risk of proceeding with the installation without a completed PICO, and, if required, defer the installation. After the decision is made, notify NSA and LMA.

Table H-3. Notional Timeline for PICO Events

When	Requirement	Responsibility
A-135	Provide scope of PICO testing requirements to NSA.	AIT Manager/PARM/ISEA
A-120	Confirm PICO start date (P-0) and duration; target accomplishment between A-60 and A-30.	NSA, AIT Manager, TYCOM, ISIC and Ship
A-90	Identify ISEA/SME and provide PICO test plan.	AIT Managers
P-7	Conduct ship's in-brief, if required.	AIT Manager/PARM/ISEA and Ship
P-0	Perform PICO testing (nominally A-60 to A-30)	Ship, PARM/ ISEA,OSIC/AIT Lead, or Installing Activities, as required
P+5	Develop PICO completion report.	OSIC/AIT Lead and Ship
P+14	Document PICO results in Naval Message (P+30 for Submarines)	AIT Manager/PARM/ISEA and Ship
A-30	Screen new work and integrate into availability schedule, as applicable.	Ship and NSA/LMA

H-3.6.3 Production and Post-Installation Testing Schedules

For Submarines, PSS/AIM Production and Test networks shall be provided by the PMAPT to the AIT Manager, NSA, and LMA as part of the AMPP at A-10 months. The AIT Manager will verify/revise these documents and return to the NSA, LMA, and PMAPT at A-6.5 months to support the AIT Conference at A-6 months.

For Surface Ships and Aircraft Carriers, Alteration/SC installation production and testing schedules shall be submitted in the format described in SUBSECTION H-3.5.1 using the templates provided in Exhibit H-2. These schedules will specify the expected start dates and duration (in calendar days) of all AIT shipboard work and post-installation SOVT schedules. Other considerations include items that could impact ship's operations or other work items in the Integrated Production and/or Test Schedules. These include, but are not limited to the following:

a) AIT manning, planned number of work shifts per day, and hours per shift

b) Impacted areas and spaces including required access to secure spaces

c) AIT POCs

d) Inspection requirements (gas-free, SIGSEC, TEMPEST, weight tests, etc.)

e) Specific equipment, systems, circuits, components, piping or valves that will require isolation, deactivation, or removal to accomplish planned work and any associated tag-out processing requirements

f) Work on Critical Systems or Critical System Boundaries

g) Weapons/ordnance handling requirements

h) System certification that could be required/affected by accomplishment of the alteration (Navigation Certification (NAVCERT), SIGSEC, TEMPEST, EMC/EMI/RADHAZ, SUBSAFE, DSS-SOC, FBW, etc.)

i) Crew training requirements

j) Requirements for special test conditions (Sea Trials/underway testing, satellite access time, cryptographic keying material, SOVT durations and specific requirements to accomplish, etc.). (Note: If different portions of a test such as a SOVT require different conditions or requirements, the test should be broken up into phases specific to each set of conditions or requirements for purposes of work sequencing and integration).

All activities must comply with key event schedules promulgated by the NSA and LMA.

H-3.6.4 Industrial Support Service Requirements

For Submarines, the Support Services matrix will be provided by the PMAPT to the AIT Manager, NSA, and LMA as part of the AMPP at A-10 months. The AIT Manager will verify/revise these documents and return to the NSA, LMA, and PMAPT at A-6.5 months to support the AIT Conference at A-6 months.

For Surface Ships and Aircraft Carriers, the AIT Manager is responsible for providing advance notification of alteration/SC accomplishment requirements/impacts and making arrangements for industrial support services that will be required to support both the Production and Testing phases of the installation.

Exhibit H-1 provides the template for requesting industrial support services and will be provided as part of the AIT POA&M required under SUBSECTION H-3.5.1.

Note: Exhibit H-1 must be filled out for all SC/alterations, whether industrial support services are required or not.

These services may include, but are not limited to, the following:

a) Administration support requirements (dedicated telephone service, desk space, etc.)

b) Material delivery and stowage requirements

   (1) Number of boxes/pallets

   (2) Special handling (e.g., ESD, SUBSAFE, DSS-SOC, FBW, or magnetic protection)

   (3) Special stowage

   (4) Lay-down area requirements, etc.

c) Crane service requirements (capacity, on-load, offload, high reach, etc.)

d) Rigging service requirements

e) Scope of hot work requirements (cutting, welding, brazing, etc.)

f) Fire watches (number of welders working, number and length of shifts, etc.)

g) Access cut requirements

h) Man-aloft requirements

i) Scaffolding and staging requirements

j) Diver and cofferdam requirements

k) Planned handling, use, and disposal of identified hazardous materials (fluorocarbons, paint, welding rods, partially used material, or hazardous waste)

l) Specific ventilation/environmental requirements (special air flow/cooling/heating requirements, or protective shelters to be installed)

m) Ship systems service requirements (power, low or high-pressure air) that may be required to support the accomplishment of the alteration, calibration or certification of the equipment

n) Post-installation testing support requirements

o) Non-Destructive Testing (NDT) requirements

p) NSA turned-in equipment/material disposal requirements

q) Tag-Out and Work Control requirements

r) Critical Systems or Critical System Boundaries work requirements

s) NSA QA inspection and verification of AIT Government Inspection points at the request of the AIT Manager

t) Industrial work that the AIT sponsor requires or requests to be performed by the NSA due to shipboard location or work scope.

H-3.7 Provide AIT Support Services Funding (If Applicable)

The AIT Manager is responsible for providing advance notification of alteration/SC accomplishment requirements/impacts and making arrangements for industrial support services that will be required to support both the Production and Testing phases of the installation. The NSA and/or LMA will provide the AIT Manager a cost estimate for required support services, including applicable prorations for common support service costs IAW reference H(ac) and H(n) milestones. The AIT Manager will ensure that funding for support services during a contracted shipyard availability is provided to the NSA and/or LMA IAW Navy Modernization Milestones identified in Appendix G of reference H(ac) for Surface Ships and Aircraft Carriers, and no later than 30 days prior to contract award or 90 days prior to the start of availabilities to be accomplished at public shipyards for Submarines.

H-3.8 Security Clearances (If Applicable)

The AIT Manager will ensure that Security Clearances are in place and will communicate with the NSA and LMA to ensure local requirements are clearly defined. For CONUS installations, the AIT Manager will ensure that security clearance information for government personnel is submitted in the appropriate Visit Request format. AIT contractor personnel are responsible for providing their own clearance information to the NSA and/or LMA.

For OCONUS installations, the AIT Manager will ensure all personnel traveling to an OCONUS location provide the correct clearance information via eCountry Clearance (eCC) website:

https://ecc.state.gov/security/EccLogin.aspx

and Aircraft and Personnel Automated Clearance System (APACS) website:

https://apacs.dtic.mil/apacs/login.jsp

Other overseas pre-travel requirements may include passport visas; specialized training, and formal security briefings for travelling personnel. The AIT manager should consult with their Command's Foreign travel experts early in the process to determine up to date travel requirements. Country Clearance Messages guidance is located in DoD 4500-54 (Series), Department of Defense Foreign Clearance Manual.

Where access is required to secure areas or equipment, the individual AIT members requiring such access will have the proper level of clearance for access without escort. A minimum of seven (7) working days prior to arrival or as established by TYCOM/Regional policy, the AIT OSIC/AIT Lead will provide a visit request and clearance information for AIT members to the ship, TYCOM, NSA and/or LMA, and any other appropriate Naval activities. In situations requiring a quick response, visit request and security clearance information will be provided as

far in advance as possible and by the fastest means practicable. For alterations/SCs being accomplished during contracted shipyard availabilities, the AIT will comply with security requirements of the industrial or Naval activity in addition to those required for access to the ship.

H-3.9 Upload CDMD-OA Workfiles

The AIT Manager will verify that designated Alteration/SC LCM/ISEA pre-loads configuration planning data workfiles via CDMD-OA Database, for CDM review, no later than sixty (60) days prior to Start of Installation (SOI)/Start of Availability (SOA), IAW references H(n) and H(ac). Proof of workfile submission to CDMD-OA (i.e., AIT CDMD-OA Verification Report will be required for electronic submission of the RMMCO Form).

Note: IAW reference H(c), CDMD-OA query containing the following data elements can be substituted in place of the AIT CDMD-OA Verification Report: Ship Hull, Install Date, RIN, RIC, Installation Status Code (ISC), EFD, EIN, PRID, Summary Title, RECD DATE, ALT TYPE, ALT ID, ALT RIC, ALT RIN and ALT STATUS.

For OHIO Class Submarines (SSBN/SSGN), reporting of completed configuration changes is performed in the MFOM-SAS system for nightly replication into CDMD-OA for subsequent upload into the ERP. The OHIO Class configuration status reporting process is highly integrated with OHIO Class Intermediate Level (I Level) maintenance processes. AITs will coordinate with the appropriate Trident Maintenance Facility's Maintenance Department – Trident Refit Facility (TRF) Kings Bay or Intermediate Maintenance Faculty (IMF) PACNORWEST for receipt of configuration planning records from LDS in the form of pre-filled OPNAV 4790/CKs. Upon completion of installation, AITs will provide completed 4790/CKs to the requisite Trident Intermediate Facility Maintenance Department for up-line reporting. The OHIO Class (SSBN/SSGN) Command and Control System (CCS) and Non-Propulsion Electronic System (NPES) Installation Standard Operating Procedures, reference H(aq), provides detailed process explanations, procedures and POCs.

H-3.10 Approved MOA IAW NMP-MOM

Following the initial review and update of the draft MOA, IAW SUBSECTION H-3.6.1 the NSA and LMA will adjudicate and incorporate recommended changes, and forward the final MOA for signature. Availability participants, including AIT Manager/OSIC, will indicate concurrence via signature, and copies of the signed MOA will be made available to all members of the AIT. No AIT will be allowed to commence installation of their alteration/SC prior to all required activities/organizations signing the MOA.

H-3.11 Quality Assurance Provisions

The Quality Management approach for AIT Installations is the combined effort of the AIT, the AIT Manager/OSIC, and the NSA/RMMCO. Their mutual goal is a quality product that conforms to requirements of this TS and NAVSEA SI 009-04.

a) The AIT has primary responsibility for controlling product quality; offering for acceptance only those products and services that conform to contractual/tasking

requirements and maintaining OQE of this conformance. This is achieved by the AIT establishing and maintaining an adequate quality management system to ensure the work performed conforms to requirements. Part of this requirement is an AIT QA workbook that outlines the scope and process of the installation. Requirements of the AIT's QMS are outlined in Exhibit H-4 and comply with NAVSEA SI 009-04.

b) The AIT Manager/OSIC's efforts are to establish confidence in the AIT's ability to deliver a quality product. This is accomplished by establishing a comprehensive oversight program of the AIT's quality system. This program, the AMQAP, provides a systematic and uniform approach for ensuring AIT compliance with requirements. AMQAP requirements, outlined in Exhibit H-5, consist of five elements: AIT Document/Procedure Reviews; Process Surveillance and Product Inspections; Quality System Audits; Corrective Actions and Quality Data evaluation. Documentation for the elements - Quality System Audits and Quality Data evaluation will typically not be onsite, nor available to the OSIC or NSA. Results of these elements will be factored into the other three AMQAP elements.

c) Separate from, but in coordination and cooperation with the AIT Manager/OSIC, the NSA provides oversight (i.e. verification and substantiation) of all work, including AIT work, accomplished during the availability. The NSA assesses the adequacy of the AIT Manager/OSIC's execution of QA oversight responsibilities and performs quality sampling of AIT work. The RMMCO Check-In/Check-Out process supports the NSA's efforts to ensure required quality planning functions (e.g. QMS acceptance; AIT QA workbook, etc.) are complete prior to installation start.

H-3.11.1 AIT QMS

NSYs are under control of NAVSEA 04 and are not required to submit their QMS procedures for NAVSEA acceptance. When accomplishing alterations/SCs as AITs, they shall comply with the requirements of the NSY's QA Policies and Procedures. NSYs performing AIT work at other activities will develop an AIT QA Workbook and the designated AIT Manager will develop a QA oversight plan per guidelines in SUBSECTION H-3.11 and Exhibit H-5.

H-3.11.1.1 Initial Acceptance

Initial acceptance consists of acceptance by either NAVSEA 04, SUPSHIP, or the RMC. Contractors and government activities performing AIT work will submit their QMS for review and acceptance to NAVSEA 04RP, SUPSHIP, or the RMC. The QMS shall comply with the requirements of Exhibit H 4. The AIT's quality system is subject to periodic compliance audits by Government representatives throughout the execution of AIT Navy contracts.

RMCs and SUPSHIPs are authorized to review and accept an AIT's QMS. The RMCs and SUPSHIPs will forward a copy of the acceptance letter to NAVSEA 04RP for their master files.

Note: Master Ship Repair Agreements (MSRA) and Agreement Boat Repair (ABR) contractors: Contractors performing AIT work who are MSRA or ABR Agreement Holders are not required

to submit their QMS to NAVSEA 04R, but must maintain a current QMS that has been accepted by the designated RMCs/SUPSHIPs. On an annual basis, RMCs/SUPSHIPs will provide NAVSEA 04R with a listing of their qualified MSRA and ABR contractors.

NAVSEA review of the AIT's documented QMS will include review of quality manual (Level I) and supporting implementing procedures (Level II) to demonstrate compliance to documented processes required by reference H(d) (SI 009-04 (ISO 9001)). Work instructions (Level III) and process control procedures, while an integral part of the QMS, are not reviewed and accepted by NAVSEA 04. For AIT work, the supervisor, as identified in NAVSEA SI 009-04, is the AIT Manager, when work is not under the control of SUPSHIP/RMC.

H-3.11.1.2 Revoking of QMS Acceptance

The AIT Manager is responsible for reviewing AIT quality trends and taking action when negative trends can degrade product quality IAW AMQAP requirements of Exhibit H-5. When AMQAP evidence reveals a severe breakdown in the AIT's compliance with their documented QMS, the AIT Manager shall notify the AIT Sponsor of this breakdown and make a recommendation to NAVSEA 04 to suspend/revoke their acceptance of the AIT's QMS. NAVSEA 04 has the authority to revoke a QMS acceptance where evidence exists (via audit reports, Trouble Reports, Method D letters, AIT Manager recommendations, AIT Sponsor evaluations, etc.) of significant quality issues or non-compliance to the QMS with prior notification to the AIT Sponsor.

H-3.11.1.3 QMS Resubmittal

The QMS requires a one-time submittal/acceptance unless the AIT changes or amends the QMS documented procedures, NAVSEA SI and/or References change or AIT's status changes IAW NAVSEA SI 009-04. Submit one legible copy, in hard copy or approved transferrable media, of any revisions to the accepted QMS identified in NAVSEA SI 009-04, paragraph 3.1 to QMS Acceptance Authority (NAVSEA/SUPSHIP/RMC) within 7 days of AIT approval. Three years from the NAVSEA acceptance letter date, the AIT will receive a RMMCO warning reiterating that changes to the AIT's QMS documented procedures require resubmittal. Within this three years' timeframe, the AIT shall either (i) notify NAVSEA that "no changes to the documented QMS have occurred and that the documented QMS meets the current FY NAVSEA SI 009-04 requirements" or (ii) resubmit their QMS documented procedures.

H-3.11.1.4 Invoking AIT QMS

The AIT Manager will ensure the AITs have a QMS/plan accepted by NAVSEA 04 (that complies with Exhibit H-4) prior to installation, and that proper training, certifications, and QA/control are in place for the work identified. Upon request by the designated NSA, the AIT will be required to show proof that their QMS has been accepted by NAVSEA 04. Additionally, all other contractually related procedures requiring acceptance shall be available to the NSA prior to the start of ship work when requested.

H-3.11.1.5 AIT Quality Assurance Workbook

The AIT Manager must ensure that the selected AIT develops an AIT QA workbook that outlines the scope and process of the installation. In addition, the AIT QA Workbook will outline all personnel requirements and identify procedures that will be used IAW reference H(d). The AIT QA Workbook must be presented by the AIT to the AIT Manager in advance of the install for satisfactory review and be available onsite during the entire installation. The AIT Manager will maintain Objective Quality Evidence (OQE) that a satisfactory review has been completed. In cases where multiple related alterations/SCs are being installed by the same AIT, a single AIT QA Workbook covering all alterations/SCs is acceptable, providing any unique requirements are clearly identified and addressed. Where the AIT installation consists of stand-alone software only changes, an AIT QA Workbook is not required unless otherwise directed by the AIT Manager. If AIT QA Workbooks are not provided for stand-alone software only changes, the AIT/OSIC/ISEA loading the software must have the install and test procedure documentation available during RMMCO Check-In and onboard the ship.

The QA workbook will contain at a minimum, the following sections:

Section 1: Alteration/SC description – This is a copy of the approved SAR/SCD that describes the scope of the alteration/SC.

Section 2: Personnel – This is a comprehensive list of all AIT personnel, including subcontractors and temporary employees that will be onboard during the installation. This section must include up-to-date qualifications, certifications and training received that is relevant to the installation and pre-fabrication. Minimum requirements as to required personnel certifications are provided in Exhibit H-4 (AIT Quality System Requirements). The AIT shall cross-reference personnel to qualifications and/or certifications.

Section 3: Processes –OQE is required to show that the AIT is operating under an accepted QMS. The AIT shall list in this section all NAVSEA SIs, approval letters, and/or processes that are relevant to the work being performed. The AIT shall develop all processes and cross-reference with personnel qualifications that are provided in previous section.

Section 4: Installation POA&M – This provides a breakdown of AIT work being accomplished in a sequence of events and provides time requirements. Specific requirements for the POA&M are contained in SUBSECTION H-3.5.1. A sample POA&M is provided in Exhibit H-2.

Section 5: SC/ SIDs or Install Procedures – For alterations/SCs where SIDs are required, the AIT will enclose a list of applicable hull specific SIDs from the PY reflecting the latest drawing revisions. All applicable LARs are to be included in the list. For internal equipment modifications, the AIT will include the installation instructions that were developed by PARM/ISEA.

Section 6: T&I Plan – This section provides a step-by-step outline for accomplishing the work and testing. This ensures that work is accomplished safely, meets the

technical specifications, and provides OQE that work has satisfied all requirements. This provides the Inspections (I), Verification (V) and Government (G) checkpoints (referred to as I, V & G points) that demonstrate the AIT has completed all procedures. SOVT/operational tests or event and any other tests and inspections required by other applicable References shall be included in the T&I Plan.

Section 7: T&I Records – Includes all documentation for all testing and inspections that are referenced in Section 6. The AIT Manager will ensure AITs retain all completed records of this section after installation has been completed. If a Test Procedure that is listed in Section 6 is not available at the start of installation, include the ECD and POC for that document.

AIT Sponsors are required to maintain records of the install IAW reference H(n) (JFMM, Volume V, Chapter 10).

H-3.11.2 Quality Assurance Oversight

The following subsections provide QA oversight requirements and responsibilities.

H-3.11.2.1 Performance Surveillances/Compliance Audits

The NSA and AIT Manager or designated representative will perform process surveillances and product inspections of installations on a sampling basis and will use the sampling evidence to indicate conformance or nonconformance with requirements of the tasking/contract and this specification. NAVSEA 04RP is responsible for monitoring compliance with this document at both Command and field activity levels. NAVSEA 04RP shall audit, on a sampling basis, AIT Sponsors, AIT Managers, and NSAs for compliance with the requirements of this document. In addition, the accepted QMS will also be subject to periodic compliance audits to the requirements of Exhibit H-4, as directed by NAVSEA 04RP.

H-3.11.2.2 AIT Manager's Quality Assurance Program

The AIT Manager will administer the AMQAP, as outlined in Exhibit H-5, to evaluate the effectiveness of the AIT's QMS.

H-3.11.2.3 Quality Assessment

The AIT Sponsor will ensure an annual quality trend analysis of FY data, using the suggested format in Exhibit H-5, for each sponsored AIT is performed, using oversight reports, deficiency reports, departure requests, critiques, customer feedback, etc. to evaluate AIT performance. The AIT Sponsor will report results of this trend analysis including weaknesses identified and actions taken to NAVSEA 04RP by February of the following year.

H-3.12 AIT Readiness to Start Message for Submarines

At least seven (7) days prior to the scheduled start of the AIT installation, the AIT Manager will release a "Readiness to Start Message" following the format provided in Exhibit H-3. The AIT Manager will address each area identified in the Readiness-to-Start Message. The message will reference all pertinent scheduling information and coordination, the industrial level skills required, design readiness, ship requirements, effects of the alteration/SC, ships spaces affected, impacts, and any other information.

H-3.13 Electronic RMMCO Form Submission

The following subsections provide requirements for both RMMCO AIT check-in and check-out.

H-3.13.1 General

The RMMCO AIT Check-In/Check-Out application process provides the AIT Manager/AIT OSIC with a tool to initiate the check-in procedures required for the installation of an alteration/SC aboard ship. This application shall be used by the AIT to ensure rapid, problem-free completion of the check-in requirement. To mitigate potential delays during the physical RMMCO check in process, the AIT Manager will ensure that the electronic RMMCO Form is submitted at least 30 days prior to the scheduled installation start date. RMMCO Gatekeepers will pre-screen the RMMCO Form within 10 working days of electronic submission. To conduct the RMMCO Check-In, access to the RMMCO web application must be obtained by requesting access at the website. With website access, follow the steps to submit the RMMCO Form. On-line help is available if necessary. Attach applicable documents pertaining to the installation to the RMMCO Form IAW SUBSECTION H-3.13.2.

Note: When a team is performing a restoration or repair on existing equipment or software (i.e. software patch) where the ILS is already on board and does not require a configuration change, then no RMMCO check in is required.

H-3.13.2 Required Documentation for Electronic RMMCO Form Submission

The required documentation for Electronic RMMCO Form Submission follows:

a) Copy of the ILS certification or TYCOM-approved ILS Risk Assessment

   Note: There shall be a separate approved ILS Certification for each alteration/SC. Individual ILS Certifications can be applicable to multiple classes of ships (i.e. CG,

DDG, LPD, LHA, LHD, LSD, etc.) and/or multiple ship hulls (i.e. DDG-74, DDG-78, LPD-17, LPD-18 etc.).

Note: For Aircraft Carriers only, multiple ship changes are authorized to be included on a single ILS certification if all the criteria in Section 6 of reference H(ac) are met. When there are multiple ship changes on one ILS Certification, the AIT is required to have all the ship changes checked-in and checked-out of RMMCO at the same time.

Note: RMMCO shall not stop production of a SPM or TYCOM authorized SC based on any ILS product discrepancy. Discrepancies shall be noted and resolved with PARM and/or SPM prior to RMMCO check out.

b) As required in SUBSECTION H-3.11.1.5, a list of applicable hull-specific SIDs from the PY reflecting the latest drawing revisions. All applicable LARs are to be included in the list.

c) Copy of CDMD-OA work file data contained in either the CDMD-OA AIT Verification Report or other equivalent documentation (see SUBSECTION H-3.9).

d) If available, SOVT/Test Procedure title page identifying the alteration.

e) SPM or TYCOM Authorizing document.

H-3.13.3 Reasons for Placing an Installation on Gatekeeper Hold

During the pre-screening process, the RMMCO Gatekeeper reviews authoritative data sources, confirms the Alteration/SC is authorized by the SPM or TYCOM and that it has an approved QMS. Gatekeeper will place Alterations/SCs on Gatekeeper Hold for any of the following reasons:

a) No Approved SID or SID Waivers: For Surface Ships and Aircraft Carriers, installation shall not be placed on hold if an emergent approval has been issued IAW reference H(ac).

b) No Approved SAR/SCD/Legacy Alteration: For Surface Ships and Aircraft Carriers, installation shall not be placed on hold if an emergent approval has been issued IAW reference H(ac).

c) Alteration/SC not scheduled in NDE-NM, except submarine alterations.

d) No AIT Lead POC information

e) No Government OSIC POC information

f) No Government AIT Manager POC information

g) No Government Sponsor POC information

h) No approved Final or Interim ILS Certification or TYCOM approved ILS Risk Assessment.

i) No SPM or TYCOM authorization

j) AIT QMS has not been accepted by NAVSEA 04RP.

k) No Approved C5IMP Baseline.

l) No JCN listed in CSMP.

m) CDMD-OA installation planning workfiles not submitted.

n) No IA Certification or approved risk waiver.

Note: If the IA certification is current but expires prior to the end of the availability RMMCO will approve the RMMCO Form and notify the Ship's Force POC, TYCOM, OSIC, AIT Manager and Government Sponsor of the expiration date. However, if the IA certification has not been approved or accredited or has expired prior to the installation start date, the RMMCO Form will be placed on Gatekeeper Hold.

H-3.14 RMMCO Physical Check-In

The following subsections provide AIT guidance for physical RMMCO check-in.

H-3.14.1 General

The AIT Manager/OSIC/AIT will check-in with RMMCO prior to reporting to the ship. During check-in, RMMCO will review documentation provided by the AIT Manager/OSIC/AIT.

Note: AIT OSIC/AIT Lead will check in with the local Environmental, Safety & Occupational Health (ESOH) office as required by NSA.

H-3.14.2 AIT Installation Package Required for Physical Check-In

RMMCO will require the following AIT installation package for physical check-in:

a) AIT QA Workbook prepared IAW SUBSECTION H-3.11.1.5

b) Copy of the ILS certification or TYCOM-approved ILS Risk Assessment

c) Release of all Gatekeeper Hold items previously identified

H-3.14.3 RMMCO Check-In Form

Once the AIT installation package is verified, the RMMCO Check In/Check Out Form will be printed by RMMCO or the NSA and provided to the AIT. This form identifies all items that will

require signature verification of accomplishment and/or receipt of the list of ILS deliverables from designated Ship's Force/NSA representatives prior to check-out.

H-3.14.4 AITs Not Meeting Requirements

For AITs not meeting any of the above requirements, the AIT Manager, NSA Production POC and ship will be notified of the deficiencies by email from RMMCO, and RMMCO will not allow the installation to commence until resolved. The ship in which the work is being performed shall not allow work to commence until receiving notice from RMMCO that all installation requirements have been satisfied.

H-3.15 AIT In-Brief

The purpose of an in-brief is to provide an overview and objectives of the alteration/SC to be accomplished. An in-brief will be scheduled and coordinated by the AIT OSIC. It will be conducted after RMMCO Check-In and prior to the initiation of alteration/SC accomplishment, as outlined in Exhibit H-6. Whenever possible, for alterations/SCs which impact several systems or spaces or will require more than a week to complete, or will impact critical systems identified in SUBSECTION H-3.5.2, the in-brief will be held for key personnel prior to the start of alteration/SC accomplishment.

The following personnel shall be invited to attend the in-brief: applicable Ship's Force personnel and/or designated representative to include, but not limited to, the following:

a) CO, XO, Ship's Availability Manager, applicable Department Heads and Division Officers, SUPPO, and Technical/Operator Personnel (i.e., FC, ET, OS, etc).

b) Also invited shall be: TYCOM, Squadron, NSA, LMA, Shipyard Trades Personnel (i.e., Electrical Foreman), Lead Zone Manager (i.e., HM&E, Combat Systems, Engineering), Work Integration Representative, PY OSRs, and Program Manager Representative (PMR).

Note: AITs that have not held an in-brief shall be denied permission to start installation of an alteration/SC.

H-3.16 Local Area Requirements Training

AITs are to follow the local area training requirements of the industrial facility where the alteration/SC is to take place IAW Exhibit H-9.

H-3.17 Work Authorization Form/Tag-Out

During accomplishment of the alteration/SC, various circuits, pipe runs, equipment, etc., may have to be temporarily deactivated or placed in a reduced operating status. The CO's designated representative and assigned NSA and/or LMA will be notified in writing, using a WAF IAW reference H(n) of equipment and systems that require isolation to accomplish the alteration/SC. During availabilities when the NSA and/or LMA are coordinating all WAFs and Tag-Outs, this request should be made to the NSA and/or LMA.

Notification will be provided prior to initiation of ship work so that tag-outs can be accomplished as required by reference H(r). Notification will be made at least forty-eight (48) hours prior to required deactivation to ensure proper coordination with other on-going work, or IAW local NSA and/or LMA policies. During periods of heavy industrial activity, 48 hour notification may be insufficient to ensure proper coordination and accomplishment of isolation. In these circumstances, notification should be accomplished as early as possible and/or as required by the MOA between NSA, LMA, and AITs. AIT members will comply with all the requirements identified in reference H(r).

All individuals who perform work onboard Naval Vessels shall be indoctrinated in basic purpose, use and restrictions associated with the Tag-out Users Manual (TUM) IAW Exhibit H-9.

H-3.18 Execute Alteration/Ship Change

The following subsections discuss AIT make-up, training, skills, transportation and safety considerations.

H-3.18.1 AIT Formulation

The make-up of the AIT will be as determined by the AIT Manager, based on the skill requirements of the work to be accomplished and the number of shifts the AIT is planned to work. Each AIT will be outfitted with all tools and materials required to accomplish the alteration/SC, including, but not limited to, hand tools, Personal Protective Equipment (PPE), General Purpose Electronic Test Equipment (GPETE), special purpose electronic test equipment, Installation and Check-Out (INCO) spares, and special alignment equipment. For those skills that require specific training, qualification and/or certification (welding, electrical connector assembly, SUBSAFE, DSS-SOC, SIGSEC, TEMPEST, PCMS installation, Level 1, fiber optic cable/equipment installation, FBW, etc.), AIT members performing these functions shall be fully trained, qualified, and certified IAW Exhibit H-9. Substantiating documents shall be made available for review by the NSA and/or LMA upon request.

H-3.18.2 Transportation and Billeting

Transport of AIT personnel, tools, material, and support equipment to and from the installation site and all billet arrangements shall be the responsibility of the AIT.

H-3.18.3 Participation of Other Activities

The AIT Manager will assess the necessity of participation of other activities (e.g., system/equipment ISEA) required for accomplishment of conjunctive or associated alterations/SCs. The participation shall be documented in a MOA to ensure responsibilities for work are clearly defined and understood. Where an ISEA or other activity is required for testing or certification of equipment/systems associated with the accomplishment of the tasked alterations/SCs, the testing/certification plan will also be coordinated with the AIT Manager.

H-3.18.4 Safety Considerations

The following subsections provide requirements for safety hazard risk assessment, fire safety plan and familiarization with damage control equipment location.

H-3.18.4.1 Risk Assessment, Risk Abatement, and Personal Protective Equipment

AIT members will use Operational Risk Management (ORM) or similar Risk Assessment and Abatement of Hazards program to anticipate and mitigate the hazards associated with the task and the potential exposure to dangers in the work environment. Identified/recognized hazards will be abated using the following hierarchy:

a) Employment of engineering controls

b) Employment of administrative controls

c) Use of PPE

The appropriate PPE will be worn when there is potential exposure to hazards. As a minimum, hardhat, steel toe shoes, safety glasses, and earplugs shall be with the employee, ready for use, should the hazard arise. Local requirements for PPE will be specified. AIT personnel shall wear PPE when boarding and when walking around a vessel. AIT personnel shall bring PPE or arrange the acquisition of PPE when visiting sites (such as warfare centers, RMCs, and shipyards) where there is a potential for exposure.

H-3.18.4.2 Fire Protection

IAW 29 CFR 1915, Subpart P, each AIT must have a fire safety plan for their employees. This plan must comply with the host employer's fire safety plan. Additional fire protection requirements are provided in reference H(ax).

H-3.18.4.3 Damage Control, Fire Fighting and Fire Protection Equipment

AIT members shall familiarize themselves with the location and details of all exits, emergency reporting systems, damage control, firefighting, and fire protection equipment or systems (e.g., detection, suppression, and equipment stowage) located to support their work areas in the event an AIT member observes or is exposed to an emergency or casualty. AITs, (except fire-watches) are not expected to provide any initial emergency casualty responses, except reporting and evacuation, but knowledge of these emergency systems and Damage Control components increases an individual's survivability per the host employer's fire safety plan identified in SUBSECTION H-3.18.4.2.

H-3.18.5 Control and Protection of Classified and Unclassified Information

The following subsections for guidance for the control and protection of classified and unclassified information.

H-3.18.5.1 Unclassified Information

All activities shall familiarize themselves with the control and protection of Controlled Unclassified Information (CUI) as prescribed by reference H(i), Volume IV to include: For Official Use Only (FOUO), Unclassified Naval Nuclear Propulsion Information (U-NNPI), which is marked Not Releasable to Foreign Nationals (NOFORN), and Unclassified Controlled Nuclear Information (UCNI).

H-3.18.5.1.1 Naval Nuclear Propulsion Information

All activities shall familiarize themselves with the control and protection of NOFORN. Specifically, these items cannot be given to foreign nationals, nor published or shown to those persons who have not agreed to properly protect the information from public release.

Note: NOFORN documents shall only be placed in databases that are authorized to store NOFORN (NDE and SPIDER are data bases that are currently not authorized to store NOFORN documents).

When providing a specification, drawing, or other technical document containing U-NNPI to a prospective contractor and subcontractor for the purposes of soliciting bids, the contracting activity shall use a stipulation IAW reference H(m) to obtain a prospective contractor “Security Agreement for Protection of U-NNPI” to control or protect the U-NNPI until subsequent contractual controls are established.

Further information on safeguarding of Naval Nuclear Propulsion Information (NNPI) can be found in reference H(m), reference H(ap), and applicable shipyard security instruction (e.g., NNSY's Security Program Manual (SECPROMAN) Vol 1).

H-3.18.5.2 Classified Information

All activities shall familiarize themselves with the control and protection of classified material as specified in the reference H(j), Chapters 4 (marking) and 5 (safeguarding).

H-3.18.5.2.1 Restricted Data

Restricted Data (RD) is a special category of classified information per the Atomic Energy Act of 1954. RD is part of the Naval Nuclear Information Program. RD information remains classified until declassified by the Department of Energy (DOE). All activities shall familiarize themselves with the control and protection of restricted data as applicable to their work and Job site. Further information on safeguarding RD can be found in applicable shipyard security instruction (e.g., NNSY's SECPROMAN Vol I).

H-3.18.6 Housekeeping

The AIT will perform general housekeeping in all Shipboard and Pierside impacted areas. At the completion of each shift, each work site shall be broom-cleaned. All trash and debris will be removed from the ship, and all hazardous waste, industrial waste, and/or excess hazardous

material will be properly disposed. The AIT will properly dispose of all installation and associated material and will ensure equipment is protected from contamination and damage during the alteration/SC installation process. Additionally, reference H(ax) provides requirements for housekeeping and rigging of temporary services.

NAVSEA SI 009-06, Maintaining Protection and Cleanliness from Non-Radioactive Contaminate Producing Operations, and NAVSEA SI 009-07, Confined Space Entry, Certification, Fire Protection and Housekeeping, provide additional housekeeping requirements. The AIT will also ensure that all hoses, welding leads, temporary ventilation trunks, and other industrial service components and materials are kept clear of watertight doors and hatches or be capable of removal IAW reference H(q) for Submarines. Rigging of temporary service leads and hoses will be kept clear of the decks on temporary trees or brackets. They shall be arranged to minimize tripping and other safety hazards and to allow ready access through doors, hatches, and passageways.

H-3.18.7 Material Requirements

All material required to be installed or provided as part of an alteration/SC should be assembled by the AIT for each tasked hull. This material includes all material (HCPM and AIT-procured) required by the installation drawings and all logistic support items required to be turned over to the ship including special tools/test equipment, interim spares, APLs/Preliminary APLs, maintenance plans, TMs, test procedures, PMS documents, Maintenance Assistance Modules (MAMs), Operating Space Items (OSI), Material Safety Data Sheets (MSDS), etc. All ILS products will be provided by due dates required in reference H(ac) Section 6 and Appendix G.

Specific material requirements include:

a) When ordering AIT-procured material (other than shop stores-type material) from the Federal Supply System (FSS), the AIT Manager shall first contact the Material Item Manager to determine whether or not the supply activity has pre-staged or reserved material for the applicable alteration/SC.

b) For ease of accomplishment and reduced onboard effort, prefabricated material (foundations, cable/harness assemblies, etc.) should be used to the maximum extent possible.

c) All material in SUBSAFE boundary shall be accompanied with a full set of certification documentation IAW reference H(y) to expedite alteration/SC accomplishment.

d) All DSS-SOC material shall be controlled and protected, and shall be accompanied with a full set of certification documentation IAW reference H(p) to expedite alteration/SC accomplishment.

e) Each FBW SCS Submarine Flight Critical Component (SFCC) material shall be accompanied with a Certificate of Conformance (COC) document IAW reference H(as).

f) All material in the SUBSAFE, DSS-SOC and FBW boundary (e.g., Level I), which is temporarily removed as part of a Submarine alteration, shall be controlled, stored and protected while removed IAW references H(y), H(p), and H(as), as applicable, in order to maintain the SUBSAFE, DSS-SOC, and FBW or Level I certification of the material.

g) For NAVSEA and affiliated PEOs, material receipt inspection of non-level material shall be IAW reference H(ad).

H-3.18.8 Incidental Material

For work to be accomplished by the AIT, the AIT will be responsible for supplying all material that is not HCPM, including incidental/expendable (shop stores) material (e.g., tape, solder, welding rods, paint, fasteners, deck covering, insulation, etc.) required to accomplish the alteration/SC. For industrial support by an activity other than the AIT, the activity providing the industrial services shall be responsible for all incidental/expendable material required to accomplish the industrial support.

H-3.18.9 Installations in Nuclear-Powered Ships

References H(k) and H(ah) define the work in nuclear-powered ships which must be assigned to nuclear capable activities (e.g., nuclear-capable shipyards). Reference H(ak) defines requirements for the conduct of contract work onboard nuclear-powered ships (e.g., the work in nuclear-powered ships that need not be assigned to nuclear-capable activities). When conducting work in a nuclear-powered ship, it may not always be readily apparent that modifications or changes in the nuclear-powered ship affect reactor plant systems, operations, or personnel safety. Therefore, it is of the utmost importance that reference H(ah) and the associated requirements in reference H(ak) be reviewed to ensure that work in a nuclear-powered ship is in compliance with these requirements. The AIT OSIC is responsible for this review during execution. The NSA and LMA should be requested to assist in review of changes to specifications during execution to ensure requirements are met.

H-3.18.10 Workmanship

This section provides AIT workmanship, work practice and quality requirements as follows:

a) Workmanship and work practices shall meet the requirements of all contract specifications, including applicable NAVSEA SIs or Submarine Maintenance Standards, as invoked.

b) AITs and their subcontractors will be required to accomplish work under an accepted QMS IAW SUBSECTION H-3.11.1. Subcontractors that perform small portions of an installation may use the prime AIT contractor's QMS procedures that are applicable when invoked in a subcontract purchase order. The AIT's QMS will include, or make reference to, procedures that will ensure product conformance. AIT sponsor/NSA (or PY when tasked) will verify and substantiate the oversight required to ensure that all work in the assigned availability is authorized and completed in compliance with applicable technical requirements and

maintenance/modernization policy, and that all work meets schedule, cost, quality, and environmental/safety requirements. AIT Sponsor/NSA participation will ensure cradle-to-grave conformance to ship standards throughout the entire AIT installation process. When requested in support of NSA spot-checks conducted in their oversight role, the AIT will provide documentation showing the requirements included in Exhibit H-4 are met (i.e., welder qualifications, etc.). The AIT is responsible for the quality of the alteration/SC installation, including subcontractor work, and for ensuring subcontractors adhere to the requirements of this specification. The OSIC will ensure the AIT is following its QMS procedures, quality inspection and Test Plan, applicable safety and environmental compliance requirements, and technical instructions. All parties shall report all noted AIT deficiencies to the AIT OSIC and/or NSA in writing, using the format of Exhibit H-5, Attachment A, or NSA-provided equivalent form. The AIT OSIC will respond, in writing, with corrective action and/or corrections.

H-3.18.11 Work Affecting Critical Systems or Critical System Boundaries

If the work scope changes and affects critical systems as defined in SUBSECTION H-3.5.2, it is subject to the same requirements of that section.

H-3.18.12 Status Reports and Meeting

The following subsections provide guidance for AIT status reports, progress reports and periodic meetings.

H-3.18.12.1 Task Status Report

The AIT OSIC will ensure that a periodic Task Status Report is submitted to the AIT Manager. AIT Manager will forward copies to the NSA, LMA, SPM, applicable TYCOMs, and LCM, as requested. The format of Task Status Reports will be identified in the MOA. For AITs with more than one alteration/SC task from the same AIT Manager, the reports may be combined in the same document, but the data shall be segregated by alteration/SC.

H-3.18.12.2 Periodic Progress Reports

When invoked, AITs are responsible for complying with the reporting requirements of NAVSEA SIs for updated production schedules and progress reporting (e.g., actual and revised start/finish dates, percent complete, etc.), typically through weekly POA&M updates. For the purposes of work deconfliction and schedule integration, additional reporting may be required when the NSA implements a Work Package Integration specification IAW reference H(n), volume VI, chapter 43. When a required periodicity for progress reports is not specified, the NSA, LMA and Ship's designated point of contact shall be informed of the progress on a weekly basis.

H-3.18.12.3 Periodic Meetings

The NSA and/or LMA will require the AIT OSIC/AIT Lead to participate in routine and special progress meetings for the purpose of work coordination and/or progress review. These typically take the form of Daily Production meetings and Weekly Progress reviews (or at NSYs, DPL or

SRV), but local practice shall dictate periodicity and attendance requirements. In the event that regular work coordination meetings are not scheduled, AIT work shall be conducted IAW the POA&M/production work schedule presented at the in-brief. It will be the responsibility of the AIT to execute required work-around restrictions that may be imposed due to emergent ship's evolutions. Any changes to the work schedule provided at in-brief shall be reported to the NSA, LMA, and Ship's designated point of contact as soon as changes are identified.

H-3.18.13 Final Work Close-Out

After completion of all ship work, the AIT will conduct final housekeeping and worksite close-out in all areas involved in the alteration/SC accomplishment. With the exception of cryptographic gear, equipment that is removed as part of the alteration/SC and is to be turned-in for accounting purposes shall be the responsibility of the AIT, though removal may require coordination with the NSA's Government Property Manager. Turn-in of cryptographic equipment will be the responsibility of the ship. The NSA and LMA shall be notified by the AIT of their planned departure from the alteration/SC site. All outstanding discrepancies, environmental reports (paint, solvent, adhesive, welding, fuel, abrasives usage report, etc.) and the corrective POA&M shall be indicated in the completion report. All special badges, passes, check-out forms, dosimeters, etc., shall be returned, as required, IAW local NSA and/or LMA requirements.

H-3.18.14 Design Changes During Installation

If installation cannot be accomplished IAW the approved SIDs, proposed changes must be documented via LAR IAW reference H(a). The LAR must be submitted to and approved by the PY before incorporation of the change can be made onboard ship. Minor changes that can be addressed via red lines to the drawing will be brought to the attention of the PY OSR to ensure the change does not require a LAR. Any changes, via LAR, need to be annotated as a red line on the drawings and incorporated into the final "as-installed" drawings per SUBSECTION H-3.24.4.

H-3.19 Clear Work Authorization Form/Tag-Out

The following subsections provide guidance for AITs regarding WAFs and the Tag-Out process.

H-3.19.1 WAF

Once the alteration/SC is completed, the WAF is signed by the repair activity as work completed and forwarded to Ship's Force for clearing of Tag-Out Record Sheet line items IAW reference H(n) if a tag-out was required. If no formal test program is required, once the alteration/SC testing is complete, then the repair activity signs the WAF.

Following completion of testing and setting of appropriate system status (e.g., clear tags and perform valve line-ups as appropriate for the situation or setting equipment to certain conditions), the repair activity signs the WAF as closed out and forwards it to Ship's Force for review.

The WAF process, administration, form, and instructions are contained in reference H(n), Volume IV, Chapter 10.

H-3.19.2 Tag-Out

Once the alteration/SC is completed, remove danger and caution tags immediately when the situation requiring the tag-out has been corrected and the clearing of tags has been authorized.

The tag-out process, requirements, training, and instructions can be found reference H(r).

H-3.20 SOVT/Stage Testing

SOVT/Stage Testing requirements are provided in following subsections.

H-3.20.1 SOVT/Stage Testing Requirements

The AIT and/or ISEA will conduct SOVT/Stage Testing for the alteration/SC and all equipment directly impacted by accomplishment of the alteration/SC IAW the AIT POA&M, AIT QA Workbook, T&I Plan, approved drawings, test procedures, and applicable ship specifications. As applicable, utilize references H(h) and/or H(ba) in the development of the test requirements.

Systems shall be subjected to appropriate testing to demonstrate operational acceptability including SIGSEC, TEMPEST, EMC, SUBSAFE, DSS-SOC, FBW, Collective Protection System (CPS), etc., as applicable. Such tests will be conducted under conditions simulating normal service conditions as closely as possible. The AIT will also conduct inspection and testing of all systems that have had equipment or machinery removed and reinstalled due to interference IAW NAVSEA SI 009-23. Systems and equipment requiring permanent modification or relocation to accommodate the alteration/SC are not to be considered interference but part of the alteration/SC design.

When an alteration/SC is to be accomplished during a CNO Availability, test requirements for Submarines shall be submitted to the NSA and LMA NLT A-6.5 for discussion during the AIT Meeting. Test requirements for Surface Ships and Aircraft Carriers shall be submitted to the NSA and LMA as part of the AIT POA&M no later than milestone date specified in reference H(ac). The test requirements submittal shall include a list of tests to be conducted including the test procedure identification, expected duration of the tests, Ship's Force personnel support requirements, support systems requirements, and any special requirements (rotate and radiate, active sonar, radio transmission, at-sea test, etc.). This will ensure that testing requirements do not conflict with other on-going ship work or present possible personnel or equipment safety hazards. The NSA and LMA shall be notified prior to conducting any shipboard testing. For Submarines, all tests shall be authorized and listed on the applicable NSA and/or LMA TP prior to accomplishment. The OSIC will keep the NSA and LMA informed of the status of testing.

An individual alteration/SC will not be considered complete until a SOVT and/or appropriate stage testing has been successfully accomplished and witnessed by cognizant Ship's Force personnel. However, SOVT is not to be confused with EOA/EOI/Production Completion Date (PCD). The AIT will maintain completed test reports in the AIT QA Workbook during accomplishment of the alteration/SC testing. The OSIC/AIT Manager/ISEA will provide a

complete set of test reports to Ship's Force, NSA, and the LMA at the completion of the alteration/SC testing. A copy of the cover sheet, exception sheet and signature sheet is required at RMMCO physical check-out per SUBSECTION H-3.24.3.

Note: An individual alteration/SC will not be considered complete until a SOVT and/or appropriate systems integration testing has been successfully accomplished, and Ship's Force has witnessed and signed off the applicable test document.

H-3.20.2 SOVT Personnel

Personnel involved with SOVT testing shall comply with all local directives for the following activities:

a) Scheduling and conducting SOVT Testing

b) Security clearance and access requirements

c) Safety and PPE

d) Housekeeping requirements

H-3.21 Ship's Force Training

If required, training for this shipboard system installation shall be provided as outlined in the approved Navy Training Summary Plan (NTSP) and within the corresponding ILS Certification for the alteration/SC. Training for shipboard system installations without a Navy-approved NTSP will be delivered IAW a PARM/ISEA-approved Installation Training Package. Actual conduct of the training shall be performed by an activity authorized by the PARM/ISEA to deliver the approved training package and process. The AIT Manager/OSIC will coordinate accomplishment of any prescribed alteration/SC training, and verify that it is conducted and documented in strict conformance with Section 6-4.7 of reference H(ac). As part of the alteration/SC process the AIT Manager/OSIC shall complete and ensures Ship's Force signs the Training Verification Statement as part of the ACR, Exhibit H-3, and ensures a signed copy of the Training Verification Statement is provided during RMMCO physical check-out.

The following five minimum standards are established for all Post-Installation Training:

a) Advanced planning, coordination, and scheduling of training IAW ship's preferences

b) Identification of targeted crewmembers, pre-qualified for post-installation training IAW Fleet Training Management and Planning System (FLTMPS) criteria

c) Training follows Program Office-approved training package with defined objectives and measured achievement

d) Training delivered by qualified personnel IAW Program Office-approved process

e) Training documented in a comprehensive package of metrics documenting all elements of the training delivered

H-3.22 Provide CDMD-OA Updates

Upon installation completion the AIT Manager will ensure the final configuration data is provided to the alteration/SC PARM/ISEA. The AIT shall coordinate with the applicable alteration/SC PARM/ISEA to ensure the final "as installed" equipment configuration is updated using marked-up/red-lined CDMD-OA work file data contained in either the AIT CDMD-OA Verification Report or other equivalent documentation (see SUBSECTION H-3.9); with copies provided to the designated Ship's Force representative and NSA or designated SPM activity. The applicable PARM/ISEA shall be responsible to update CDMD-OA and forward the updated work files to the CDM for validation. At check-out, AITs are not required to provide further proof of work file submission or configuration validation of installation. The CDM will conduct the final validation within 30 days of install completion and will change the ISC IAW reference H(ac).

For Ohio Class Submarines (SSBN/SSGN), AITs will coordinate with the appropriate TRF KB/IMF Bangor for OPNAV 4790/CK processing IAW reference H(e).

H-3.23 ILS Turnover

The AIT OSIC is responsible for delivery (hand carried, shipped or downloaded) of all ILS products, as outlined in ILS certification (i.e., tech manuals, PMS, red-line drawings, training, etc.) IAW reference H(ac) Section 6 and Appendix G to the designated recipient (Ship/NSA or Maintenance Support Center (MSC) for Aircraft Carriers). Also, the AIT OSIC shall obtain required signatures (and MSC Final ILS Review stamp for Aircraft Carriers) verifying delivery, noting any ILS deficiencies, as part of the RMMCO Check-Out process. The AIT OSIC is responsible for providing an itemized inventory utilizing the DD 1149 (if applicable) for all deliverables to the ship with a signature from the appropriate department head or authorized personnel.

Note: A ship's force/ILO representative's signature on the DD 1149 is required for RMMCO check-out.

H-3.24 ALT Completion Requirements

Upon completion of each alteration/SC installation, the AIT Manager/OSIC will ensure the provisions of the following subsections are met.

H-3.24.1 NSA and Ship Out-Brief

An out-brief shall be scheduled and coordinated by the AIT OSIC. The out-brief shall be conducted after completion of the alteration/SC and prior to RMMCO Check-Out. Normally the AIT OSIC will obtain the required Ship's Force and NSA verification signatures on the ACR at the out-brief. The AIT OSIC must check out of RMMCO with completed/signed ACR and completed SOVT. The TYCOM, NSA, LMA, RMMCO/ NAVSEA 21 PMR, AIT OSIC, Ship's

Force, and the local PY OSRs (Program Representative and CDM) shall be invited to attend all out-briefs.

H-3.24.2 Alteration Completion Reporting

The following subsections provide requirements for AIT alteration completion reporting.

H-3.24.2.1 Alteration/SC Completion Report

The AIT OSIC/AIT Lead will fill out the ACR (Exhibit H-3) and obtain signatures on all applicable attachments for each alteration/SC installed. The AIT OSIC will return the signed ACR to the AIT Manager immediately after alteration completion/RMMCO Check-Out.

The AIT Manager will forward copies of the completed and signed ACR IAW Exhibit H-3.

For installations accomplished by AITs, completion and submission of the ACR IAW this TS fulfills the requirements of NAVSEA SI 009-02 (reference H(d)).

H-3.24.2.2 Naval Message Completion Reporting

The AIT Manager/OSIC will provide the draft of the Completion Report Message at the out-brief. Upon completion of the installation, and within seven (7) days of the out-brief, the ship will send a “joint” Naval message reporting completion of the effort, any deficiencies, corrective action plan, and comments from the ship’s CO relative to the installation. The message will indicate any system interface not demonstrated during operational certification/testing and include all known discrepancies assigned to the responsible activity (e.g., the ship, the AIT, and TYCOM). An alteration/SC completion message is required in addition to the ACR required in SUBSECTION H-3.24.2.1. A sample Naval Message Completion Report format is provided in Exhibit H-3. If there are no reported discrepancies, this is the final completion report. In the event that the Naval Message Completion Report lists installation deficiencies, the ship receiving the installation will send a Naval Message Final Completion Report after all deficiencies have been corrected and the ship has accepted the installation as complete.

H-3.24.3 RMMCO Check-Out

After the alteration/SC completion and out-brief, the AIT OSIC or AIT Lead must check-out with RMMCO with the following documents:

a) Completed and signed RMMCO Form

b) Signed Training Verification Report (if applicable)

c) Test procedure/ SOVT cover sheet, exception sheet and signature sheet.

Note: For an individual alteration/SC SOVT and/or appropriate system integration testing to be considered complete, testing will have been successfully accomplished, with Ship’s Force witnessing and signing off the applicable test document.

For any alteration/SC that was authorized as an immature alteration/SC or if any maturity issues were waived, the AIT OSIC or AIT Lead cannot check-out of RMMCO until all maturity issues have been resolved.

Note: For submarines only and for tracking purposes, ILS certification must have final approval before the alteration will be allowed to be removed from Gatekeeper check-out.

RMMCO will review the supplied documentation and make appropriate entries into the RMMCO website to register the completion status.

RMMCO will also collect the DD 1149 (if applicable) signed by Ship's Force for any alteration/SC adding logistic items and provide the DD 1149 to NSA/LMA.

When the AIT Sponsor funds more than one government activity to accomplish a specific portion of an alteration/SC (i.e., industrial work, system testing, training, etc.), all requirements of the alteration/SC must be complete in order for the AIT OSIC or AIT Lead to check out of RMMCO.

H-3.24.4 Redlines of Planning Yard Approved Drawings

The AIT Manager will ensure a red-line mark-up of all PY approved drawings for the alteration/SC, including all LARs, deviations, and variances approved by the PY, are provided to indicate the actual "as installed" configuration on the ship. Specifically, the AIT Manager will:

a) Ensure the AIT provides the red-line drawings for those drawings they are funded to execute.

b) If another activity (e.g., shipyard) is tasked to install a portion of the alteration/SC (e.g., HVAC, foundations, etc.), ensure these drawings are being redlined by the responsible party.

c) Ensure electronic media copies of the as-installed drawings are forwarded to the ship and ship-class PY via LAR no later than 30 days after ship's out-brief.

When funded, the PY will update the SIDS using the red-lined drawings and approved LARS to document the "as-installed" configuration. If funded, the PY will distribute final drawings to the ship and AIT Manager within 30 days of receipt of the red-lines/LAR package.

H-3.25 Configuration Validation

IAW Section 6 of reference H(ac), the NSA or SPM designated activity will accomplish a physical site validation of each alteration/SC configuration as reported by LCM/ISEA and update the ISC within 30 days of installation completion. CDMD-OA database records will be processed IAW reference H(c).

H-3.26 SPM/PARM Marks NDE-NM Record as Completed

The SPM or a designated representative must enter completion data for SHIPALT type SCs in NDE-NM as part of the completion process. PARMs will enter completion data for ECs, FCs, OA, MAs, PRTs, or SWD in NDE-NM. Submarine PARMs will enter completion data for ECs, FCs, ORDALTs, and SWD in NDE-NM and (all but OAs) in NTIRA. Submarine TEMPALTs and OPALTs are tracked internally by the SPM and TYCOM and are not entered in NDE-NM.

H-3.26.1 Alteration/SC Completion Reporting in NDE-NM

Upon installation completion, RMMCO Check-Out, and concurrent with the issuance of the Completion Report and/or Completion Message from the NSA, the SPM, AIT Manager, or PARM, as applicable, will enter in NDE-NM:

a) An ASC of “R” (i.e., Install complete – ILS not verified)

b) The completion date in the ship’s alteration record in NDE-NM.

c) Once the SPM has received either the Alteration Completion Letter or the NSA Completion Message, the ASC will be updated as follows: “C” (i.e., Complete – ILS verified).

For Submarine Program Alterations, the SPM will enter the “R” and “C” completion data in NDE-NM from completion reports received.

EXHIBIT H-1

AIT SUPPORT SERVICES REQUEST FORM

AIT SUPPORT SERVICES REQUEST FORM

Alteration/Ship Change Information

Ship:
Alt/SC Identifier:
Alt/SC Description:

Support Services Required? ☐ Yes ☐ No

(If No, complete only Alt/SC, Schedule, and POC sections.)

Schedule

Production Start Date	
Production Completion Date	
Testing Start Date	
Testing Completion Date	
Work Hours	
Work Week (e.g., Mon-Fri)	

Points of Contact

	Name	Organization/ Company	Phone	Email
Government Sponsor				
Funding POC				
AIT Manager				
AIT OSIC				
AIT Lead				
Test Coordinator (if other than OSIC)				

Support Services

Service	Qty.	Remarks/Additional Info
Crane Services (# of lifts)		Capacity, on-load, off-load, high reach, etc.
Rigger services (# of man days)		Special requirements (HAZMAT, sensitive equipment, etc.)
Conex Storage (sq. ft.)		Include size, temp services required (electrical power, LP air, phones, etc.)
Office Space/Temp Office trailers		Temp services required (phone/FAX lines, office equipment, custodial services, etc.)
Lay-down Area (sq. ft.)		Special requirements (enclosed, environment controls, power, etc.)
Material delivery and storage requirements		Number of boxes/pallets, special handling, special stowage, etc.
Labor (# of man-days)		Describe type of labor requested (i.e. hot work authorization, HAZMAT disposal, etc.)
Critical Systems work (# of man-days)		Describe critical systems work requested for the LMA to perform
Access cut requirements		Location and purpose

Service	Qty.	Remarks/Additional Info
Welding, Burning, Brazing (# of man-days)		Describe scope of hot work requirements
Firewatch (# of man-days)		
Inspection Support (# of man-days)		Gas-free, Signal Security, TEMPEST, weight tests, NDT, etc.
Forklift (# of lifts) (Max lift 2,500 lb.)		
Insulation/Lagging (# of man-days)		
Sandblasting and Painting (# of man-days)		
Deck tile/Formica (# of man-days)		
Sheet metal services (# of man-days)		
Man-aloft requirements (# of lifts/shifts)		
Diver/cofferdam requirements		Number and location of cofferdams required
Equipment/material disposal requirements		Description and number of pieces of equipment/material to be disposed
Material ($)		

Work Scope Space (Compartments/Tanks) Impacted

(Insert additional rows in each table as necessary.)
(A 2D Planning Yard Drawing should be attached if possible)

Space Name	Space No.	Remarks/Additional Info

Equipment Removal

(A 2D Planning Yard Drawing should be attached if possible)

Space Name	Space No.	Equipment	Height/Width/Depth	Weight

Equipment Install

(A 2D Planning Yard Drawing should be attached if possible)

Space Name	Space No.	Equipment	Height/Width/Depth	Weight

Compressed Air

Space Name	Space No.	Remarks/Additional Info

Supply and Exhaust Ventilation

Space Name	Space No.	Remarks/Additional Info

Lighting

Space Name	Space No.	Remarks/Additional Info

Electrical Power

Space Name	Space No.	Remarks/Additional Info

Other Requirements

Space Name	Space No.	Remarks/Additional Info

Staging

Space Name	Space No.	Size	Height	Duration	Install Date	Staging Wrap (Y/N)

Rolling Staging

Space Name	Space No.	Width	Depth

Tank Work

Tank No.	Defuel/pump down (Y/N)	Gas-free (Y/N)

Office Space

# of Desks	# of Parking Spaces	Phone/Data/Fax Requirements

Special Tool Requirements

Other Requirements

Support Services ForTesting

Item/Requirement	Remarks/Additional Info
Spaces/Compartments Involved	
Prerequisites (Crew Training, Lower-level Tests)	
Auxiliary Services (Power, Chill Water, A/C, Dry Air)	
Ship Systems to Support (Radars, SHF)	
External Services (Aircraft, SESEF Range)	
Support Personnel (S/F Operators, MSMO Support)	
Special Conditions (U/W Sea Trials)	
Operational or Safety Limitations (Man Aloft, Launcher Movement, Eng. Plant Configuration)	
Additional Requirements (temporary systems required, etc.)	

Distribution:

AIT Lead or designated person will keep original and make two copies for the Business and Planning Project (BSPO) and Project Engineering Planning Manager (PEPM)).

BSPO and PEPM will use this form to perform estimates, fund, plan, and develop documentation (e.g., TGIs) for NSA portions of work.

Note: If additional requirements are discovered after final funding, a Deficiency Report (DR) shall be submitted.

EXHIBIT H-2

AIT POA&MS

CONTENTS

AIT POA&M Cover Sheet Template – AIT POA&M Scheduling Guide

AIT Schedule Submission Data	(AIT Sponsor/MGR to fill in below)	Description of Data
Ship & Availability:	CVN 69 FY10 PIA	Ship Hull No, FY, Avail Type (PIA, CIA, CMAV…)
SCD/Ship Alt Number-Title:	SCD 12345 - Replace JP-5 Valves	If this is a repair item, enter a general title or high level description of the overall task (i.e. Overhaul Weapons Elevator)
Sponsor Schedule Provided Date:	2/10/2010	This is simply the date of the submittal
AIT Schedule Provided Date:	5/1/2010	Provided by AIT Contractor
AIT Schedule Update Date:		Provided by AIT Contractor
Execution Schedule Update Date:		
AIT Sponsor-POC Name-Phone:	TYCOM - Joe Smith (111) 222-1234	This is the PEO or SYSCOM level sponsor of the alteration
AIT Mgr/OSIC-POC Name-Phone:	SPAWAR – John Jones (333) 111-4444	This is the government activity responsible for the AIT management - could be an ISEA-level organization or the sponsor themselves. This should be the government person to contact with any issues during execution
AIT Company-POC Name-Phone:	GenDyn - John Doe (123) 456-1010	Actual Contractor's Company and POC
Contract Number:		This can assist with issues, such as badging
NAVSEA 04 Letter Required (Y/N)	YES	Work under cognizance of NAVSEAINST 4350.2C (Y/N)

Conjunctive Alt(s):	SCD 45678 - Install	List any conjunctive alts here, or enter "None" - these are alts that MUST be done with this particular work item
First in Class (Y/N)	NO	This is an indicator of whether this is the first time this work has been done on this class of ship. This is to assist with risk management.
Unique Sponsor Job Identifier:		This is simply a free-form field that the sponsor can use, if desired, to enter an identifier that can tie back into any databases they are using (i.e. SPIDER)
Additional Remarks:		Any other information to assist the NSA in properly integrating your schedule

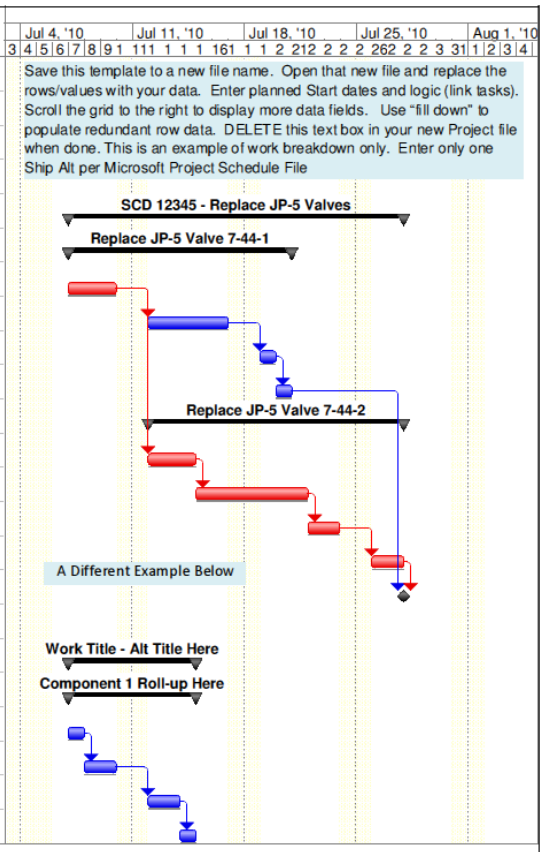
AIT POA&M Task Detail Template

ID	Work Item No	Task No	Title	JCN	Component Summary	Duration	Provider	Start	Finish	Location	System	HotWork	Scaffolding	Work	AS	AF	% Work Complete
1																	
2																	
3																	
4																	
5			SCD 12345 - Replace JP-5 Valves			15days	GenDyn	Wed 7/7/10	Tue 7/27/10			No	No	152hrs	NA	NA	0%
6			Replace JP-5 Valve 7-44-1	VF01-1234	JP-5 Valve 7-44-1	10days	GenDyn	Wed 7/7/10	Tue 7/20/10	7-44-0-E	JP5	No	No	76hrs	NA	NA	0%
7		1U	Remove Valve	VF01-1234	JP-5 Valve 7-44-1	3days	GenDyn	Wed 7/7/10	Fri 7/9/10	7-44-0-E	JP5	No	No	24hrs	NA	NA	0%
8		1H	Repair Valve Off Ship	VF01-1234	JP-5 Valve 7-44-1	5days	GenDyn	Mon 7/12/10	Fri 7/16/10	7-44-0-E	JP5	No	No	32hrs	NA	NA	0%
9		1R	Reinstall Valve	VF01-1234	JP-5 Valve 7-44-1	1day	GenDyn	Mon 7/19/10	Mon 7/19/10	7-44-0-E	JP5	No	No	16hrs	NA	NA	0%
10		1T	Test Valve	VF01-1234	JP-5 Valve 7-44-1	1day	GenDyn	Tue 7/20/10	Tue 7/20/10	7-44-0-E	JP5	No	No	4hrs	NA	NA	0%
11			Replace JP-5 Valve 7-44-2	VF01-3456	JP-5 Valve 7-44-2	12days	GenDyn	Mon 7/12/10	Tue 7/27/10	7-44-0-E	JP5	No	No	76hrs	NA	NA	0%
12		2U	Remove Valve	VF01-3456	JP-5 Valve 7-44-2	3days	GenDyn	Mon 7/12/10	Wed 7/14/10	7-44-0-E	JP5	No	No	24hrs	NA	NA	0%
13		2H	Repair Valve Off Ship	VF01-3456	JP-5 Valve 7-44-2	5days	GenDyn	Thu 7/15/10	Wed 7/21/10	7-44-0-E	JP5	No	No	32hrs	NA	NA	0%
14		2R	Reinstall Valve	VF01-3456	JP-5 Valve 7-44-2	2days	GenDyn	Thu 7/22/10	Fri 7/23/10	7-44-0-E	JP5	No	No	16hrs	NA	NA	0%
15		2T	Test Valve	VF01-3456	JP-5 Valve 7-44-2	2days	GenDyn	Mon 7/26/10	Tue 7/27/10	7-44-0-E	JP5	No	No	4hrs	NA	NA	0%
16			Key Event - JP-5 Production Complete			0days		Tue 7/27/10	Tue 7/27/10		JP5	No	No	0hrs	NA	NA	0%
17																	
18			Work Title - Alt Title Here	CS01-0987		6days	SPAWAR	Wed 7/7/10	Wed 7/14/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%
19			Component 1 Roll-up Here	CS01-0987	Componet 1 #	6days	SPAWAR	Wed 7/7/10	Wed 7/14/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%
20		1U	Task1	CS01-0987	Componet 1 #	1day	SPAWAR	Wed 7/7/10	Wed 7/7/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%
21		2R	Task 2	CS01-0987	Componet 1 #	2days	SPAWAR	Thu 7/8/10	Fri 7/9/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%
22		3R	Task 3	CS01-0987	Componet 1 #	2days	SPAWAR	Mon 7/12/10	Tue 7/13/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%
23		3T	Task 4	CS01-0987	Componet 1 #	1day	SPAWAR	Wed 7/14/10	Wed 7/14/10	03-170-0-Q	LAN	No	No	0hrs	NA	NA	0%

Appendix H - AIT POAM Task Detail Template (2).mpp Page 1 of 2 AIT 9090.310F

AIT POA&M Task Detail Template (continued)

ICN	SWLIN	SWLIN Para	KeyTrade	Predecessors	Successors	Remarks	SBS	Superintendent	DWG Number
	0								
	0								
	0				8,12				
	0			7	9				
	0			8	10				
	0			9	16				
	0								
	0			7	13				
	0			12	14				
	0			13	15				
	0			14	16				
	0			10,15					
	0								
	0								
	0				21				
	0			20	22				
	0			21	23				
	0			22					



Appendix H - AIT POAM Task Detail Template (2).mpp Page 2 of 2 AIT 9090.310F

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U.S. NAVY SHIP MODERNIZATION & REPAIR

AIT POA&M SCHEDULE Standards

This document discusses the standards and instructions for creating AIT POA&M's using Microsoft Project scheduling software and the provided templates.

AIT POA&M Template.mpp

and

AIT POA&M Work Item Header Template.xls

The purpose of the AIT POA&M standards and templates are to allow all AIT's to be able to create "re-useable" schedules that are acceptable regardless of the NSA, LMA, or site location. In return, the NSA and LMA's will get schedules containing the consistent data needed for more accurate and easier integration into the Master Integrated Schedule.

Version 1.0 – 19 March 2010

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CONTENTS

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1 POA&M – Schedule Standards for Submission

The following paragraphs provide the basic guidance for developing POA&Ms.

1.1 Work Breakdown Guidelines

It is important that the work scheduled by a maintenance provider has a consistent work breakdown philosophy and is uniform throughout the schedule in its level of detail. Too much detail in one area will over emphasize its importance, and too little detail in an area may allow a problem to develop undetected. Work should be broken down into logical phases.

Dividing work naturally involves taking a job, identifying the general phases, defining those phases as tasks, and determining the level of detail that needs to be tracked. The most basic phases of a repair job are rip-out, overhaul, reinstallation, and test. Major components and locations should also be considered in the breakdown scheme. Some jobs are space-oriented. Tank { XE “Tank” } work can be divided into individual tanks or groups of tanks and phased as open, gas free, repair, and close.

Example: A group of valves is planned for shop overhaul and will be accomplished by two crews. One crew will work the port side, and the other will work the starboard side. An acceptable breakdown is to define a set of rip out, shop overhaul, reinstall, and test tasks for the port side and a separate set of tasks for the starboard side. Any time a job leaves the ship, separate tasks should be used. A task should also be separated when the responsibility changes for that task. For jobs that require a test after work complete, a separate task should also be used.

The overruling role of common sense is to ensure that standard rules for breakdown does not result in thousands of one-day activities or single, 10,000 man-hour activities that span the duration of the availability. A goal of work breakdown is to support reporting progress status. For weekly status reporting, one-day or less activities should be reviewed and combined if possible with follow-on work.

1) Activities over 45 days should be reviewed to see if natural pauses have been overlooked.

2) Activities with more than 1,500 man-hours of effort should be reviewed for added breakdown to match crew assignment or overlooked natural pauses.

Activity (task) duration should be the length of time required if the task was worked on a priority basis in a continuous effort. The “work” duration is often shorter than the length of time between the scheduled start and the scheduled completion date since true continuous efforts are rare. The scheduled dates are the plan for when the activity will occur and are a commitment to perform the start and completion of the activity on those dates.

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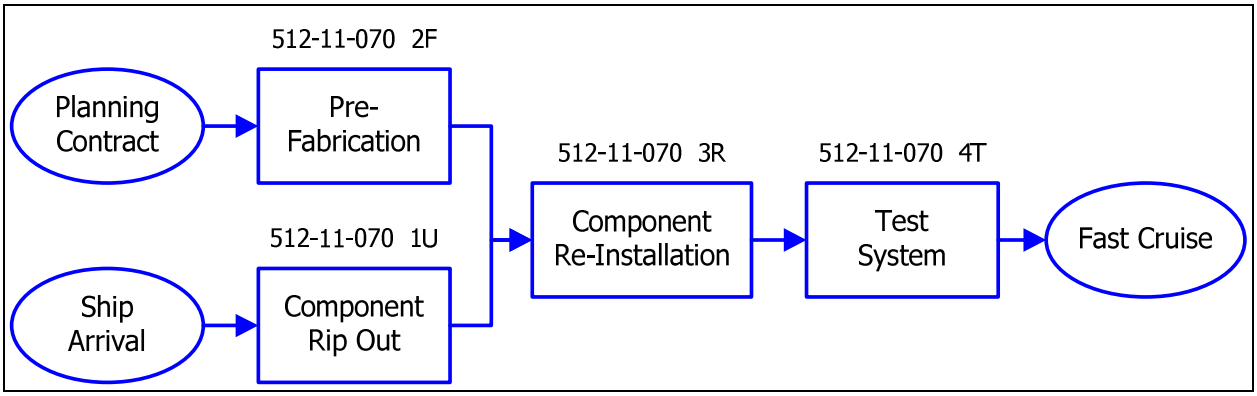
To develop the schedule, logical dependencies must be added to reflect the technically required sequence of work (rip out of interferences prior to component rip-out, which is then connected to reinstallation). Dependencies (Logical Predecessors and Successors) should also be added for planning sequences and resource limitations. For example, (rip out component #1, then #2, then #3, because they will be performed by the same crew of people. Another example, shutdown of the forward CHT tank first, then the aft tank, because it is the planned sequence of work.

A common numbering convention is necessary to allow the activities to be combined into a single seamless network for all work. This convention will include the Item Number or JCN and Activity (Task) Number.

The Item Number is identified on the 4E Spec. If there is no 4E spec, then use the JCN to describe the work.

The Activity (Task) Number and Phase Letter is a sequence number within the Item (1, 2, 3…) and a phase designator (U, H, R…).

Example: Item: **512-11-070** or JCN: **CNAF-1234** Task: **1U (RIP OUT/UNSHIP)**



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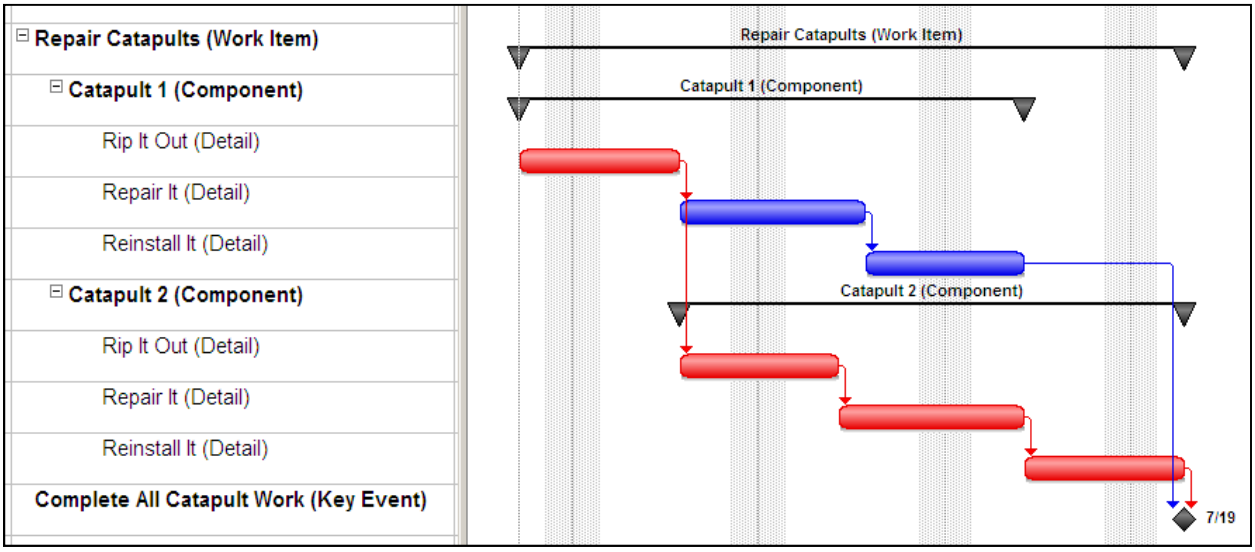
1.2 Work Task (Activity) Phase Letters and Definitions

Phase Letter	Definition
A	Repair or Service on Ship
C	Calibrate, Align, or Adjust
D	Open/Inspect, Disassemble
E	Component/System Restoration after Testing
F	Prefabricate/Fabricate
H	Repair, Modification, Service, or Other Work off Ship
I	Inspect
J	Service SWLINS
K	Clean, Flush, Sandblast, Prepare For Preservation, Decontaminate
L	Level of Effort
M	Maintain or Perform Preventive Maintenance
P	Paint, Preserve or Coat
R	Reinstall, Install, Close, Reassemble
S	Stage, Setup, or Prepare For Next Phase of Work
T	Test
U	Unship, Rip out or Remove
V	Offsite Vendor Repair, Modification or Service Scheduling

1.3 Basic Guidelines for Constructing a Ship Repair Schedule { XE "Schedule"}

The milestones set the beginning and ending of the network. Availability { XE "Availability" } start and complete dates are determined by operating cycle of the ship and Naval Supervisory Authority (NSA). The intermediate milestones, such as Fast Cruise, Combat Systems Testing, etc., are determined in joint meeting of the project planning team. An official milestone list with dates will be issued prior to the start of the project, and all individual schedules will support these timeframes. This network is to be used as a starting point for the development of the individual detailed networks. Work item summary activities should be defined at the major component or major zone level. For example, if an alteration is being performed on the catapults, there should be a summary activity for the work item, summary activities for each catapult, and the detailed tasks for each catapult grouped under the catapult summary.



In the example above, the "Complete All Catapult Work (Key Event)" would be in the Integrator's schedule.

1.3.1 Normal Activity Task Definition Guidelines (lowest WBS level)

a) All normal activities must be "unique" and will have the task number and task phase letter (such as 3R)

b) Each work item will have at least one normal activity.

c) Descriptions will be complete enough to stand on their own.

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d) Generally, write "verb-noun" instructions: Repair this. Remove that. Test it.

1.3.2 Standard Guidelines for Network { XE "Network"} Logic (Dependencies)

Logical dependencies need to be added between the detailed tasks. The following guidelines apply:

a) All NSA Key Events/Milestones will be assigned a "must start on" or "must finish on" constraint.

b) Summary Activities should be used to provide clarity at the preparer's discretion, but should describe the component involved. (JP-5 Tank #, Valve #, Hot water tank #...)

c) Summary Activities should not have constraints or dependencies (predecessors or successors).

d) All Activities (Tasks) should have both a predecessor and successor.

e) All Activities should be tied to other normal activities or milestones.

f) All Activities MUST have an accurate location.

When using most scheduling software, such as Microsoft Project, when logic (dependencies) or constraints (other schedule date limitations) are added, the software continuously calculates start and finish dates based on the logic and milestones. This process generates error messages when all constraints cannot be met, and a negative slack (float) condition exists. These scheduling errors must be corrected when they occur. If the logic and durations of activities do not support the accomplishment of a "must finish on" or "finish no later than" constraint, an error message appears. Pressing the cancel button allows one to continue on in the schedule, but erroneous information will be received, and the message will come back. These errors must be corrected when they appear.

Once the detailed tasks have been identified and logic established, scheduled dates can be assigned. The following guidelines apply to the assignment of schedule dates.

1.3.3 Schedule { XE "Schedule" } Date Guidelines

a) All schedule start dates will be on or later than the early start date of a predecessor Key Event or Milestone.

b) All schedule finish dates will be on or before the late finish date of a successor Key Event or Milestone.

c) Each Activity will have a schedule start and complete date.

1.3.4 Submission of Ship Alteration Schedules

Each AIT Ship Alteration Schedule will be submitted in a separate schedule file (POA&M) along with the corresponding alteration "Header" file. If authorized by the NSA, multiple alterations can be combined in a single POA&M.

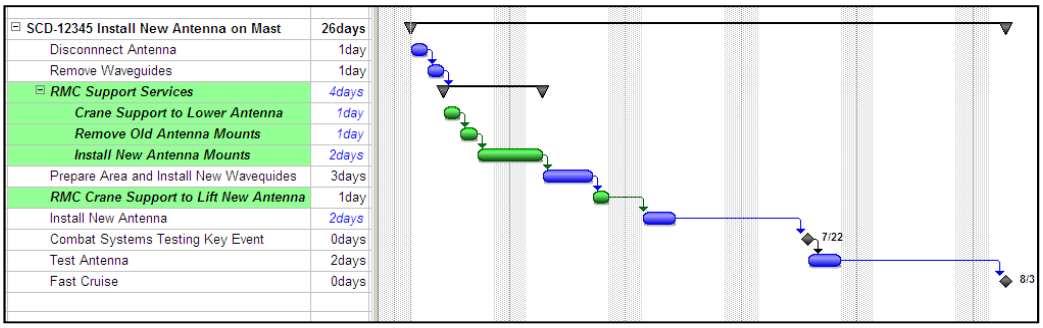
2 Tips for Creating Integration Friendly Schedules

Consider some of the following tips when building your schedules. Not only will these tips help the integrator to evaluate your schedule, but they will give the preparer the chance to communicate not only exactly what, where, and when the work is needed, but also for the services that may be needed.

2.1 Showing Service Requests in AIT Schedule

When support services are needed from the Ship, RMC, LMA or Shipyard a formal request is made to the support agency. Support services are generally dependent on the availability of resources and location needed. In many cases, the need may conflict with other provider's needs or other schedule limiting factors; therefore, it is always a good idea to include those services in the schedule. It indicates to the schedule integrators when and where those services are needed and highlights scheduling issues associated with the request. Just create a task in the schedule naming the support and time frame required (the actual durations of support may require coordination with the support service provider).

2.1.1 Example of Support Services in the Schedule



2.2 Work Locations – Accurate and Consistent Data for Work Integration

To properly schedule and de-conflict work, it is critical that locations be loaded in the schedules correctly and in a consistent format, so that reports can be run by Compartment (Work Location). The payoff is analysis by "Work Density", de-confliction reports, and Gantt charts by location.

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2.2.1 Work De-confliction – location and schedule where multiple providers in the same location

493-AT-001	SCD-73351 BFTT 3.3.1 Patch SWD (Incre 2) Install; accomplish	CS51-Q001	**NSWC Dam**	03/23/10	03/23/10
08-175-3	**(3) *MAIN MAST***				**08-175-3-Q**
CS	SF Combat Systems	CS61-1190	**SF**	11/18/09	11/27/09
PM17	SF Cable Team	CS61-1183	**SF**	11/18/09	11/19/09
451-AT-001	SCD-75656 AN/SPS-74 Radar Installation; accomplish	CNAF-Q440	**NSWC**	01/14/10	01/15/10
512-AT-001	SCD-73592 Ventilation System Controls Modification; accomplish	CNAF-Q425	**NSWC-CD**	02/23/10	02/25/10
431-AT-001	SCD-74813 ADMACS BLK-1 Server Upgrade; accomplish	CNAF-Q432	**NAVAIR**	02/25/10	02/25/10
08-180-1	**(3) *FAN ROOM***				**08-180-1-Q**
CS	SF Combat Systems	CS72-0942	**SF**	11/18/09	11/18/09
PM18	SF Water Tight Door Team	CS72-0952	**SF**	11/18/09	11/27/09
332-80-101	SCD-1179, Signalling Searchlight Replacement; accomplish	CNAF-X305	**PacShip**	11/18/09	01/18/10
332-80-101	SCD-1179, Signalling Searchlight Replacement; accomplish	CNAF-X305	**PacShip**	11/18/09	01/25/10
451-AT-001	SCD-75656 AN/SPS-74 Radar Installation; accomplish	CNAF-Q440	**NSWC**	01/13/10	01/13/10
512-AT-001	SCD-73592 Ventilation System Controls Modification; accomplish	CNAF-Q425	**NSWC-CD**	02/11/10	02/13/10
512-AT-001	SCD-73592 Ventilation System Controls Modification; accomplish	CNAF-Q425	**NSWC-CD**	02/24/10	02/26/10

2.2.2 Recommended Standard Location Entry in Schedules

Database and scheduling systems can make the integration easier if the data can be sorted and grouped consistently, especially by location.

Generally the standard compartment locations are good enough deck-frame-side-use, such as 03-130-2-L. The problem that arises is what to do for a span of frames or weather decks, masts, flight deck and hangar decks. For the purpose of work location, “Flight deck” or “Flt Dk” is not enough for identifying where providers are going to be working.

Use the following recommended locations:

1) Flight and Hangar Deck Locations: Deck (04 or 1) – frame-S or P, such as **04-190-S** or **1-190-P**

2) Weather Decks: Closest deck-frame-P or S (**03-140-P-WEA**)

3) Span of Frames: **04-55/100-S** is the flight deck frames 55 to 100 starboard side, i.e., 55/100 as the span allows for data systems to correctly decompose the location entry based on where the hyphens (-) are located.

4) Masts: Use Mast name (**Main Mast**, etc.) This is important when you have different AIT’s working on antennas.

3 Instructions for Creating Schedule Using the AIT POA&M Template Files

The purpose of using the standard templates is so that the POA&M and its header data are re-useable at different repair sites by simply modifying the header and schedule data.

3.1 POA&M Header Information

An Excel spreadsheet is provided with the template for submitting POA&M Header data. This data specifies the Ship and Availability, the Ship Alt/Title, Schedule Submission, Contact Information, and more data that does not belong in the schedule itself. The Header Excel spreadsheet is required to be submitted along with the POA&M schedule file. A sample of the spreadsheet is shown on the next page.

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AIT Schedule Submission Data	AIT Sponsor/MGR to fill in below	Description of Data
Ship & Availability:	CVN 69 FY10 PIA	Ship Hull No, FY, Avail Type (PIA, CIA, CMAV…)
SCD/Ship Alt Number-Title:	SCD 12345 - Replace JP-5 Valves	If this is a repair item, enter a general title or high level description of the overall task (i.e., Overhaul Weapons Elevator).
Sponsor Schedule Provided Date:	2/10/2010	This is simply the date of the submittal.
AIT Schedule Provided Date:	5/1/2010	Provided by AIT Contractor.
AIT Schedule Update Date:		Provided by AIT Contractor.
Execution Schedule Update Date:		
AIT Sponsor-POC Name-Phone:	TYCOM - Joe Smith (111) 222-1234	This is the PEO or SYSCOM level sponsor of the alteration.
AIT Mgr/OSIC-POC Name-Phone:	SPAWAR – John Jones (333) 111-4444	This is the government activity responsible for the AIT management - could be an ISEA-level organization or the sponsor themselves. This should be the government person to contact with any issues during execution.
AIT Company-POC Name-Phone:	GenDyn - John Doe (123) 456-1010	Actual Contractor's Company and POC
Contract Number:		This can assist with issues, such as badging.
NAVSEA 04 Letter Required (Y/N)	YES	Work under cognizance of NAVSEAINST 4350.2C (Y/N)
Conjunctive Alt(s):	SCD 45678 – Install	List any conjunctive alts here, or enter "None" – these are alts that MUST be done with this particular work item.
First in Class (Y/N)	NO	This is an indicator of whether this is the first time this work has been done on this class of ship. This is to assist with risk management.
Unique Sponsor Job Identifier:		This is simply a free-form field that the sponsor can use, if desired, to enter an identifier that can tie back into any databases they are using (i.e., SPIDER).
Additional Remarks:		Any other information to assist the NSA in properly integrating your schedule

3.2 AIT Use of Standard Data Elements in the POA&M Schedule Template

Microsoft Project provides various fields that can be used for "USER" defined values. To provide standard reports, the following information is expected in the identified fields:

AIT Data Requirements:

R Required

I Integrator Provided

O Optional

Note: If Microsoft Project is not used, ensure that the "User Alias" names for the custom data elements are correct.

Note: These fields are always available by default.

Standard Microsoft Project fields used as provided below:

MSP Field	AIT	Description
Name*	R	WBS1** – Title of Job or Alteration # (i.e., Valve Leaking; Replace WBS2** – Activity Name (Description of work: Remove Valve…)
Duration	R	Task duration in work days (entered or calculated))
Work	R	Resources (trade man hours for each task/activity)
% Work Comp	R	Indicates current percentage of physical progress performed
Start*	R	Start/ES – Scheduled Start*
Finish*	R	Finish/EF – Scheduled Finish*
Actual Start	R	Actual Start – date actually started work
Actual Finish	R	Actual Finish – date actually finished work

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Custom Microsoft Project Field Mapping is provided below:

MSP Field	AIT	User Alias	Description
Flag10*	R	Hot Work	Hot Work Flag (YES if hot work associated with the task)
Flag11	R	Scaffolding	Scaffolding Flag (Check yes if scaffolding needed for this task)
Number8*	O	SWLIN	SWLIN (filter: 123, 221, 253, 533, etc.- If required, it will be provided by the integrator.
Text1*	I	Work Item Num	4E Work Specification Number (SWLIN based-Integrator provides) (If needed this is assigned by the MSMO, LMA, or RMC)
Text2*	I	Key Event	Milestone/Key Event { XE "Event" } Code (Provided by NSA)
Text4*	R	Activity Num	WBS2** - Activity (Task Number and Phase (such as 1U, 2R, 3T…)
Text5*	R	Location	Work Location (Deck, Frame, Side, Use)
Text6*	R	Maint Provider	Maintenance Provider (MSR, AIT, CIS, RMC - Contractor's abbrev) (Advanced Industrial Management-Industrial Control Number)
Text8*	I	ICN	AIM { XE "AIM" }ICN { XE "ICN" }Number (NSA creates in the Shipyard's AIM system)
Text10*	R	JCN	JCN Number (AWR)
Text11	O	SWLIN Para	AWP line number or paragraph # (Provided by NSA/RMC/LMA)
Text12*	R	Alteration Number	Ship Alt Number (SCD12345)
Text21	O	DWG Number	Drawing Number
Text24	O	Remarks	User Notes
Text25*	R	Component	Component summary line: Name & Number (JP5 Valve 7-44-1)
Text26*	R	System	System(s) – see "System Coding for Schedules" in this document
* FY-11 009-60 Standard Requirement for Schedules			

FY-11 009–60 Data Elements Not Required for AITs are provided below:

MSP Field	AIT	User Alias	Description
Text3*	–	Key Trade	Key Trade (Department/Division)
Text22*	–	Superintendent	Superintendent/Zone Manager (Contractor's)
Text23*	–	SBS	SBS (Government Shipbuilding Specialist) if submitting to an RMC

3.2.1 System { XE "System" } Coding for Schedules

Coding tasks with the appropriate system they belong to and the appropriate systems they affect makes master schedule integration easier. Each Activity and Component Summary Task will be coded accordingly. If using Microsoft Project, this is the Text26 data field. Enter the primary system code followed by effected system codes with a comma between each code.

A Work Item may belong to or effect several systems, such as FM, HAB or CHT, HAB or FDK, AG, CAT, or CWA.

#	Code	System { XE "Event" }
1	ACE	Aircraft Elevator
2	ACP	Air Conditioning Plant
3	AG	Arresting Gear
4	ANT	Antenna
5	BIL	Bilges
6	CAT	Catapults
7	CHT	CHT
8	CS	Combat Systems
9	CHW	Chilled Water
10	CWA	Countermeasures Wash Down
11	DECK	Any Decking Work
12	DC	Damage Control { XE "Event" }
13	ENG	Engineering
14	FDK	Flight Deck
15	FM	Fire Main
16	HAB	Habitability
17	HDK	Hangar Deck

#	Code	System { XE "Event" }
18	HPA	High Pressure Air
19	IC	Internal Communication
20	JP5	JP-5 Tanks { XE "Tanks" }/ System { XE "Event" }
21	LC	Load Center
22	MAG	Magazine
23	NSK	Non-Skid
24	PW	Potable Water
25	SCAF	Scaffolding Required
26	SS	Service Steam
27	TIS	Temporary Industrial Systems
28	VEN	Vents/Ventilation
29	VPC	Vertical Package Conveyor
30	WH	Water Heaters
31	WEL	Weapons Elevator
32	WPNS	Weapons
33	WW	Waste Water

To query for a system, for example, to find all work being done on or affecting the flight would be System like "*FDK*". This type of query will find all occurrences of FDK regardless of the order they were entered.

3.3 Custom AIT POA&M View

Because Microsoft Project is the de facto standard for small scheduling systems, a template is provided as an MPP file. If a different application is used, create the schedule using the same data field aliases (i.e., column headers).

The POA&M Template contains custom coding for automation; therefore, the preparer must save the template to a new name for the actual POA&M/Schedule. This will ensure that the customization stays intact with the project file that will be submitted. Custom exports can be done for sites that need more data elements exported than the AIT default has.

The "AIT Template" view created in the "AIT POA&M Template.mpp" file contains all of the required and optional fields described in this guide. Selecting this view will allow for easy data entry.

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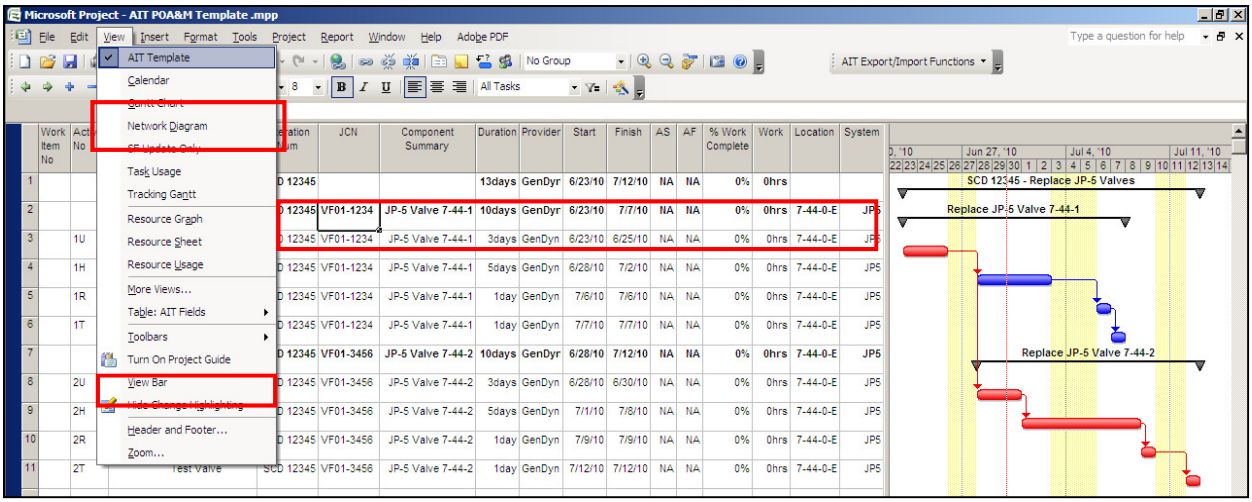
Since data must be redundant at the Activity (task) level, enter the column value then use the "fill down" capability (similar to the Excel capability) to populate TEXT value rows under the selected column data as appropriate.

Note: Do not use "fill down" for dates, durations, work Activity (task) Number, or any other columns where the row value data must be unique.



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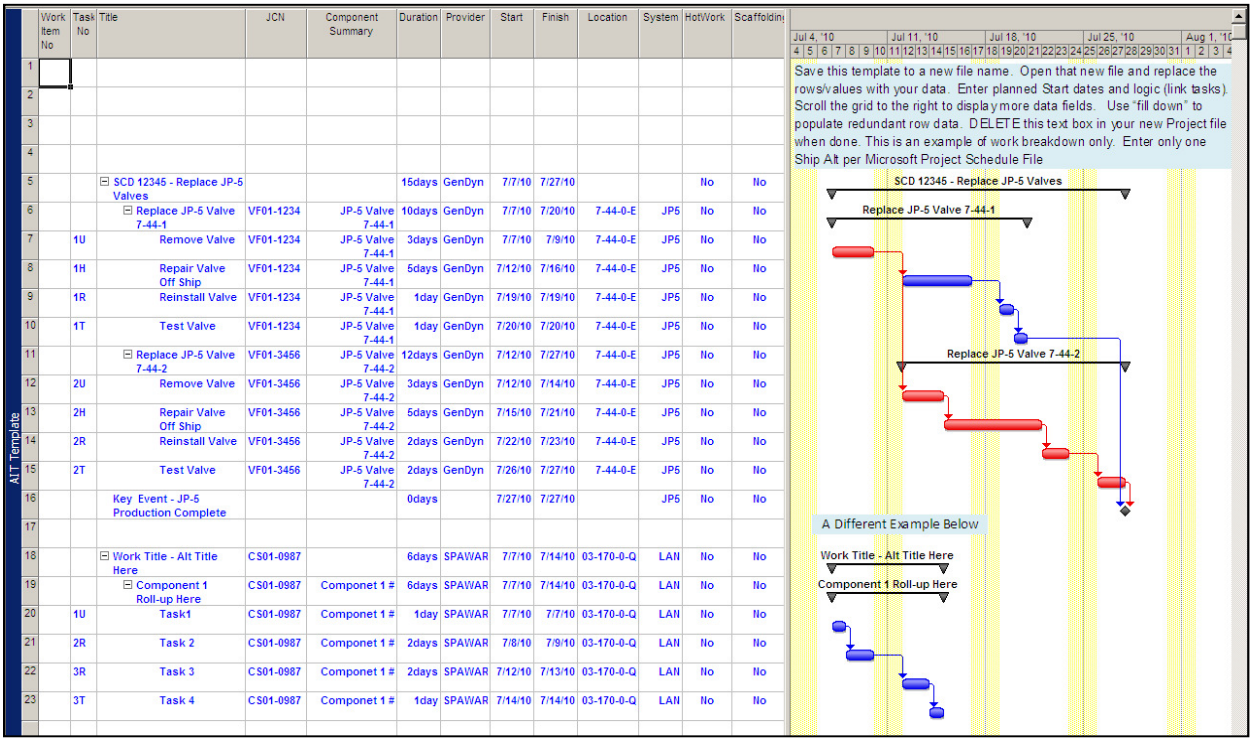
3.3.1 Default Schedule Template with the Activity (Task) Level Data Elements

Loading the data as shown below will allow easy filtering of data in the scheduling software itself, or any database or spreadsheet where the schedule may be exported

Important: Do not extract any Activity (task). It can stand alone with enough information to be useful. If the application is Microsoft Project, use "Edit-Fill Down" to quickly fill in data in the succeeding lines.



AIT Template

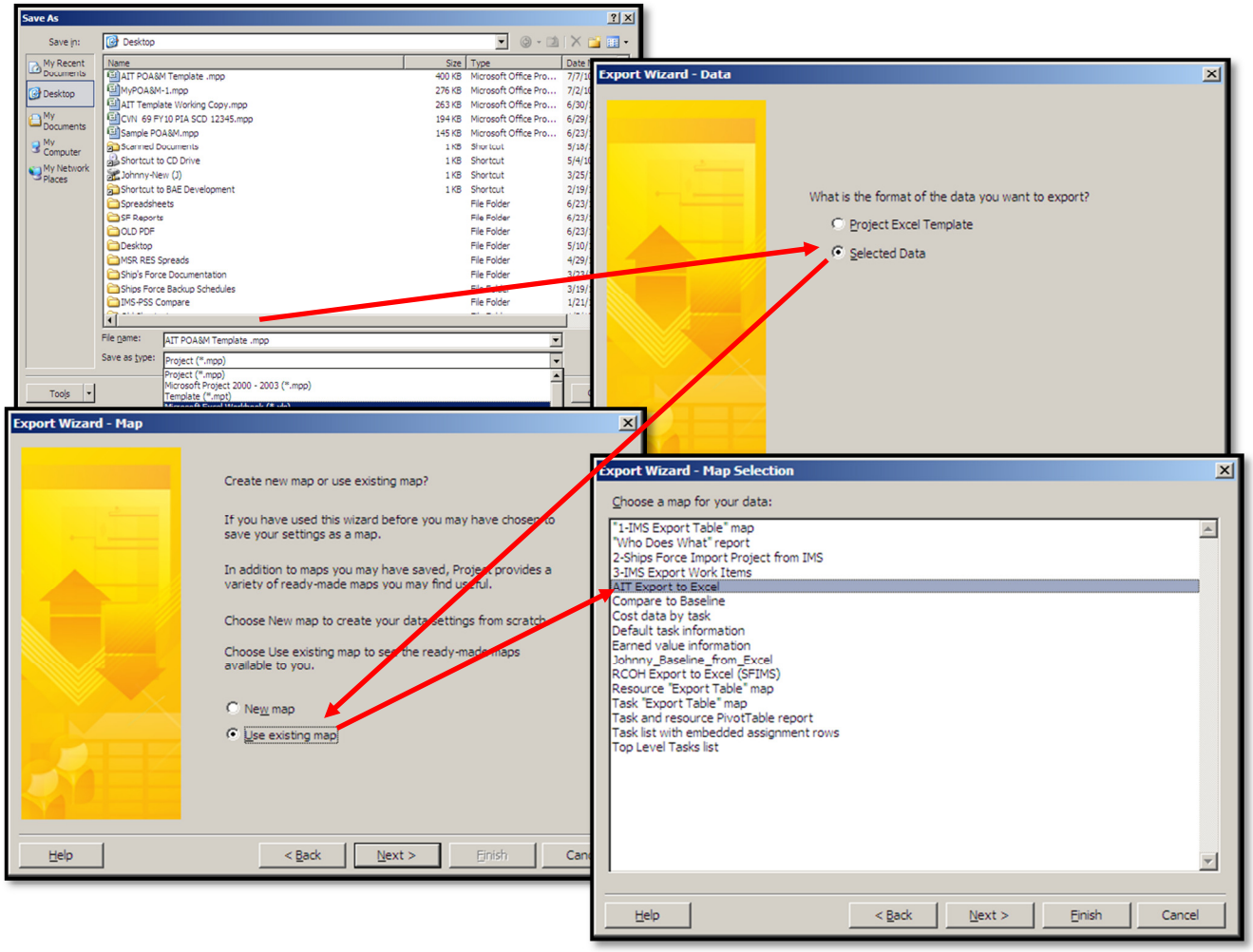
	Work Item No	Task No	Title	JCN	Component Summary	Duration	Provider	Start	Finish	Location	System	HotWork	Scaffolding
1													
2													
3													
4													
5			SCD 12345 - Replace JP-5 Valves			15days	GenDyn	7/7/10	7/27/10			No	No
6			Replace JP-5 Valve 7-44-1	VF01-1234	JP-5 Valve 7-44-1	10days	GenDyn	7/7/10	7/20/10	7-44-0-E	JP5	No	No
7		1U	Remove Valve	VF01-1234	JP-5 Valve 7-44-1	3days	GenDyn	7/7/10	7/9/10	7-44-0-E	JP5	No	No
8		1H	Repair Valve Off Ship	VF01-1234	JP-5 Valve 7-44-1	5days	GenDyn	7/12/10	7/16/10	7-44-0-E	JP5	No	No
9		1R	Reinstall Valve	VF01-1234	JP-5 Valve 7-44-1	1day	GenDyn	7/19/10	7/19/10	7-44-0-E	JP5	No	No
10		1T	Test Valve	VF01-1234	JP-5 Valve 7-44-1	1day	GenDyn	7/20/10	7/20/10	7-44-0-E	JP5	No	No
11			Replace JP-5 Valve 7-44-2	VF01-3456	JP-5 Valve 7-44-2	12days	GenDyn	7/12/10	7/27/10	7-44-0-E	JP5	No	No
12		2U	Remove Valve	VF01-3456	JP-5 Valve 7-44-2	3days	GenDyn	7/12/10	7/14/10	7-44-0-E	JP5	No	No
13		2H	Repair Valve Off Ship	VF01-3456	JP-5 Valve 7-44-2	5days	GenDyn	7/15/10	7/21/10	7-44-0-E	JP5	No	No
14		2R	Reinstall Valve	VF01-3456	JP-5 Valve 7-44-2	2days	GenDyn	7/22/10	7/23/10	7-44-0-E	JP5	No	No
15		2T	Test Valve	VF01-3456	JP-5 Valve 7-44-2	2days	GenDyn	7/26/10	7/27/10	7-44-0-E	JP5	No	No
16			Key Event - JP-5 Production Complete			0days		7/27/10	7/27/10		JP5	No	No
17													
18			Work Title - Alt Title Here	CS01-0987		6days	SPAWAR	7/7/10	7/14/10	03-170-0-Q	LAN	No	No
19			Component 1 Roll-up Here	CS01-0987	Component 1 #	6days	SPAWAR	7/7/10	7/14/10	03-170-0-Q	LAN	No	No
20		1U	Task1	CS01-0987	Component 1 #	1day	SPAWAR	7/7/10	7/7/10	03-170-0-Q	LAN	No	No
21		2R	Task 2	CS01-0987	Component 1 #	2days	SPAWAR	7/8/10	7/9/10	03-170-0-Q	LAN	No	No
22		3R	Task 3	CS01-0987	Component 1 #	2days	SPAWAR	7/12/10	7/13/10	03-170-0-Q	LAN	No	No
23		3T	Task 4	CS01-0987	Component 1 #	1day	SPAWAR	7/14/10	7/14/10	03-170-0-Q	LAN	No	No

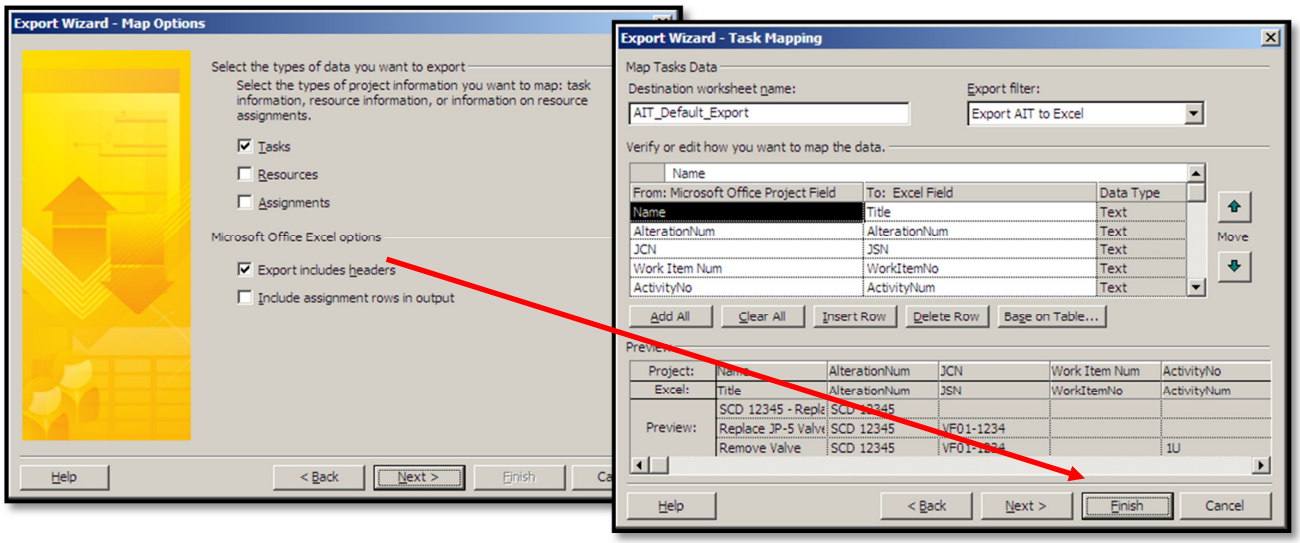
4 For Integrator's ONLY – Instructions for Exporting POA&M Data to Excel

4.1 Manually Exporting POA&M Schedule if using Microsoft Project

One can manually export data by using the File, Save As commands in the Microsoft Excel Workbook, and then follow the Export Wizard.

Exporting manually does not format some of the data elements for easy importing into other systems. For instance, "5days" may need to be just "5" for importing. Using the automated export, the data undergoes normalized formatting.

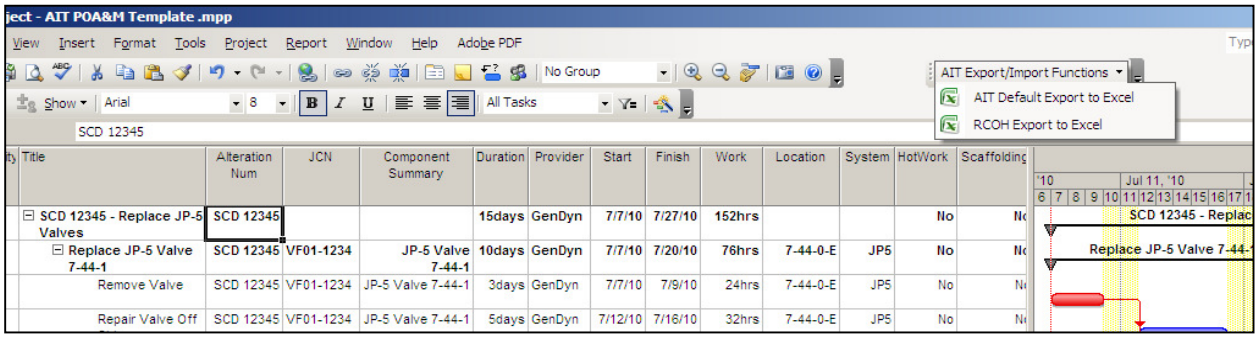




4.2 Automated POA&M Schedule Exporting and Customization

The POA&M Template contains custom coding for automation; therefore, save the template to a new name for the actual POA&M/Schedule. This will ensure that the customization stays intact with the project file that will be submitted. For this automation to work, the NSA/LMA/MSMO that receives the POA&M requires a local installation of Microsoft Project and Excel.

The automation consists of several export maps and code that not only export the data to Excel, but also formats the Excel file and normalizes some data by removing text from fields that should be numeric and taking the "NA" out of date fields. Selecting an AIT Export option will export and open Excel with the correct column names and data formatting.



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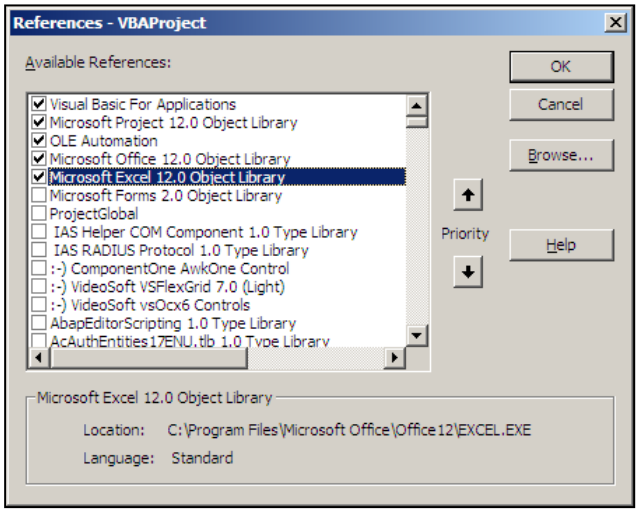
The automation setup requires using Microsoft Project's Tools Menu "Organizer" option to move several custom data objects from a template-created POA&M file to the local MS Project installed global.mpt. Additionally, MS Project must reference the Excel Object library. These steps are required to be done only once on any machine that is used for MS Project exporting.

Detailed setup instructions are available and custom exports can be done for sites that need more data elements exported than the AIT default has or for field name customization.

4.2.1 Referencing the Excel Object Library

To Reference the Excel Library in MS Project 2007, select either "Tools-Macro-Visual Basic Editor" or ALT-F11. When the VB Editor opens, select "Tools-References" that will display the References form. Scroll down, and select the "Microsoft Excel 12.0 Object Library". For Microsoft Office 2003, select 11.0. Click OK, and close the editor.



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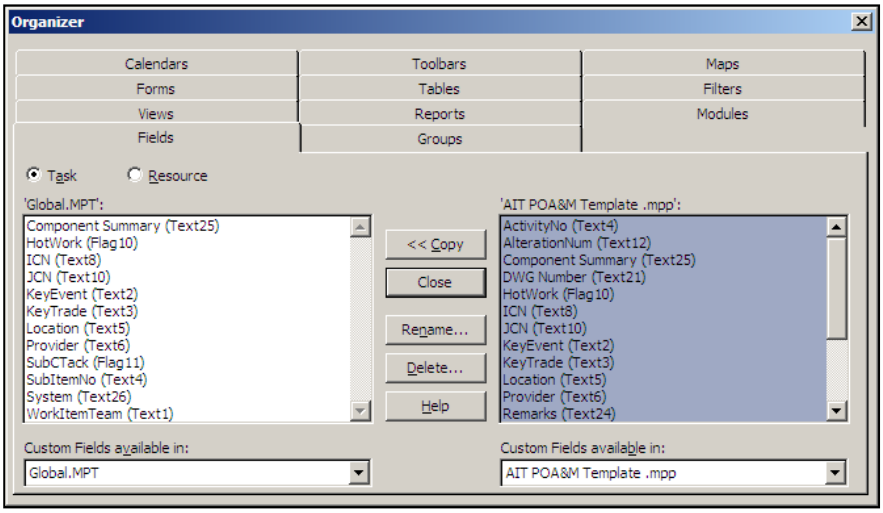
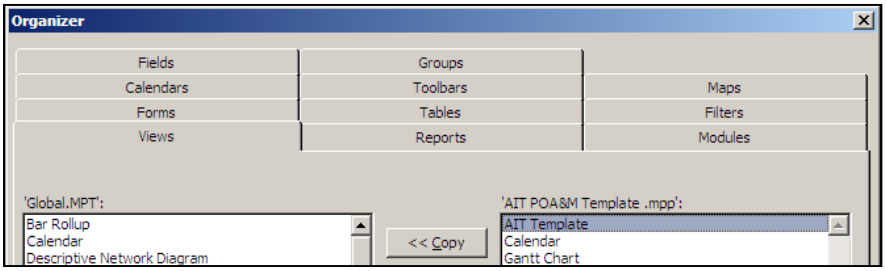
4.2.2 Objects to Copy from the AIT POA&M Template.mpp to the Global.mpt

Highlight objects on the right and copy to left (global).

Fields – copy all fields



Views “AIT Template”



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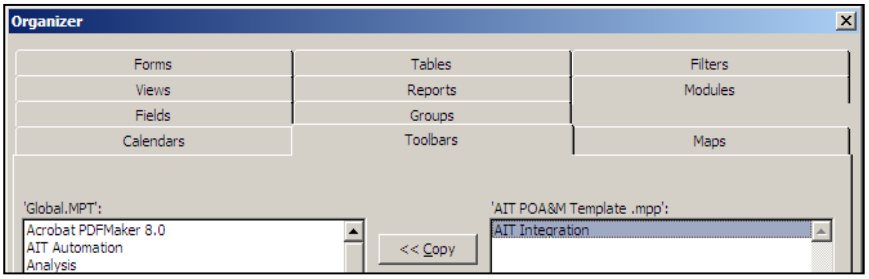
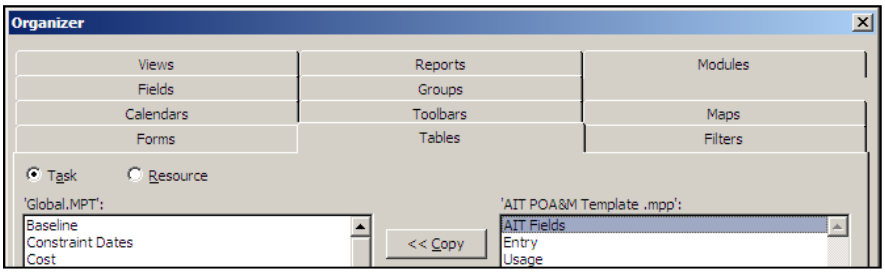
Toolbars “AIT Integration”

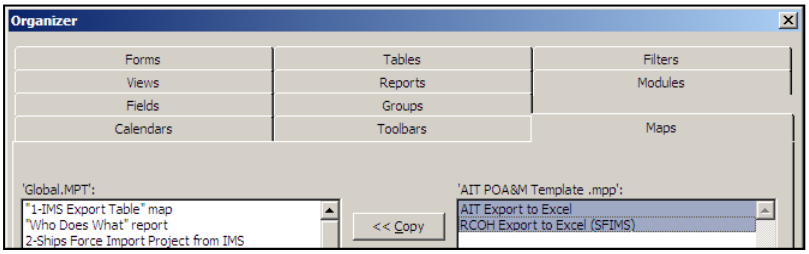


Tables “AIT Fields”



Maps “AIT Export to Excel” and

“RCOH Export to Excel (SFIMS)”



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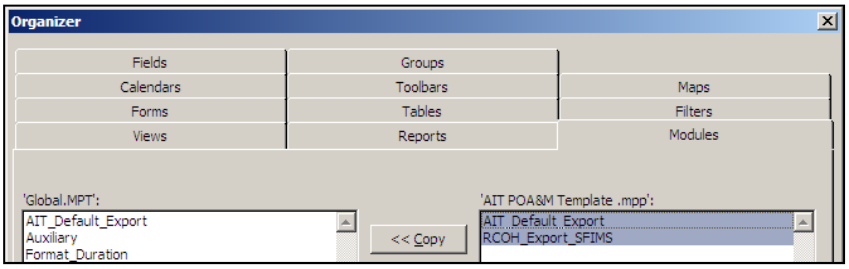
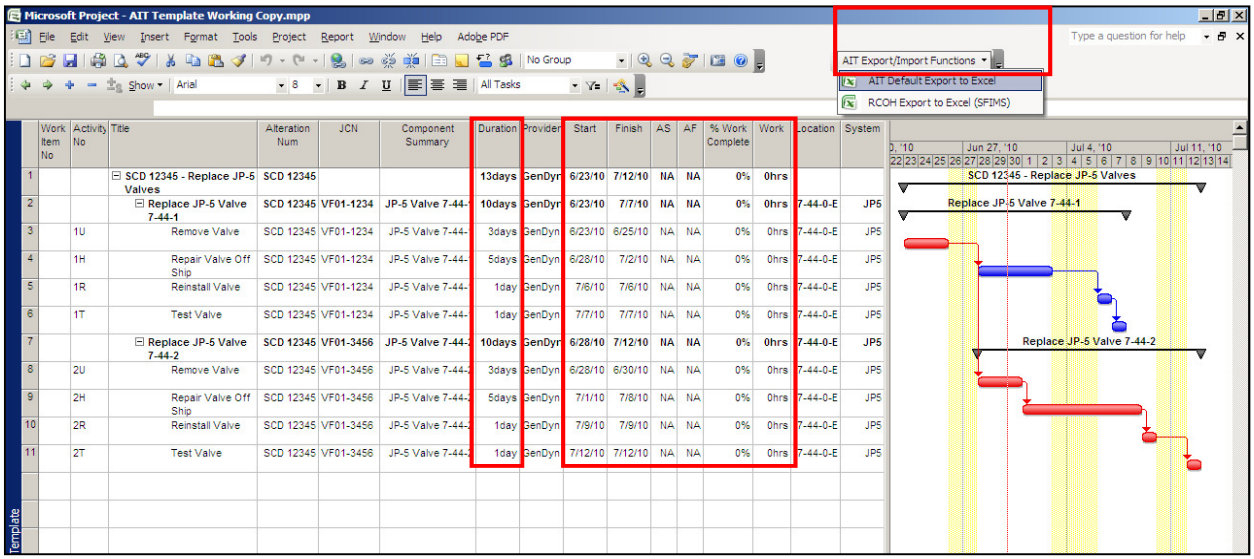
Modules “AIT_Default_Export”

“RCOH_Export_SFIMS”



4.2.3 Automation Export and Excel File Export Examples

Below are examples of Excel file exports from customized Microsoft Project AIT Automation. The automation formats Duration, Dates, and Work so that the file is ready to import into other databases or systems.



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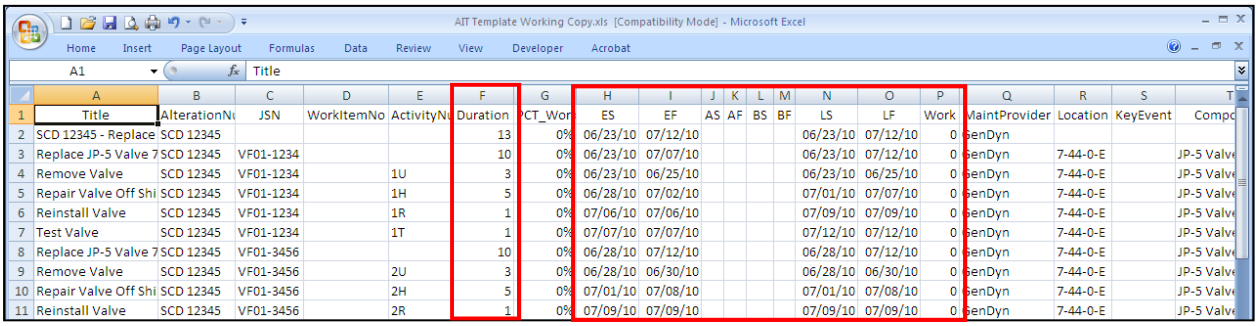

AIT Template Working Copy.xls [Compatibility Mode] - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Acrobat

A1 Title

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T
1	Title	AlterationNu	JSN	WorkItemNo	ActivityNu	Duration	PCT_Wor	ES	EF	AS	AF	BS	BF	LS	LF	Work	MaintProvider	Location	KeyEvent	Compo
2	SCD 12345 - Replace	SCD 12345				13	0%	06/23/10	07/12/10					06/23/10	07/12/10	0	GenDyn			
3	Replace JP-5 Valve 7	SCD 12345	VF01-1234			10	0%	06/23/10	07/07/10					06/23/10	07/12/10	0	GenDyn	7-44-0-E		JP-5 Valve
4	Remove Valve	SCD 12345	VF01-1234		1U	3	0%	06/23/10	06/25/10					06/23/10	06/25/10	0	GenDyn	7-44-0-E		JP-5 Valve
5	Repair Valve Off Shi	SCD 12345	VF01-1234		1H	5	0%	06/28/10	07/02/10					07/01/10	07/07/10	0	GenDyn	7-44-0-E		JP-5 Valve
6	Reinstall Valve	SCD 12345	VF01-1234		1R	1	0%	07/06/10	07/06/10					07/09/10	07/09/10	0	GenDyn	7-44-0-E		JP-5 Valve
7	Test Valve	SCD 12345	VF01-1234		1T	1	0%	07/07/10	07/07/10					07/12/10	07/12/10	0	GenDyn	7-44-0-E		JP-5 Valve
8	Replace JP-5 Valve 7	SCD 12345	VF01-3456			10	0%	06/28/10	07/12/10					06/28/10	07/12/10	0	GenDyn	7-44-0-E		JP-5 Valve
9	Remove Valve	SCD 12345	VF01-3456		2U	3	0%	06/28/10	06/30/10					06/28/10	06/30/10	0	GenDyn	7-44-0-E		JP-5 Valve
10	Repair Valve Off Shi	SCD 12345	VF01-3456		2H	5	0%	07/01/10	07/08/10					07/01/10	07/08/10	0	GenDyn	7-44-0-E		JP-5 Valve
11	Reinstall Valve	SCD 12345	VF01-3456		2R	1	0%	07/09/10	07/09/10					07/09/10	07/09/10	0	GenDyn	7-44-0-E		JP-5 Valve

EXHIBIT H-3

MESSSAGES, CHECKLISTS, AND REPORTS

This exhibit provides Naval Message formats for the Readiness to Start (for Submarines only), Pre-Installation Check-Out (PICO) Completion Report and Installation Completion Report. The exhibit also contains the format for the Alteration Completion Report (ACR).

CONTENTS

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SUGGESTED FORMAT FOR READINESS TO START NAVAL MESSAGE (SUBS ONLY)

ADMINISTRATIVE MESSAGE
ROUTINE
R DTG
FM AIT MANAGER//
TO IMMEDIATE SENIOR IN COMMAND//
SHIP/STATION//
INFO TYPE COMMANDER//N4//
GROUP COMMANDER//
NAVAL SUPERVISORY//AUTHORITY //
RMMCO//
PLANNING YARD//
SHIP'S CONFIGURATION DATA MANAGER (IF OTHER THAN PLANNING YARD)//
IN-SERVICE ENGINEERING AGENT (ISEA)//
LIFE CYCLE MANAGER (LCM)//
COMNAVSEASYSCOM WASHINGTON DC//04RP/05/PARM/SPM//
PEO (AS APPLICABLE)//
COMSPAWARSYSCOM SAN DIEGO CA////
NAVSUP WSS MECHANICSBURG PA//
SUBMEPP PORTSMOUTH NH//1814//
UNCLAS //N04720//
MSGID/GENADMIN/SENDER'S PLAD//
SUBJ/SUBS/SHIP/STATION/ALTERATION TITLE READINESS TO START//
REF/ REFERENCE ALL PREVIOUS APPLICABLE SCHEDULING AND COORDINATION COMMUNICATIONS
POC/NAME/CODE/TELEPHONE/EMAIL//
RMKS/1. ALTERATION INSTALLATION SCHEDULE INFORMATION
2. INDUSTRIAL LEVEL MANPOWER SKILLS AND EQUIPMENT STATUS
3. DESIGN READINESS:
   A. ALTERATION/SC APPROVAL DATE: DD MMM YYYY
   B. SID APPROVAL DATE: DD MMM YYYY OR ESTIMATED COMPLETION DATES. RED LINE DRAWINGS TO BE PROVIDED TO PLANNING YARD UPON COMPLETION OF WORK. (IF APPLICABLE)
   C. ILS CERT DATE: DD MMM YYYY OR WAIVER INFORMATION
4. SHIP SUPPORT REQUIREMENTS (IF NOT ALREADY PROVIDED IN AIT SERVICES REQUEST):
   A. REQUEST A SINGLE POINT OF CONTACT ON SHIP.
   B. PRODUCTION WORK IMPACT ON SHIPS SCHEDULE AND ROUTINE:
   C. HOT WORK REQUIREMENTS:
   D. FIRE WATCH REQUIREMENTS:
   E. EQUIPMENT STAGING AREA REQUIREMENTS:
   F. SHIPS FORCE REQUIREMENTS WHILE CONDUCTING CHECK POINTS AND DURING POST INSTALLATION TEST OUT OF EQUIPMENT:
   G. SAFETY/ENVIRONMENTAL REQUIREMENTS:
5. ALTERATION DESCRIPTION AND PURPOSE
6. SPACES AFFECTED: LIST SPACES AFFECTED
7. ESTIMATED START DATE: DD MMM YYYY. ESTIMATED COMPLETION DATE: DD MMM YYYY.
8. IN-BRIEF SCHEDULE
9. CLEARANCE INFORMATION AS APPLICABLE
10. IMPACTS IF IDENTIFIED
11. ANY OTHER APPLICABLE INFORMATION
12. NEGREP ONLY.//
BT

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SUGGESTED FORMAT FOR PICO COMPLETION REPORT NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R (DTG)
FM SHIP/STATION
TO ISIC
INFO (AS APPLICABLE) TYPE COMMANDER//N43/N6//
COMNAVIDFOR SUFFOLK VA
GROUP COMMANDER/SQUADRON COMMANDER
PLANNING YARD
NAVAL SUPERVISORYAUTHORITY
SHIP'S CONFIGURATION DATA MANAGER (IF OTHER THAN PLANNING YARD)
IN-SERVICE ENGINEERING AGENT (ISEA)
LIFE CYCLE MANAGER (LCM)
COMNAVSEASYSCOM WASHINGTON DC//04M5/05/SPM (PMS400F FOR COMBATANTS, PMS470 FOR AMPHIBS//
PEO C4I SAN DIEGO CA
COMSPAWARSYSCOM SAN DIEGO CA
SPAWARSYSCEN PACIFIC SAN DIEGO CA
SPAWARSYSCEN ATLANTIC CHARLESTON SC
NAVSUP WSS MECHANICSBURG PA//
PEO AIRCRAFT CARRIERS//PMS 312C/PMS312E//(CARRIERS ONLY)
PEO IWS WASHINGTON, DC//IWS 8.0//
PEO LCS WASHINGTON, DC//PMS 420//PMS 501/PMS 505//
SUBMEPP PORTSMOUTH NH//1800//(SUBMARINE ONLY)
REGIONAL RMMCO OFFICE, AS APPLICABLE
BT
UNCLAS //NO4720//
MSGID/GENADMIN/USS SHIP//
SUBJ/(EQUIPMENT/SYSTEM PRE-INSTALLATION CHECK-OUT ON USS SHIP)
RMKS/
1. THIS IS A JOINT (SHIP)/AIT MESSAGE.
2. (EQUIPMENT/SYSTEM) PRE-INSTALLATION CHECK-OUT (PICO) WAS CONDUCTED ON (COMPLETION DATE) AND ACCEPTED AS OPERATIONAL (WITH/WITHOUT) DISCREPANCIES. (MULTIPLE PICOS CAN BE CONSOLIDATED AND REPORTED IN ONE MESSAGE, AT SHIP.S OPTION.) (LIST ALL KNOWN DISCREPANCIES, RESPONSIBLE ACTIVITY, AND DATE DISCREPANCY WILL BE CORRECTED.)
   A. EQUIPMENT/SYSTEM TESTED: (LIST EQUIP/SYSTEM BEING MODIFIED, AND ALTERATION/SCD NUMBER.)
      1. WITNESSED BY: (NAME & ACTIVITY
      2. NOTED DISCREPANCIES: (BRIEF DESCRIPTION OF EACH, JOB CONTROL NUMBER (JCN), AND A CASREP NUMBER IF ASSIGNED; OR STATE "NO DISCREPANCIES")
      3. ACTIVITY RESPONSIBLE:FOR CORRECTION: (FOR EACH DISCREPANCY)
      4. ESTIMATED DATE DISCREPANCY WILL BE CORRECTED: (FOR EACH DISCREPANCY)
   B. (FOLLOW FORMAT OF PARA 3.A FOR EACH EQUIP/SYSTEM ON WHICH A PICO WAS CONDUCTED.)
AIT POC (NAME, PHONE NUMBER AND E-MAIL ADDRESS, LIST POCS FOR EACH EQUIP/SYSTEM REPORTED UPON)
COMMANDING OFFICER.S COMMENTS.//
BT
#
NNNN

(SAMPLE, Page 3 of 3)

SUGGESTED FORMAT FOR INSTALLATION COMPLETION REPORT NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R (DTG)
FM SHIP/STATION
TO ISIC
INFO TYPE COMMANDER//N4/N6//
COMNAVIDFOR SUFFOLK VA
GROUP COMMANDER
PLANNING YARD
NAVAL SUPERVISORY AUTHORITY
SHIP'S CONFIGURATION DATA MANAGER (IF OTHER THAN PLANNING YARD)
IN-SERVICE ENGINEERING AGENT (ISEA)
LIFE CYCLE MANAGER (LCM)
COMNAVSEASYSCOM WASHINGTON DC//04/05 /SPM//
PEO (AS APPLICABLE)
PARM (AS APPLICABLE)
NAVSUP WSS MECHANICSBURG PA//
RMC (AS APPLICABLE)
SUBMEPP PORTSMOUTH NH//1800//(SUBMARINE ONLY)
SURFMEPP (SURFACE SHIPS ONLY)
PEO AIRCRAFT CARRIERS//PMS 312C//
BT
UNCLAS //NO4720//
MSGID/GENADMIN//
SUBJ/PRELIMINARY/FINAL (SELECT ONE) (EQUIPMENT/SYSTEM) ALTERATION/SC INSTALLATION ON USS (SHIP) COMPLETION REPORT//
REF/A/RMG/SHIP/STATION/DTG//(PRELIMINARY INSTALLATION COMPLETION MSG RPT) (IF NOT PRELIMINARY COMPLETION REPORT)
REF/B/DOC/DATE/SERIAL// (ALTERATION COMPLETION REPORT)(IF NOT PRELIMINARY COMPLETION REPORT)
RMKS/
1. THIS IS A JOINT (SHIP)/AIT MESSAGE (PRELIMINARY COMPLETION REPORT ONLY).
2. THIS IS A FINAL COMPLETION REPORT MESSAGE. (ONLY IF PRELIMINARY COMPLETION REPORT SENT)
3. (EQUIPMENT/SYSTEM) WAS (INSTALLED/MODIFIED/REMOVED) ON (COMPLETION DATE) AND ACCEPTED AS OPERATIONAL WITH THE FOLLOWING DISCREPANCIES:
(LIST ALL KNOWN DISCREPANCIES, RESPONSIBLE ACTIVITY, AND DATE DISCREPANCY WILL BE COMPLETED.) (IF PRELIMINARY REPORT).
4. ALL DISCREPANCIES LISTED IN REFS A AND B CORRECTED/COMPLETED AND RETESTED SAT (IF PRELIMINARY COMPLETION MESSAGE SENT).
FOLLOWING INFORMATION PROVIDED: (ONLY IF PRELIMINARY REPORT NOT SENT)
   A. TYPE INSTALLATION:
   B. ALTERATION NUMBER:
   C. SYSTEM OPERATION VERIFICATION TESTING (SOVT) CONDUCTED.
   D. NO CHANGES TO SIDS ARE REQUIRED / SIDS REQUIRE REVISION.
   E. REDLINE DWGS HAVE BEEN PROVIDED TO SHIP (IF APPLICABLE)
   F. ALTERATION COMPLETION REPORT COMPLETED AND FORWARDED SEPCOR.
   G. EQUIPMENT INSTALLED: NOMENCLATURE.
   H. ILS STATUS STATEMENT: (SAT/UNSAT, LIST DISCREPENCIES)
   I. SUMMARY OF INSTALLATION:
5. INSTALLATION ACTIVITY POC: (NAME, PHONE NUMBER AND E-MAIL ADDRESS).
6. COMMANDING OFFICER.S COMMENTS:
BT

This page is blank intentionally.

Alteration Completion Report (ACR) – Page 1 of 8

Alteration/Ship Change Information

Alt/SC No.:

Alt/SC Identifier:

Alt/SC Brief:

Alt/SC Accomp Start Date:

Alt/SC Accomp End Date:

Ship Information

Ship Hull No.

Ship Name:

Ship Class:

Planning Yard:

Type Commander:

Squadron/Group

Points of Contact

	Name	Phone	Email	Activity
Ship Program Manager				
Planning Yard				
PARM/ISEA				
AIT Manager				
NSA				

Signatures

	Signature	Name	Dept./Division/ Company	Phone	Date
Ship					
AIT OSIC					
AIT Lead					

These signatures do not indicate the alteration/SC is complete if there are discrepancies noted in the attachments. The ship will not accept the alteration/SC as complete until all discrepancies noted in the attachments are corrected, at which time the ship will accept the alteration/SC as complete by Naval message.

Alteration Completion Report (ACR) – Page 2 of 8

ATTACHMENTS: (Check reports applicable and provided)

- ☐ 1. General Report (Pages 3 of 8 through 7 of 8) (except SWDs)
- ☐ 2. Training Verification (Page 8 of 8), if applicable
- ☐ 3. Signed RMMCO Installation Check-In/Check-Out Sheet (All Installations)
- ☐ 4. DD1149, if applicable (Itemized list of ILS Deliverables)
- ☐ 5. List of ILS Discrepancies (as required)
- ☐ 6. SIGSEC, TEMPEST Visual Report (if applicable [See NSTISSAM TEMPEST/2-95])
- ☐ 7. HF Antenna Installation and Impedance Report (cover sheet, if applicable [See NAVSEA S9AA0-AA-SPN-010/GEN-SPEC, Sec 400])
- ☐ 8. CABLE/CABLEWAY INSPECTION REPORT (if applicable [See NAVSEAINST 9304.1(series)])
- ☐ 9. CERTIFICATION TEST FINDINGS/REPORT (if applicable [See NAVSEA S9040-AA-GTP-010/SSCR])

Distribution:

Ship
Type Commander
Group Commander
Squadron Commander
PARM
Naval Supervisory Authority (NSA)
Regional Maintenance Center (RMC)
NAVSEA Ship's Program Manager (SPM)
NAVSEA 04
In-Service Engineering Agent (ISEA)
Ship's Configuration Data Manager (CDM)
Planning Yard (PY) (if different than the CDM)
SUBMEPP PORTSMOUTH NH (Code 1800) (Submarines only)
PEO Aircraft Carriers (PMS312C) (CVNs only)
PEO LCS (PMS420/PMS501/PMS505) (LCSs only)
SURFMEPP Norfolk, VA (Code 21D) (Surface Ships only)

ACR General Report – Page 3 of 8

DATE_____

ALTERATION/SC IDENTIFICATION: _____

(TYPE HULL-CLASS-ALTERATION NUMBER)

SHIP: _____ ALTERATION ACCOMPLISHMENT DATE: _____

(HULL NO./NAME) (FROM – TO)

This report documents the proper installation of the alteration/SC identified above. To ensure conformance with quality standards and installation specifications and procedures, a physical installation ship check was conducted jointly by the NSA, RMC (if applicable), Ship's Force and the Alteration Installation Team (AIT) for completion of the various elements of this report. Non-acceptance of an individual element requires that the Remarks line be filled in by Ship's Force. The AIT shall provide a Plan of Actions and Milestones (POA&M) for completion or correction of all non-acceptance items within five (5) working days of rejection of the individual element. The POA&M will describe the degree of completion or correction required, lead activity point of contact, and the scheduled completion date. Final completion of discrepancies will be accepted jointly by Ship's Force and the lead Installing Activity (IA).

1. **Pre-Installation Check-Out (PICO)**. A PICO was conducted on existing systems/equipment to verify operational status. Testing was conducted by Ship's Force and witnessed by the AIT. A PICO report was provided by Ship's Force representatives within three (3) working days of PICO completion work.

Ship's Force: Yes ☐ No ☐ N/A ☐ AIT OSIC: Yes ☐ No ☐ N/A ☐

Remarks: _____
_____

2. **Physical shipcheck of completed installation**. To ensure conformance with quality standards and procedures, the following elements were ship checked after completion of ship work:

   a. **Design conformance**. Alteration was accomplished IAW the approved alteration drawings provided.

Ship's Force: Yes ☐ No ☐ N/A ☐ AIT OSIC: Yes ☐ No ☐ N/A ☐ NSA: Yes ☐ No ☐ N/A ☐

Remarks: _____
_____

   b. **Equipment access**. Access to new and relocated equipment is acceptable for operation and maintenance of the equipment including access to connectors where practicable.

Ship's Force: Yes ☐ No ☐ N/A ☐ AIT OISC: Yes ☐ No ☐ N/A ☐ NSA: Yes ☐ No ☐ N/A ☐

Remarks: _____
_____

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c. **Removal items**. In addition to items indicated on removal drawings, piping, cabling, mounts, racks, foundations, pipe/cable hangers, etc., which were made unnecessary or redundant as a result of the accomplishment of the alteration/SC, have been removed and properly discarded.

Ship's Force:	Yes ☐	No ☐	N/A ☐	AIT OSIC:	Yes ☐	No ☐	N/A ☐	NSA:	Yes ☐	No ☐	N/A ☐

Remarks: _____
_____

d. **Structural installation**. All structural work (deck/bulkhead modifications, foundations, etc.) is satisfactory in terms of workmanship, fit, function, preservation, and finish.

Ship's Force:	Yes ☐	No ☐	N/A ☐	AIT OSIC:	Yes ☐	No ☐	N/A ☐	NSA:	Yes ☐	No ☐	N/A ☐

Remarks: _____
_____

e. **Piping installation**. All piping work (pipe modifications, valves, pipe fittings, etc.) is satisfactory in terms of workmanship, fit, function, preservation, and finish.

Ship's Force:	Yes ☐	No ☐	N/A ☐	AIT OSIC:	Yes ☐	No ☐	N/A ☐	NSA:	Yes ☐	No ☐	N/A ☐

Remarks: _____
_____

f. **Cabling**. Cabling is satisfactory in terms of type, function, workmanship, designation and marking, cable shield grounding, cable entry into equipment, penetrations (including coamings), routing (including avoidance of interferences with equipment or personnel/material movement), acceptable bending radius, and finish.

Ship's Force:	Yes ☐	No ☐	N/A ☐	AIT OSIC:	Yes ☐	No ☐	N/A ☐	NSA:	Yes ☐	No ☐	N/A ☐

Remarks: _____
_____

g. **Cableways**. Cableway work (hangers, supports, and trunks) is satisfactory in terms of workmanship, clearances, spacing, and new hanger/support installation (when required), fit and finish. New banding has been applied to all new or disturbed hangers.

Ship's Force:	Yes ☐	No ☐	N/A ☐	AIT OSIC:	Yes ☐	No ☐	N/A ☐	NSA	Yes ☐	No ☐	N/A ☐

Remarks_____
_____

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h. **Wiring**. Wiring is satisfactory in terms of workmanship, designation and marking, terminal lug application (proper type, size, and attachment process [crimp/solder]), sufficient wire length, signal shield terminations, and wire routing within equipment.

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

i. **Connectors**. Connector work is satisfactory in terms of workmanship, connector selection, connector assembly (fully pinned with proper pin type, size, and attachment process [crimp/solder]), sufficient wire length, back shell application (type, assembly, cable shield termination, strain relief, etc.), and accessibility.

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

j. **Grounding and bonding**. Grounding and bonding requirements for safety, TEMPEST, and Electromagnetic Interference (EMI)/Intermediate Modulation Interference (IMI)/Radio Frequency Interference (RFI) have been observed and properly applied and grounding and bonding is satisfactory in terms of workmanship, fit, function, preservation, and finish.

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

k. **Labels and label plates**. New labels and label plates have been installed where required (piping, valves, equipment, racks, switch/patch boards, panels, connection boxes, etc.). Existing labels and label plates removed or damaged during accomplishment of the alteration and requiring restoration or relocation have been restored. Labels and label plates have been properly applied and are satisfactory in terms of workmanship, type, fit, function, and finish.

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

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l. **Compartment marking**. Compartment marking, which was removed or damaged during accomplishment of the alteration and requires restoration or relocation, has been restored IAW NAVSEA S9086-CN-STM-020/CH-79 V2 and NAVSEA S9086-RK-STM-010/CH-505. Compartment marking has been properly applied and is satisfactory in terms of workmanship, type, fit, function, and finish.

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

m. **Impacted equipment condition**. Equipment installed or relocated as a result of the alteration accomplishment has been tested and demonstrated to be operational and free from defects. Equipment or components removed and re-installed as interferences are in at least an "as-found" condition. Interference items, which were operational prior to removal, have been tested and demonstrated to be operational and free from defects. (See NAVSEA Standard Item 009-23)

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____
_____

n. **Clean-up**. Chips, shavings, refuse, dirt, fluids (including water), and all scrap and other foreign material, including hazardous waste, industrial waste, and excess hazardous material produced as a result of the accomplishment of alteration have been removed from spaces and areas impacted by the alteration and properly disposed. Operational spaces, tanks and unoccupied spaces, and compartments have been left "broom clean".

Ship's Force:	Yes	☐	AIT OISC:	Yes	☐
	No	☐		No	☐
	N/A	☐		N/A	☐

Remarks: _____
_____

3. Correction of Discrepancies. Note: Checking YES signifies that all discrepancies have been corrected, NO signifies that there are still open discrepancies (POA&M for correcting discrepancies provided) and N/A signifies there were no discrepancies.

Remarks: _____
_____
_____
_____

Ship's Force:	Yes	☐	AIT OSIC:	Yes	☐	NSA:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

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Ship's Force:_____	AIT OSIC:_____	NSA:_____
Printed Name/Rank:_____	Printed Name:_____	Printed Name:_____
Signature:_____	Signature:_____	Signature:_____
Date:_____	Date:_____	Date:_____

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TRAINING VERIFICATION STATEMENT

Ship:

Alt/SC Identifier:

Alt/SC Description:

Alt/SC Start Date:

Alt/SC End Date:

Installing Activity:

1. On-the-job operator and maintenance training has been provided to the ship for equipment installed as part of the above alteration/SC as follows:

Operator Training

Equipment	Name (Ship's Force)	Signature (Ship's Force)

Maintenance Training

Equipment	Name (Ship's Force)	Signature(Ship's Force)

Ship Integration Training (If Applicable)

Equipment	Name (Ship's Force)	Signature (Ship's Force)

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EXHIBIT H-4
AIT QUALITY MANGEMENT SYSTEM REQUIREMENTS

CONTENTS

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Alteration Installation Team (AIT) Quality Management System Requirements

The AIT shall provide to NAVSEA 04 and maintain a documented QMS to ensure product conformance to contractual/task requirements. The system shall be accepted by NAVSEA 04 and, as a minimum, comply with the requirements of NAVSEA Standard Item (SI) 009-04 and all additional contract/task requirements. Resubmittal of QMS shall be IAW Section H-3.1.13.

Note: This will provide for the same level of QA required for private sector industrial facilities under Master Ship Repair Agreements (MSRA) and Agreement for Boat Repairs (ABR).

1 General

The AIT shall maintain a QMS that will assure that all supplies, services, and workmanship are provided for the accomplishment of alterations/SCs to ships conform to contract or task requirements whether manufactured or provided by the AIT, or procured from contractors or vendors. The QMS shall apply to supplies, services, and workmanship provided for the accomplishment of alteration/SC to ships whether the alteration/SC is a permanent change to the ship, an equipment alteration/legacy alteration, or a Temporary Alteration (TEMPALT)/NPC). The AIT shall perform, or have performed, the inspections and tests required to substantiate product conformance to approved design drawings, specifications, and contract or task requirements and shall also perform, or have performed, all inspections and tests otherwise required by applicable alteration/SC records, installation drawings, contract or tasking documentation. Inspection and Test Plans and records shall be made available upon request by the NSA.

The QMS shall include the following additional requirements, clarifications, and processes:

2 Master Test Plans (MTPs)

MTPs describe test objectives, the inspections, and tests to be conducted to verify compliance with specifications and operating requirements to verify proper operation of impacted systems, equipment, and interfaces after completion of ship work. MTPs shall include or reference inspection and test plans developed to substantiate product conformance to design drawings, specifications, alteration/SC requirements, installation drawings, and contractual or task requirements. A MTP shall be prepared for each alteration/SC (permanent or temporary); shall be prescribed by clear, complete, and current instructions; and shall be developed in conjunction with the Planning Yard (PY), the system/equipment Life Cycle Manager (LCM), and the responsible In-Service Engineering Activity (ISEA). During accomplishment of an alteration/SC, associated MTPs shall be provided to the ship and designated NSA.

3 Test Procedures (TPs)

Equipment-unique Inspection and Test Plans shall be obtained from the system/equipment LCM or the responsible ISEA and shall cover in detail the procedures for accomplishment of each of the equipment-unique tests required to demonstrate the proper operation of all equipment impacted by accomplishment of the alteration/SC. This includes all equipment that was modified or relocated as a result of the accomplishment of the alteration/SC including testing of all system/components that were removed and reinstalled by the AIT as interference IAW

NAVSEA SI 009-23. Testing will be adequate to demonstrate compliance with applicable installation certification requirements (i.e., SIGSEC, TEMPEST, Radiation Hazard (RADHAZ)/Electromagnetic Interference (EMI)/Electromagnetic Compatibility (EMC), SUBSAFE, DSS-SOC, Submarine FBW, etc.).

4 Process Controls

Process control procedures shall be an integral part of the QMS. In addition to process controls that may be required by the alteration/SC record, installation drawing, or contract or tasking documentation, the AIT will provide and maintain such process controls as are necessary to assure the quality of ship work. Process controls shall include the following SUBSECTIONs 4.1 through 4.3, as applicable:

4.1 Design Product Control Procedures

When tasked for design development, the AIT's design product control procedures shall cover:

a) Assignment of responsibility for detailed examination, review, and internal approval authority for AIT design products

b) Required qualifications of personnel performing detailed examination, review, and approval of AIT design products

c) Procedural flow of design drawings and other associated documentation

d) Checklists to be used in the detailed examination and review of design products; the checklists shall specify each examination to be performed to verify conformance of products to the applicable specifications.

e) Method of safeguarding classified information

f) Methods providing for the prevention and ready detection of discrepancies and for timely and positive corrective action

g) Method of safe storage of Master File Drawings, Reference drawings, and other ship design documentation

h) Methods providing for controlled issue of design drawing copies, both reproducible and non-reproducible

i) Method for ensuring that listing of training and personnel qualifications/certifications is maintained and made available upon request by the NSA.

4.2 Installation Process Control Procedures

Instructions shall be developed which identify requirements necessary to preclude damage to the ship or injury to personnel during the accomplishment of ship work, and technical work

documents shall be developed to ensure that the installation is accomplished IAW the drawings and other applicable technical specifications. These instructions shall include, but are not limited to the following:

a) Control of magnetic material

b) Material storage at the work site

c) Storage and use of hazardous materials

d) Fire prevention

e) Sight and hearing protection

f) Material for staging and screening temporary covers and shelters

g) Installation of cofferdams, patches, and shaft wraps

h) Hot work requires the following OQE at check-in:

(1) NAVSEA-approved welding/brazing procedures (approval letters)

(2) NAVSEA-approved Non-Destructive Testing (NDT) procedures (approval letters)

i) Uncrating/unpacking of equipment

j) Storage and use of tools and test equipment

k) Protection of pipes, cables, and equipment during ship work

l) System or equipment de-activation/reactivation

m) Control of connector fabrication

n) Critical Systems

o) Workmanship, which includes cleanliness of the ship

4.3 Notes

a) AITs are required to use a certified marine chemist for entry into confined spaces.

b) NAVSEA 04/RMC acceptance of the quality manual/plan does not constitute approval of individual welding, brazing, and NDT procedures. The approval requirements for these procedures are specified in references H(au) and H(av).

c) Submittal of procedures and Process Control Procedures (per NAVSEA SI 009-09) invoked by NAVSEA SIs, MIL-STDs, drawings, technical publications, and

specifications—though an integral part of the QMS—are to be submitted and approved by the SUPERVISOR independent of the documented QMS submittal.

d) Procedures required to control processes in the Safety and Environmental area, are not required to be submitted as part of the written QMS, but upon request will be submitted to the NSA or LMA Safety Office for review.

5 Personnel Certifications

Procedures shall be maintained to assure personnel certifications that may be required to perform ship work, depending on the work to be accomplished. Refer to Exhibit H-9, Paragraph 2.

6 Headquarters Centrally Procured Material (HCPM)

Provide for receipt of HCPM as follows:

a) When the HCPM is received directly, one signed copy of the Shipping Document (DD Form 1348-1) and one signed copy of the Government Bill of Lading (GBL) shall be retained by the AIT.

b) The HCPM shall be inspected immediately upon receipt to verify conformance with description and requirements, verify quantity, and check for possible damage.

c) Notify the shipping activity of any damage immediately after inspection. The Headquarters equipment manager and the SPM shall be notified if the damage is more than superficial.

d) If the HCPM is electronics equipment, the AIT shall provide testing and calibration of the equipment to verify that the equipment meets operational specifications.

Records of the receipt and disposition of each HCPM item shall be maintained.

7 Configuration Status Accounting

Depending on the program, the AIT may be tasked to maintain configuration records of equipment and software so that the ship and equipment managers can maintain configuration control. If configuration status accounting is tasked, the material control process shall provide for equipment and software accounting.

7.1 Equipment Accounting

For each piece of HCPM equipment (not material) that is intended to be installed aboard ship, that is received, ordered, or fabricated by the AIT, a computerized index of purchase orders, modifications accomplished, and final disposition shall be maintained.

7.2 Software Accounting

For each software item that is to be installed in shipboard equipment, a computerized index of purchase orders, modifications accomplished, and final disposition shall be provided and maintained.

7.3 Weight Accounting

All Alterations and SCs are reviewed for impact to weight and stability by the appropriate Planning Yard (PY) for items identified in the SIDs to be removed, retained, and added. For weight critical ships added attention to items removed/retained by modernization is required. The AIT Manager shall obtain PY and SPM approval (via LAR) for any items designated in SIDs for removal, but retained on the ship. For example, one cable tagged for removal buried deep in a large cable bundle, where the risk of damage to surrounding cables may warrant leaving the cable in place. For NPCs, a Fleet approved waiver is required. Likewise, the AIT Manager shall notify PY and SPM (via LAR) of items discovered (not in listed in SIDs) which can be removed during the course of AIT work. For example, previously dead ended cables found during cable removal which can be removed by the AIT.

The PY shall maximize removal of the following for weight critical ships during the alteration development phase:

a) Unused or dead-ended cables

b) Unused foundations

c) Unused equipment with associated cables and foundations

The material control process shall provide procedures for weight accounting and reporting to the PY when required.

8 Problem Resolution Process

Procedures shall be maintained that allow for documentation of actions to resolve any quality problems with installation or work control. The necessary documentation shall be made available to the AIT Manager and applicable NSA.

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EXHIBIT H-5

AIT MANAGER'S QUALITY ASSURANCE PROGRAM (AMQAP)

CONTENTS

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ATTACHMENTS

AIT Manager's Quality Assurance Program (AMQAP)

1 Purpose

This appendix establishes basic guidance for assisting AIT Manager's role in performing Tasking/Contract Administration Quality functions to ensure AIT product quality. The quality program elements are structured to facilitate an AIT Manager's oversight role for processes associated with shipboard alterations accomplished by AITs. Exhibit H-5 supports QA oversight requirements set forth by FAR Part 46 – Quality Assurance. The five elements of the AIT Manager Quality Assurance Program (AMQAP) are designed to provide a systematic and uniform program approach for ensuring AIT compliance with requirements. The AMQAP program elements include the following:

a) AIT Document/Procedure Review

b) Process Surveillance and Product Inspections

c) Quality System Audits

d) Corrective Action

e) Quality Data Evaluation

The AIT Manager and/or designated OSIC will develop, apply, and maintain an effective program for performing Government Contract QA actions consistent with AMQAP.

2 Program Direction and Control

The AMQAP responsibilities for each organization in addition to AIT compliance and capability requirements are contained in SUBSECTIONs 2.1 through 2.6

2.1 AIT Responsibilities

The AIT carries out the obligations as set forth in the terms and conditions of the contract/tasking and IAW applicable specifications. The AIT is responsible for controlling product quality, offering for acceptance only those supplies and services that conform to contract requirements, and when required, for maintaining and furnishing objective evidence of this conformance.

2.2 AIT Sponsor Responsibilities

The AIT Sponsor is responsible for ensuring AIT installations are funded to the level necessary to ensure all quality system requirements are met, including AIT Manager/OSIC execution of AMQAP and NSA/LMA quality oversight. Data analysis and metrics resulting from the Quality Data Evaluation element of the AMQAP will support the Sponsor's annual quality trend analysis of sponsored AITs. Submit annual quality assessment reports of FY data, to NAVSEA 04 by the February following the end of the FY. Attachment I, "Annual Quality Assessment Report of AIT Performance," provides a sample form for providing an annual quality assessment report of an AIT's performance; this form is completed by the AIT Sponsor/Manager.

2.3 AIT Manager/On-Site Installation Coordinator Responsibilities

The AIT Manager/OSIC will determine the type and extent of AMQAP actions to ensure AIT compliance and shall as a minimum implement the requirements of Section 3 of this Exhibit H-4. When OSIC functions will be performed by a different organization than the AIT Manager, the AIT Manager shall ensure that the scope of authority assigned to the activity performing the OSIC's functions is documented via the MOA. The AIT Manager may also task and fund QA program responsibilities to the NSA. This scope of authority shall be documented in the MOA.

2.4 Naval Supervisory Authority (NSA) Responsibilities

The NSA is the single Naval activity responsible for the oversight and verification of work accomplished by all activities working within the assigned availability and is responsible for integrating the planning and execution of work by all involved activities. The NSA is responsible for verifying and substantiating the effectiveness of the AIT Manager/OSIC's execution of their QA Program responsibilities. Significant issues and quality trends with AIT quality performance and/or AIT Manager/OSIC's AMQAP monitoring shall be documented. Attachment B (or equivalent form) is the "AIT Manager/OSIC's QA Program Action Requests" Form for NSA that is used to document issues with the AIT Manager/OSIC's execution of their AMQAP.

2.5 Compliance

The Government determines if the AIT's performance of work complies with the requirements of the tasking/contract. The tasking/contractual documents must provide the authority to require the AIT to maintain a QMS adequate for the work. To implement this, cognizant Government personnel will determine the effectiveness of the AIT's quality effort, as well as perform the product inspections necessary to ensure AIT's conformance to the specification.

2.6 Personnel Capability Requirements

The AIT Manager/OSIC will ensure the required skills are available to determine acceptability of products produced and services rendered by the AIT. Training must be provided to ensure personnel have the skills, techniques, and knowledge necessary to comply with the requirements of this document.

3 Elements of an AIT Manager Quality Assurance Program (AMQAP)

The following SUBSECTIONs provide guidance for Corrective Action Requests (CARs), surveillance, audits, and QA workbooks.

3.1 Document/Procedure Review

Document Review is the AMQAP element for verifying that the AIT's documented procedures and technical data comply with contractual/tasking requirements, including latest applicable version of invoked NAVSEA SIs. The AIT Manager/OSIC must review the AIT's procedures in a timely manner and not delay the AIT's performance. This review shall ensure that AIT has developed a specific AIT QA Workbook that identifies installation plan, and all applicable inspections and tests needed to ensure product/process quality. When the AIT does not develop

required written procedures or fails to correct inadequate procedures previously reported to the AIT, the AIT Manager/OSIC shall initiate corrective action.

3.1.1 AIT QA Workbook

The AIT QA Workbook shall be made available to the applicable NSA and/or LMA.

3.2 Process Surveillances and Product Inspections

Process surveillance inspections verify that the AIT is compliant with written quality procedures and that procedures are accomplishing the intended purpose of controlling product/process quality. Product inspections validate product compliance with drawing and specification requirements.

3.2.1 Quality Overview Plans

AIT Managers/AIT OSICs are required to develop quality overview plans for use during AIT work performance to ensure AIT compliance with established requirements. The surveillance and inspection plan shall include Government notification points, critical inspection points, and those areas to be monitored. Attachments C and D provide examples of a Quality Overview Schedule/Surveillance Plan and AIT OSIC QA Surveillance Oversight Plan.

3.2.1.1 Process Surveillance Inspections

Process surveillance inspections shall be scheduled and accomplished frequently by the AIT OSIC to ensure the AIT is compliant with their QMS processes and procedures for accomplishing work. Process surveillance inspection plans shall be developed using process-specific attribute checklists where the AIT Manager/OSIC intends to verify compliance. These inspection plans also serve as an inspection record when completed. Attachments D provides an example of an AIT OSIC QA Surveillance Oversight Plan used when conducting surveillances and inspections. Attachments E through H provide surveillance checklist examples respectively for Structural Welding, Pipe Welding, WAF/AIT QA Workbook, and Electrical Safety/Tag-Out.

3.2.1.2 Product Inspections

Product inspections shall be periodically conducted to verify that the AITs processes and procedures are accomplishing the intended purpose of controlling product/process quality. Product inspections will be performed for critical dimensions and/or attributes requiring additional oversight and are usually defined as a Government inspection point (G-Point) for AIT contractor work. AIT Managers/OSICs should work with the AIT during the planning phase to identify (via attribute sampling) product characteristics that need verification by the AIT Manager/OSIC to validate that the product offered by the AIT for acceptance does, in fact, conform to contract/tasking technical requirements. Records for documenting product inspections may be part of the AIT inspection and Test Plan or can be developed internally by the AIT Manager/OSIC. The scope and depth of these inspections depend on the complexity and size of the alteration/SC.

3.2.1.3 Frequency

Flexibility for adjusting frequency of surveillances and inspections will depend on nonconformity rates and problem areas identified, based on AIT's quality history. As a minimum, AIT Manager/AIT OSIC surveillance and inspection frequency shall be established for each AIT installation and be identified in the AIT Manager/OSIC's oversight plan.

3.2.1.4 NSA

Process and product surveillance and inspection results shall be made available to the applicable NSA when requested.

3.3 Quality System Audits

Quality system audits are designed to examine and evaluate procedures and processes to determine compliance and measure the effectiveness of the AIT's QMS. The "QMS audit" may be conducted as a single audit or may be combinations of several audits that ensure all major elements of QMS are audited. AIT Managers should conduct quality system audits when selecting new AITs or when quality issues are identified that indicate a breakdown in AIT compliance with quality system requirements.

3.3.1 Audit Results

Documentation of audit results for AIT installs shall be made available to the applicable NSA when requested.

3.4 Corrective Actions

Effective corrective action is one of the most important AMQAP elements as it serves to define methods for requesting action by the AIT to act to correct nonconformities and address unplanned events. To achieve systematic assurance of compliance throughout all phases of the AIT's operation, the basic causes of nonconformities must be identified and prompt corrective action taken to correct assignable conditions in order to preclude future nonconformities. The AIT shall be required not only to correct specific nonconformities, but also to initiate preventive action to identify and eliminate cause of nonconformities. The AIT Manager/OSIC's use of a Corrective Action Request (CAR) (refer to Attachment A) is designed to ensure that AITs address actions needed to support effective corrective and preventive actions. The AIT Manager/OSIC must evaluate effectiveness of an AIT's preventive action to eliminate cause of nonconformities by performing follow-up actions after process change has been implemented. The AIT Manager/OSIC may need to increase oversight inspections until there is assurance that the AIT's corrective action is satisfactory.

3.4.1 Significant Ship Problems

For significant ship problems (e.g., problems that affect ship safety, cause significant damage to the ship or its equipment, delay ship deployment, incur substantial cost increase, or involve severe personnel injury), AIT Manager/OSIC shall require a critique be conducted inviting participation by the applicable NSA and LMA and a Trouble Report issued, if applicable. Trouble Reports shall be prepared and distributed IAW reference H(af). Trouble Reports should

also identify systemic problems and issues that constitute significant lessons learned for other activities.

3.4.2 Corrective Action Requests (CARs)

CARs should be discussed with AIT management/AIT prior to issuance. An effective follow-up system will be maintained by AIT Manager/OSIC on all CARs to ensure acceptable resolution. Nonconformities shall be assigned one of three levels of severity—Minor, Major and Critical—to distinguish those problems that have the most impact on an activity in accomplishing its mission. Severity levels also help ensure appropriate resources are focused on the most significant problems. When corrective action by an AIT is required, one of the following methods discussed in SUBSECTIONs 3.4.2.1 through 3.4.2.4 will be implemented by the AIT Manager/OSIC.

3.4.2.1 Minor Nonconformities (Method A)

A minor nonconformity is a defect or flaw that will probably not impair the performance or life of a product or result in unsafe conditions for the user. Generally, a minor nonconformity is administrative in nature or can be corrected on the spot; at most, the AIT can be reasonably expected to correct it within one day. Examples of minor nonconformities include: non-docking related late reports; repeated housekeeping violations; potential safety discrepancies, such as a hot work chit not posted on-site; minor repetitive administrative discrepancies with submittals of work specifications, Process Control Procedures, reports, etc.; and minor OQE discrepancies and G-Points called out during normal working hours that are not ready for inspection at the designated time. These minor nonconformities shall be presented to responsible AIT personnel verbally or in writing for correction. Each minor nonconformity will be described in sufficient detail to allow the AIT to understand what contractual/tasking requirement is violated and to take appropriate corrective action. While the AIT is not required to provide a written response, the internal AIT Manager/OSIC's process shall ensure that minor nonconformities are documented by use of a CAR, corrected, and date verified/cleared. While causal analysis or long term action is not required, the AIT Manager/OSIC shall evaluate minor nonconformities for trend analysis.

3.4.2.2 Major Nonconformities (Method B)

A major nonconformity is a nonconformance that judgment and experience indicate could impair the performance or life of a product or result in hazardous or unsafe conditions for the user. Examples of major nonconformities include: late dry-dock-related reports; repeated Method A nonconformities in the same area; safety discrepancies that pose an immediate threat or danger; serious injuries to personnel; damage to government property or ship's systems that impact the product or performance; AIT's actions that result in the issuance of a Trouble Report; and technical authority violations, such as unauthorized substitution of materials or unauthorized changes to ship's systems.

Major quality problems must be investigated to determine scope of the problem, to identify root causes, and to take action to correct the assignable causes. When major nonconformities are detected or a trend of recurring minor nonconformities is noted, a CAR shall be initiated citing the specific tasking/contract, specification or AIT procedural requirement violated, and a

description of the nonconformity, clearly indicating how the requirement was violated. Additionally, the CAR shall include pertinent control information, such as contract or tasking number/job order, ship, appropriate references, originator name and signature, unique serial number, AIT's corrective action response and preventive action(s) taken to eliminate the causes of potential nonconformities in order to prevent their occurrence, and AIT Manager/OSIC indication of acceptability and signature. Attachment A is an example of a CAR form. The CAR shall be forwarded to the appropriate level of the AIT's management for action. The actual time frame for completion of AIT corrective action may vary; however, a prompt response to a CAR is required. An interim reply may be acceptable pending the AIT's completion of corrective actions. The AIT Manager/OSIC shall review and accept AITs corrective and preventive action.

3.4.2.3 Systemic/Critical Nonconformities (Method C)

When the previous methods fail to obtain satisfactory results or when the severity of the situation warrants, a Method C letter shall be issued from the QA Officer/Director/Manager or the appropriate Department Head notifying the AIT's appropriate level of management that a critical or systemic problem exists, and immediate management action must be taken to comply with the provisions of the contract/tasking. These problems must be investigated to determine and correct the causes. In addition, when a Method C letter fails to obtain satisfactory results or when the severity of the situation warrants, a second letter (Method D) shall be issued by the CO or the Contracting Officer notifying the AIT's top level of management that a systemic or critical problem exists, and that immediate management action must be taken to comply with the provisions of the contract. An electronic or hard copy of each Method C or D letter shall be furnished to the CO and/or Contracting Officer.

3.4.2.4 Systemic/Critical Nonconformities (Method D)

When a Method C letter fails to obtain satisfactory results or when the severity of the situation warrants, a Method D letter shall be issued by the Contracting Officer (CO), notifying the AIT's top level of management that a systemic or critical problem exists and that immediate management action must be taken to comply with the provisions of the contract. An electronic or hard copy of each Method D letter shall be furnished to the CO and/or Contracting Officer.

3.5 Quality Data Evaluation

Quality Data Evaluation is the AMQAP element that provides for the collection, evaluation, and use of AIT, AIT Manager/OSIC and customer quality data. Quality Data analysis shall be done at least annually using the following quality data:

a) Casualty Reports

b) Trouble Reports

c) CARs

d) AIT Performance Assessment Report data

e) Process and Product Surveillance Inspection results

f) NSA and/or LMA Surveillance Inspection results

g) Quality System Audit results

3.5.1 Quality Data Analysis Results

The results of quality data analysis provide evidence of an AIT's quality performance and assist in determining the effectiveness of an AITs QMS. The AIT Manager/OSIC shall use the results of quality data analysis to adjust the intensity of application of basic elements of the AMQAP.

3.5.2 Quality Data Evaluation Results

The results of AIT Manager/OSIC's Quality Data Evaluation will be used for metrics that support the AIT Sponsors' annual AIT quality trend analysis submittal.

3.6 Quality Assurance (QA) Program for Field Activities Having AIT Manager/OSIC Responsibilities

Naval activities having AIT Manager responsibilities shall establish an internal audit program that audits AIT Manager/OSIC actions and responsibilities as identified in TS9090.310 to determine if internal departments are in compliance with this instruction and internal quality related directives and procedures. The audit shall normally be conducted every 12 months. However, audit periodicity may be extended to 24 months based on satisfactory performance.

4.0 NAVSEA Evaluations

NAVSEA, at its discretion, will perform periodic evaluations/audits of AIT Sponsors, AIT Managers, and AIT OSICs to assess and determine conformance to QA functions and responsibilities.

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Exhibit H-5. Attachment A

Corrective Action Request (CAR)

To: (AIT Activity Name and POC)	From: (AIT Manager/OSIC Activity Name and POC)
SHIP/HULL NUMBER:	REFERENCES:
PROBLEM SEVERITY LEVEL: ☐Critical ☐Major ☐Minor	
CONTRACT/TASKING NUMBER (if applicable):	
SERIAL NUMBER:	
STATEMENT OF NONCONFORMANCE (INCLUDE CONTRACT/SPECIFICATION REQUIREMENTS:	
_____ SIGNATURE OF AIT MANAGER/OSIC	_____ DATE
AIT CORRECTIVE ACTION TAKEN TO CORRECT NONCONFORMANCE:	
IDENTIFICATION OF ROOT CAUSE:	
PREVENTIVE ACTIONS TAKEN TO CORRECT ROOT CAUSE: _____ SIGNATURE OF AIT	_____ DATE
VERIFICATION OF AIT'S RESPONSE: ☐SATISFACTORY ☐UNSATISFACTORY COMMENTS: _____ SIGNATURE OF OSIC	_____ DATE
FOLLOW UP REQUIRED: ☐YES ☐NO RESULTS OF FOLLOW-UP ☐ SATISFACTORY ☐ UNSATISFACTORY _____ SIGNATURE OF AIT MANAGER	_____ DATE

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Exhibit H-5. Attachment B

AIT Manager/OSIC QA Program Action Request

(AIT MANAGER/OSIC Activity Name and POC)	(NSA Activity Name and POC)
SERIAL NUMBER AND DATE: (e.g. AIT MANAGER Name – Sequential Number)	REFERENCES:
ITEM CATEGORY: ☐ Non-Conformance ☐ Process Improvement	
SHIP/HULL NUMBER:	
NSA STATEMENT OF NONCONFORMANCE / PROCESS IMPROVEMENT:	
AIT MANAGER/OSIC CORRECTIVE ACTION(S) TAKEN TO CORRECT NONCONFORMANCE/PROCESS IMPROVEMENT:	
IDENTIFICATION OF ROOT CAUSE (NONCONFORMANCE ITEMS ONLY):	
PREVENTIVE ACTIONS TAKEN TO CORRECT ROOT CAUSE (NONCONFORMANCE ITEMS ONLY): _____ _____ SIGNATURE OF AIT or AIT MANAGER/OSIC REPRESENTATIVE DATE	
VERIFICATION OF AIT MANAGER/OSIC'S RESPONSE: ☐ SATISFACTORY ☐ UNSATISFACTORY COMMENTS: _____ _____ SIGNATURE OF REPRESENTATIVE DATE	
FOLLOW UP REQUIRED: ☐ YES ☐ NO RESULTS OF FOLLOW-UP ☐ SATISFACTORY ☐ UNSATISFACTORY _____ _____ SIGNATURE OF AIT MANAGER/OSIC DATE	

*Provide copy to SEA 04XQ: marion.b.hall@navy.mil.

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Exhibit H-5 Attachment C

Quality Overview Schedule and Surveillance Plans (Sample)

1 Introduction: This Quality Oversight Plan is for AIT Manager or AIT Name oversight actions during installation of alterations/SCs #(_____).

2 References:

(a) NAVSEA 0902-LP-018-2010; General Overhaul Specification for Deep Diving Submarines

(b) NAVSEA S9073-AM-SBV-010/020; Noise Monitoring of SSN/SSBN Auxiliary Machinery

(c) NAVSEA TS9090-310 (Series)

3 Enclosures:

a) AIT OSIC QA Surveillance Oversight Plan

b) Surveillance Checklist

c) In-Progress Monitoring

d) Work Package Review Record Sheet

e) Housekeeping Record Sheet

f) AIT QA Plan Audit Record

g) Annual Quality Assessment Report of AIT Performance

4 The AIT Manager (insert organization name) (OSIC will be responsible for the conduct of the installation and ensuring:

a) The AIT workmanship and work practices meet the requirements of all installation drawings and contract specifications including applicable NAVSEA SI and Submarine Maintenance Standards as invoked/applicable.

b) The AIT performs general housekeeping and fire prevention IAW reference H(c), including the proper disposal of any hazardous waste, industrial waste or excess hazardous material, in all impacted areas as an on-going part of the alteration accomplishment.

c) After completion of all ship work, the AIT will conduct final housekeeping in all areas involved in the alteration accomplishment.

d) The AIT Team Lead insures that all hoses, welding leads, temporary ventilation trunks, and other material and services shall be kept clear of water tight doors and hatches or be capable of being removed.

e) The AIT shall ensure all removed equipment and associated material is properly disposed of. Additionally, the AIT OSIC/AIT Lead will be responsible for protecting equipment from contamination during the alteration installation process IAW NAVSEA SI 009-06.

f) Provide on-site installation oversight and management for respective installs to include spot-check and surveillance inspections of ongoing and completed work. Establish, witness, and sign-off on government "G" point inspection points in the Test and Inspection Plan. The Quality Overview Schedule provides details on planned audit and surveillance tasks and includes forms used for documentation.

g) Provide copies of completed surveillances to the NSA when requested.

h) Ensure all members of the AIT comply with all requirements specified in the Tag-Out Users Manual per reference H(c).

i) Ensure tag-out notification is submitted in a timely manner so that tag-outs can be accomplished as required by reference H(c). Notification shall be made at least forty-eight (48) hours prior to required deactivation to ensure proper coordination with other on-going work.

j) Act as the central point-of-contact with the ship, NSA, LMA and AIT.

k) Ensure AIT adherence to safety, environmental, quality, and technical requirements.

5 Mitigate AIT issues, particularly those relating to a stop work order.

6 <u>Testing:</u>

a) Ensure the NSA and LMA are notified prior to all testing events.

b) Maintain completed test reports during accomplishment of the alteration/SC.

c) Provide completed test reports to the NSA, LMA and Ship's Force.

7 Attend NSA and/or LMA availability production and coordination meetings and all other appropriate meetings, as required.

8 Once production work commences for an alteration, ensure production POA&Ms are updated weekly IAW subsection H-3.18.12 of reference H(c) and AIT POA&M Scheduling Guide, Exhibit H-2, providing actual progress and timeframes.

9 Ensure delivery of all documentation, test reports, ILS products.

a) Upon completion of the alteration, ensure any required on-the-job training of assigned members of the ship's crew is conducted by the AIT.

b) Training will include both operation and maintenance of all new and modified equipment.

10 Resolve quality discrepancies.

11 Ensure that AIT work responsibilities that involve SUBSAFE, DSS-SOC, or FBW work is performed only by a NAVSEANOTE 5000 activity per reference H(c).

12 Per reference H(c), ensure that AIT work responsibilities that involve SUBSAFE, DSS-SOC or FBW is performed IAW NAVSEA 0924-LP-062-0010, NAVSEA SS800-AG-MAN-010/P-9290, and NAVSEA T9044-AD-MAN-010, respectively.

13 Ensure adherence to schedule requirements.

14 Ensure the following actions have been completed for alteration/SC #(_____):

a) AC Plant tested IAW Section 9590 of reference H(a) per alteration/SC instructions.

b) Validate all new equipment meets noise requirements specified in the alteration/SC.

c) Validate Structure Borne Noise Testing is completed for all modified equipment during operations per reference H(b).

d) Validate Isolation System Survey and Housekeeping portion of Topside and Housekeeping Survey for affected areas upon alteration/SC completion per Section 9400-1 of reference H(a).

e) Validate completion of Airborne Noise Survey of the affected areas upon alteration/SC completion per Section 9400-1 of reference H(a).

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Exhibit H-5. Attachment D

AIT OSIC QA Surveillance Oversight Plan (Sample)

Surveillance Task	Periodicity	Responsibility	Actions
Conduct random spot check of an AIT employee performing work on board the ship. Use the Work In-Progress Monitoring surveillance checklist to evaluate process.	Twice per week, for each shift in which work is performed.	AIT Manager, On-Site Installation Coordinator (OSIC) or OSIC Designated Government Employee	Complete surveillance checklist; retain forms on site as OQE; make copies available to LMA or NSA, upon request.
Spot check AIT work packages to ensure scope of work is identified, individual is working within work scope, package contains details of work being performed, current process procedures are being utilized and QA checkpoints incorporated into the process. Use Work Package Review surveillance checklist to evaluate process.	Twice per week rotating through each SHIPALT	AIT Manager, OSIC or OSIC Designated Government Employee	Complete surveillance checklist; retain forms on site as OQE; make copies available to LMA or NSA, upon request.
Conduct random spot check of on board or off-hull AIT work areas for cleanliness, stowage and general housekeeping. Use housekeeping surveillance checklist to evaluate process.	Twice per week	AIT Manager, OSIC or OSIC Designated Government Employee	Complete surveillance checklist; retain forms on site as OQE; make copies available to LMA or NSA, upon request.
Conduct an audit of AIT'S audit and surveillance plan to ensure compliance. Use AIT QA Audit/Surveillance checklist to evaluate process.	Bi-weekly	AIT Manager, OSIC or OSIC Designated Government Employee	Complete surveillance checklist; retain forms on site as OQE; make copies available to LMA or NSA, upon request.
OSIC conduct an audit of completed AIT work packages. Complete work Package Audit Form.	All work packages as they are completed	AIT Manager, OSIC or OSIC Designated Government Employee	Complete surveillance checklist; retain forms on site as OQE; make copies available to LMA or NSA, upon request.

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Exhibit H-5. Attachment E

Example of Surveillance Checklist: Structural Welding (two pages)

Ship Alt Number:	SHIP:	Date:	AIT:	AIT Manager/OSIC:

Attributes: **STRUCTURAL WELDING**	SAT	UNSAT	N/A	Remarks/Correct Action Required
1. Is the welder currently qualified for: a. Process being used? b. Position? c. Electrode and material type?				
2. Does Weld Procedure correspond with work being accomplished?				
3. Has the Weld Procedure been approved by NAVSEA/SUPSHIP or their authorized representative?				
4. Is the Process Control Procedure at the worksite, when required (e.g., critical aluminum welding)?				
5. Does welder have the correct filler material type and size required by procedure?				
6. Does welder have more than one filler material type in his possession that could lead to material mix-up?				
7. Are moisture sensitive covered electrodes (e.g., Mil types 9018, 10018, 11018, 12018, 10018-N1, 410NiMo and E2209-15/16) placed in holding ovens (225-300 degrees) after hermetically sealed container is opened? a. Are returned exposed electrodes exceeding time limit (more than 5 hours) re-baked or placed in holding ovens for at least 8 hours? b. Is the holding oven for other Low Hydrogen covered electrodes maintained at 150-300 Degrees?				
9. Where applicable, did welder ensure that confined space was certified gas free prior to welding?				
10. Did welder ensure that equipment was protected prior to welding?				
11. Was a fire watch in position during welding operations?				

Ship Alt Number:	SHIP:	Date:	AIT:	AIT Manager/OSIC:

Attributes: **STRUCTURAL WELDING**	SAT	UNSAT	N/A	Remarks/Correct Action Required
12. Did welder check pre-heat and interpass temperatures for correct temperature required by weld procedure? 13. Does welder have correct temperature sticks or other devices to check base material temperature?				
14. Does welder clean base material to ensure weld is not contaminated with foreign material?				
15. Did welder perform Visual Inspection (VT) of welds? a. Has welder been trained to perform workmanship inspection per MIL-STD-1689A?				
16. Were All NDT inspections required by Drawing or Fabrication Specification performed?				
17. Was the NDT inspector qualified for NDT inspections performed?				
18. Was welding and NDT performed documented on a Weld Joint record?				
Note: Source requirements: NAVSEA S9074-AQ-GIB-010/248, and MIL-STD-1689				

Exhibit H-5. Attachment F

Example of Surveillance Checklist: Pipe Welding

Ship Alt Number:	SHIP:	Date:	AIT:	AIT Manager/OSIC:

Attributes: **PIPE WELDING**	SAT	UNSAT	N/A	Remarks/Correct Action Required
1. Is the Work Authorization Form (WAF) at the worksite?				
2. Is the Process Control Procedure, when required, at the worksite?				
3. Is correct Welding Technique Sheet at worksite for materials being welded?				
4. Is correct filler type material and size being used for weld per Weld Technique Sheet?				
5. Is welder 5X visual inspector qualified?				
6. Is welder qualified for weld procedure?				
7. Has the diametrical clearance been checked (P1 maximum clearance .065")?				
8. Has the socket pipe end clearance (1/16" to 1/8" for new and 1/32" to 1/16" existing been checked? (evidence of a scribe line being used to measure)				
9. Have the items been preheated per the Welding Technique Sheet?				
10. Have Interpass temperatures been taken for multiple pass welds per Weld Technique Sheet? (Check temperature at site of operation before starting the next pass)				
11. When required, has the item been post weld heat treated per the Welding Technique Sheet?				
12. Is pipe socket fillet weld the correct size for Piping Nominal Wall Thickness (Tp)? (Weld size =Tp x 1 ¾ Tp)				
13. Are there any visual discrepancies such as weld spatter, weld undercut and weld slag?				
14. Was NDT performed as required by drawing?				
15. Was the NDT inspector qualified for NDT inspections performed?				
16. Was welding and NDT performed documented on a Weld Joint record?				
Note: Source requirements: NAVSEA S9074-AQ-GIB-010/248, and NAVSEA S9074-AR-GIB-010/278				

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Exhibit H-5. Attachment G

Example of Surveillance Checklist:

Work Authorization Form (WAF) and AIT QA Workbook

Ship Alt Number:	SHIP:	Date:	AIT:	AIT Manager/OSIC:

Attributes: **WORK AUTHORIZATION FORM (WAF) and QA Workbook**	SAT	UNSAT	N/A	Remarks/Correct Action Required
1. Is WAF placed in the work authorization signed by Ship's Force and other appropriate personnel at worksite?				
2. Did the AIT present proposed tag-out for work on system equipment? a. Are all tags posted properly? b. Does the equipment tagged appear to be in the position indicated on the tag?				
3. Is the work being performed within the scope of WAF?				
4. Are any revisions to WAF reviewed and signed by appropriate personnel?				
5. Is QA workbook on-site and being used to perform work?				
6. Does AIT have correct drawing and revision level for performing the work?				
7. Are in-process steps being followed and appropriate signatures annotated as specified in inspection and test plan?				
8. Has OSIC been notified by AIT for Government G-point inspections in QA Workbook?				
9. Is the AIT worker qualified to perform work and is his qualifications in the QA workbook?				
10. If HAZMAT is being used, is it properly labeled?				
11. Is the worker following safety requirements specified in the work package?				
12. Is the worker observing cautions, warnings and notes, as applicable?				
13. Has the AIT supervisor visited the work site during the shift?				
14. Is the mechanic using good work practices?				
15. Is the mechanic using calibrated measuring and test equipment for product inspections?				
16. Have test requirements to certify work been identified in QA Workbook?				
17. Does the AIT have required test equipment to test work being accomplished? a. Are the test gage ranges appropriate (middle ¾ range of gage) of test pressure being applied? b. Are test gages calibrated?				
18. Do test procedures require that equipment or system be protected from over-pressurization?				
19. Is system tested prior to closing out WAF?				

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Exhibit H-5. Attachment H

Example of Surveillance Checklist: Electrical Safety and Tag-Out

Ship Alt Number:	SHIP:	Date:	AIT:	AIT Manager/OSIC:

Attributes: **ELECTRICAL SAFETY and TAG-OUT**	SAT	UNSAT	N/A	Remarks/Correct Action Required
1. Was ship's authorizing officer's signature obtained on Tag Out Authorization Form?				
2. Have all required circuits have been electrically isolated?				
3. Have circuit breakers been locked and tagged out?				
4. Was a voltage tester/voltmeter used to validate equipment was de-energized?				
5. Are all unused openings in cabinets, boxes, and fittings effectively covered, covers closed, exposed power supplying conducted ends taped, and all conductors protected from contamination?				
6. Are any loose wires properly insulated and identified?				
7. Are electrical storage devices discharged prior to commencing work?				
8. Are metal hand held tools properly covered with electrical insulating material when working near energized circuits?				
9. Are electrical workers wearing appropriate personal protective equipment (safety glasses and electrical hazard safety shoes, etc.)?				
10. Are non-qualified personnel and other personnel not involved with the work are kept a minimum of three feet from the energized circuit?				

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Exhibit H-5. Attachment I

Annual Quality Assessment Report of AIT Performance (Sample)

SPONSOR SUMMARY PAGE Date:_____

Assessment Period Dates _____

AIT Manager {Government Activity, include POC Name/Title} _____

_____

Sponsor Overall Assessment of AIT (include basis for assessment)			
(Name and CAGE Code) □ Below Average	□Average	□Above Average	
Comments:			
(Name and CAGE Code) □ Below Average	□Average	□Above Average	
Comments:			
(Name and CAGE Code) □ Below Average	□Average	□Above Average	
Comments:			

AIT Manager's Oversight Assessments are provided by Enclosures:

Signature:

Name, Organization/Code, Title:

MANAGER SUMMARY PAGE

AIT Manager {Government Activity, include POC Name/Title} _____

_____

Assessment Period Dates _____

AIT Assessed _____

Scope of Work (optional)

Affected Platforms / Class (optional)

Manager' Assessment of AIT ☐ Below Average ☐Average ☐Above Average
- Address
❑ Program Weaknesses and Actions Taken to address
❑ Systemic Problems / Concerns
❑ Significant Production Delays Caused By AIT (e.g., rework, material not ordered properly, or staged when required, lack of personnel assigned for work to be accomplished, unqualified personnel or procedures)

Considerations in Developing Assessments

❖ MOA
❑ NSA and/or LMA – QA Support Services Requested IAW requirements? ☐ YES ☐ NO ❑ Agreements Obtained Prior to Installation Start Date? ☐ YES ☐ NO DETAILS: _____

➢ Analysis of Deficiency Data Collected			
➢ Departures / Waivers	☐ YES	☐ NO	
DETAILS: _____			
➢ Significant Critiques / Trouble Reports	☐ YES	☐ NO	
DETAILS: _____			
➢ Customer Surveys/Feedback	☐ Below Average	☐Average	☐Above Average
DETAILS: _____			
➢ Significant Audit Findings	☐ YES	☐ NO	
DETAILS: _____			

Signature: _____

Name, Organization/Code, Title:

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EXHIBIT H-6

AIT IN-BRIEF

Purpose: The purpose of an AIT in-brief is to provide an overview and objectives of the alteration/SC to be accomplished. The in-brief shall outline PICO deficiencies, work to be performed, review the schedule of accomplishment, and identify impacts on the ship, confirm arrangements for requested/required services, establish responsibilities and points of contact, review planned ship's evolutions, and review ILS products and training to be provided.

1. Alteration/Ship Change Overview: The overview provides a description of the alteration/SC purpose and the expected improvements to be provided, areas of the ship impacted by the alteration/SC, and additional areas affected by the accomplishment of the alteration/SC and the impact on ship's services.

2. PICO Deficiency Corrections: The AIT OSIC, Ship's Force, NSA, and LMA shall discuss and agree who is responsible for correction of each reported PICO deficiency to prevent delays during the installation and the SOVT test procedure.

3. Work to be Accomplished:

    a) Review of installation drawings

        (1) Arrangement drawing(s) indicating equipment to be removed and locations of new, modified, and relocated equipment

        (2) System drawing(s) indicating system interconnections and interfaces with ship system interfaces including power and ventilation

        (3) Cable and/or pipe runs

    b) Review of equipment and materials to be used

        (1) Review of equipment and material to be installed

        (2) Review of equipment and material to be removed

        (3) Review of hazardous materials to be used or removed and handling and disposal procedures

    c) Review of ship's systems impacted during alteration/SC accomplishment and duration of impact

d) Review of areas that may have restricted access during alteration/SC accomplishment

(1) Areas where welding is to be accomplished

(2) Areas where hazardous material is to be used or handled

e) Review of applicable process control procedures to be used

(1) Fire prevention

(2) Hot work

(3) Sight and hearing protection

(4) Protection of pipes, cables, and equipment during ship work, system or equipment deactivation/reactivation

(5) Material storage at the work site

(6) Storage, use and disposal of hazardous materials (including excess and partially used hazardous material and hazardous material removed as part of the accomplishment of the alteration/SC)

(7) Material for staging and screening

(8) Temporary covers and shelters

(9) Uncrating/unpacking of equipment

(10) Cleanliness of the ship

(11) Workmanship

f) Review of personnel qualification/certifications for work requiring specific qualifications.

4. Schedule of Events/Milestones: A detailed review of schedule-of-work and Test Plan (TP) and/or SOVT agenda of all functional items shall be provided during the briefing. Key event checkpoints (e.g., piping flush, hydrostatic testing, cableway, and compartment close-out) and system operational testing of all functional items will be provided for Ship's Force witnessing. The material deliveries, required compartment accesses, security requirements, and shift schedules will also be discussed at this time. The schedule information shall include projected start and finish dates, planned shift start time(s), planned testing periods, planned training dates, and planned ILS turnover.

5. Planned Ship's Evolutions: Any special restrictions due to ship's evolutions during the availability (weapon/ordinance loading, ship's receiver/transmitter testing, emergent requirements, other alterations/SCs being accomplished, etc.), which could impact or be

impacted by work being performed by the AIT, will also be discussed at this time. It will be the responsibility of the AIT to perform required shipboard work around these restrictions. If restrictions exist which cannot be accommodated by the AIT without jeopardizing scheduled completion date of the alteration/SC or the scheduled departure date of the ship, the AIT will make arrangements with the NSA for accomplishment of the alteration/SC during a subsequent availability and withdraw from the ship.

6. Confirmation of Services: AIT arrangements for crane and/or welding services, special test requirements, fire watches, etc., will also be confirmed at this time. For alterations/SCs being accomplished during CNO Availability, arrangements and associated funding for services included in the contract (if the alteration/SC is to be accomplished as a private activity) (crane services, welding services, special test requirements, fire watches, NSA disposal of turned-in equipment/material, etc.) will also be confirmed at this time.

7. Points of Contact: The AIT OSIC/AIT Lead shall request the ship to provide a list of all POCs for accomplishment of the alteration(s)/SC(s). The POCs list will include the following:

   a) Technical personnel assigned to work with the AIT and to witness testing

   b) Names of those people authorized to sign off the ACR

   c) Names of personnel authorized to accept delivery of computer tapes and ILS items.

   d) For alterations/SCs being accomplished during CNO Availability:

      (1) NSA representatives, PY On-Site Representatives (i.e., Program Representative and Configuration Data Manager (CDM)), and the Lead Ship Availability Manager from the industrial activity will also be identified.

      (2) AIT OSIC will also identify which AIT member(s) will attend Daily Production and Weekly Progress Meetings to provide updated progress on installations and changes to production schedule.

8. Responsibilities: The AIT OSIC will be identified as being responsible for the conduct of the AIT and the person to be contacted in regard to work deficiencies, scheduling problems, or problems with AIT members. The AIT OSIC shall be accessible to Ship's Force throughout the period(s) the AIT is on board and is responsible for the resolution of identified deficiencies or issues associated with accomplishment of the assigned alteration(s)/SC(s). When work is being accomplished during a CNO Availability, the AIT OSIC shall also be accessible to the NSA and the Lead Ship Availability Manager at all times during period(s) the AIT is on board the ship. The AIT OSIC shall be responsible for reporting any changes in schedule and providing notification to the ship and NSA of upcoming key event checkpoints and testing evolutions. Additionally, if multiple-shift work is to be accomplished, the AIT OSIC(s) for each shift shall be identified.

9. ILS and Training to be Provided: The AIT Lead/OSIC will review all ILS products and provide a current, approved ILS Certification, as well as all training to be provided at the

time of installation. All applicable ILS elements listed in the ILS portion of the ACR and any known ILS deficiencies shall be addressed.

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EXHIBIT H-7

ACRONYMS AND ABBREVIATIONS

3M	Maintenance and Material Management
A&I	Alteration and Improvement
ABR	Agreement for Boat Repair
ACN	Advanced Change Notice
ACO	Administering Contracting Officer
ACN	Advance Change Notice
ACR	Alteration Completion Report
AER	Alteration Equivalent to Repair
AIM-NT	Advanced Industrial Management – Network Technology
AIM-NG	Advanced Industrial Maintenance-Next Generation
AIS	Automated Information System
AIT	Alteration Installation Team
AIT OSIC	AIT On-Site Installation Coordinator
ALT	Alteration (or change/modification)
AMPP	Advance Modernization Planning Package (Submarines)
AMPS	Afloat Master Planning System
AMQAP	AIT Manager's Quality Assurance Program
APACS	Aircraft and Personnel Automated Clearance System
APL	Allowance Parts List
AQS	Accepted Quality System
ASC	Alteration Status Code
ATO	Authority to Operate
AWP	Availability Work Package
BOF	Blown Optical Fiber
BOM	Bill of Material
BSPO	Business and Planning Project
C4I	Command, Control, Communications, Computers, Intelligence
C5IMP	Command & Control, Communications, Computers, Combat Systems Installation Master Plan
C5ISR	Command & Control, Communications, Computers, Combat Systems, Surveillance, Reconnaissance
CAR	Completion Alteration Report / Corrective Action Request
CCB	Configuration Control Board
CCS	Command & Control System
CCT	Customer Contracted Team
CDM	Configuration Data Manager
CDMD-OA	Configuration Data Manager Database-Open Architecture
CFM	Contractor Furnished Material
CHENG	Chief Engineer
CLASSRON	Surface Ship Class Squadron
CM	Configuration Management
CMAV	Continuous Maintenance Availability
CNO	Chief of Naval Operations

CO	Commanding Officer
COC	Certificate of Conformance
COH	Complex Overhaul
COMFLTFORCOM	Commander, U.S. Fleet Forces Command
COMNAVSEASYSCOM	Commander Naval Sea Systems Command
COMPACFLT	Commander U.S. Pacific Fleet
COMUSFLTFORCOM	Commander, U.S. Fleet Forces Command
CONOPS	Concept of Operations
COSAL	Coordinated Shipboard Allowance List
COP	COSAL Overhaul Planning, Configuration Overhaul Planning
CP	Computer Program
CPA	Carrier Planning Activity
CPM	Centrally Provided Material
CPS	Collective Protection System
CSMP	Current Ship Maintenance Project
CSSQT	Combat System Ship Qualification Trial
CU	Component Unit
CUI	Component Unit Identifier, Controlled Unclassified Information
DC	Design Change
DSS-SOC	Deep Submergence Systems - Scope Of Certification
DFS	Departure From Specification
DIRSSP	Director, Strategic Systems Programs
DMP	Depot Modernization Period
DOE	Department of Energy
DPL	Daily Priority List
DPIA	Docking Planned Incremental Availability, Depot Planned Incremental Availability
DPMA	Docking Phased Maintenance Availability
DSA	Design Service Allocation
DSRA	Docking Selected Restricted Availability
DSS	Deep Submergence System
DSS-SOC	Deep Submergence System – Scope of Certification
DT/OT	Development Test/Operational Test
EA	Equipment Alteration
EAFW	Electronics and Auxiliary Fresh Water
EC	Engineering Change
eCC	eCountry Clearance
ECCB	Electronic Configuration Control Board
ECP	Engineering Change Proposal
EDSRA	Extended Dry-Docking Selected Restricted Availability
EMC	Electromagnetic Compatibility
EMCON	Emissions Control
EMI	Electromagnetic Interference
EMP	Electromagnetic Pulse
EOA	End of Availability
EOH	Engineered Overhaul
EOI	End Of Installation
EPA	Environmental Protection Agency
EPDA	Extended Post Delivery Availability
ERO	Engineered Refueling Overhaul
ERP	Enterprise Resource Planning
ESD	Electrostatic Discharge
ESOH	Environmental, Safety, and Occupational Health
ESRA	Extended Selected Restricted Availability

FBW	Fly-By-Wire
FBW SCS	Fly-By-Wire Ship Control System
FC	Field Change
FCB	Field Change Bulletin
FLTCDR	Fleet Commander
FLTMPS	Fleet Training Management and Planning System
FMA	Fleet Maintenance Activity
FOA	Follow-on Availability
FOCP	Fiber Optic Cable Plant
FOCS	Fiber Optic Cable System
FOUO	For Official Use Only
FSS	Federal Supply System
FY	Fiscal Year
G	Government (point)
GBL	Government Bill of Lading
GPETE	General Purpose Electronic Test Equipment
HAZMAT	Hazardous/Toxic Material
HCPM	Headquarters Centrally Procured Material
HM	Hazardous Material
HM&E	Hull, Mechanical and Electrical
HMP	Hull Modernization Plan
HSC	Headquarters Systems Command, Hardware Systems Command
HW	Hazardous Waste
HVAC	Heating, Ventilating, and Air Conditioning
I	Inspection (point)
IA	Installation Activity / Industrial Activity IAFInstalling Activity Furnished
IATO	Interim Authority to Operate
IAW	In Accordance With
ICD	Installation Control Drawing
ICP	Inventory Control Point
IDEA	Integrated Design and Engineering Activity
ILO	Integrated Logistics Overhaul
ILS	Integrated Logistics Support
IMA	Intermediate Maintenance Activity
IMF	Intermediate Maintenance Facility
IMS	Integrated Master Schedule
INCO	Installation and Checkout
IPDA	Industrial Post Delivery Availability
IR	Installation Report
IRD	Installation Requirements Drawing
ISC	Installation Status Code
ISEA	In-Service Engineering Agent
ISRA	Incremental Selected Restricted Availability
ISIC	Immediate Superior In Command
JCN	Job Control Number
JFMM	Joint Fleet Maintenance Manual
LACR	Legacy Alteration Change Request
LAN	Local Area Network
LAR	Liaison Action Record
LAR	Liaison Action Request

LCM	Life Cycle Manager
LCS	Littoral Combat Ship
LHMP	LCS Hull Modernization Plan
LMA	Lead Maintenance Activity
LOA	Letter of Authorization
LSI	Local Standard Item
MACHALT	Machinery Alteration
MAM	Maintenance Assistance Module
MFOM	Maintenance Figure of Merit
MFOM-SAS	Maintenance Figure of Merit - Submarine Acquisition and Support
MFR	Memorandum For Record
MILR	Modernization in Lieu of Repair
MIP	Maintenance Index Page
MOA	Memorandum of Agreement
MOI	Method of Installation
MPMP	Maintenance Program Master Plan
MPP	Modernization Project Plan
MRA	Modernization Readiness Assessment
MRC	Maintenance Requirement Card
MSC	Maintenance Support Center
MSDS	Material Safety Data Sheet
MSMO	Multi-Ship Multi-Option
MSR	Master Ship Repair
MSRA	Master Ship Repair Agreement
MTA	Modernization Through Attrition
MTP	Master Test Plan
MW	Modernization Window
NAVAIR	Naval Air Systems Command
NAVCERT	Navigation Certification
NAVSEA	Naval Sea Systems Command
NAVSUP	Naval Supply
NCMC	Naval Command, Control, Communications, Computers, Combat Systems, Intelligence, Surveillance, and/Reconnaissance (C5ISR) Modernization Council
NDE	Navy Data Environment
NDE-AMPS	Navy Data Environment-Afloat Master Planning Systems
NDE-EP	Navy Data Environment-Entitled Process
NDE-NM	Navy Data Environment-Navy Modernization
NDT	Non-Destructive Testing
NMP	Navy Modernization Program
NMPT	Navy Modernization Process Team
NMP-MOM	Navy Modernization Program-Management and Operations Manual
NPC	Non-Permanent Change
NPES	Non-Propulsion Electronic System
NSA	Naval Supervisory Authority
NSLC	Naval Sea Logistics Center
NSN	Navy Stock Number
NSSA	Norfolk Ship Support Authority/Activity
NSWC	Naval Surface Warfare Center
NSY	Naval Shipyard
NTIRA	Navy Tool for Interoperability Risk Assessment
NTSP	Navy Training Summary Plan
OPCON	Operational Control
OQE	Objective Quality Evidence

ORDALT	Ordnance Alteration
ORM	Operational Risk Management
OSHA	Occupational Safety and Health Administration
OSI	Operating Space Item
OSIC	On-Site Installation Coordinator
OSR	On-Site Representative
OSS	Operational Sequencing System
OWLD	Obligating Work Limiting Date
PARM	Participating Acquisition Resource Manager
PC	Permanent Change
PCB	Poly Chlorinated Biphenyl
PCD	Production Completion Date, Preliminary Configuration Data
PCMS	Passive Countermeasure System
PDT&T	Post Delivery Test and Trials
PEO	Program Executive Office, Officer
PEPM	Project Engineering Planning Manager
PIA	Planned Incremental Availability
PICO	Pre-Installation Check Out
PM	Program Manager
PMA	Phased Maintenance Availability
PMAPT	PEO SUBS Modernization Advance Planning Team
PMR	Program Manager Representative
POA&M	Plan of Actions and Milestones
POC	Points of Contact
PMS	Planned Maintenance System
PPE	Personal Protective Equipment
PPL	Provisioning Parts List
PRAV	Pierside Restricted Availability
PSA	Post Shakedown Availability
PSAWP	Post Shakedown Availability Work Package
PSS	Project Sequencing and Scheduling
PY	Planning Yard
QA	Quality Assurance
QMS	Quality Management System
OPCON	Operational Control
QRA	Quick Reaction Alteration
RADCON	Radiation Control
RADHAZ	Radiation Hazard
RAV	Restricted Availability
RCS	Radar Cross Section
RCS	Resource Constraint Schedule
RCOH	Refueling Complex Overhaul
RD	Restricted Data
RF	Radio Frequency
RFI	Radio Frequency Interference
RMAIS	Regional Maintenance Automated Information System
RMC	Regional Maintenance Center
RMMCO	Regional Maintenance and Modernization Coordination Office
ROH	Refueling Overhaul, Regular Overhaul
SAR	Ship Alteration Record
SAS	Submarine Acquisition and Support
SAT	Satisfactory

SC	Ship Change
SCD	Ship Change Document
SCLSI	Ship Configuration and Logistics Support Information
SCLSIS	Ship Configuration and Logistic Support Information System
SCN	Shipbuilding and Conversion, Navy
SCO	Service Craft Overhaul
SCS	Ship Control System
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SECPROMAN	Security Program Manual
SESEF	Shipboard Electronics Systems Evaluation Facility
SFCC	Submarine Flight Critical Component
SFI	Strike Force Interoperability
SHAPM	Ship Acquisition Program Manager
SHIPALT	Ship Alteration
SI	Standard Item
SID	Ship Change/Ship Alteration Installation Drawing
SIGSEC	Signal Security (electromagnetic/ RF)
SMART	Submarine Modernization and Alteration Requirements Tool
SME	Subject Matter Expert
SOA	Start of Availability
SOC	Scope of Certification
SOH	Safety Occupational Health
SOI	Start of Installation
SOM	Supervisor of Shipbuilding, Conversion and Repair Operations Manual
SOVT	System Operational Verification Testing
SOW	Statement of Work
SPALT	Strategic Systems Program Alteration
SPAWAR	Space and Naval Warfare Systems Command
SPM	Ship Program Manager
SRA	Selected Restricted Availability
SRD	Selected Record Drawing
SRF	Ship Repair Facility
SRV	Short Range View
SSBN	Ship, Submersible, Ballistic, Nuclear (Submarine)
SSCR	Shipboard Systems Certification Requirements
SSGN	Submersible, Ship, Guided, Nuclear (nuclear powered cruise missile Submarine)
SSR	Ship Selected Record
SSRD	Ship Selected Record Drawing
ST	Sustainment Type
SUBMEPP	Submarine Maintenance, Engineering, Planning, and Procurement
SUBSAFE	Submarine Safety
SUPPO	Supply Officer
SUPSHIP	Supervisor of Shipbuilding, Conversion and Repair
SW	Software
SWD	Software Delivery
SWFTS	Submarine Warfare Federated Tactical System (U.S. Navy)
SWP	Standard Work Practice
SYSCOM	Systems Command
T&E	Test and Evaluation
T&I	Test and Inspection
TAMS	TYCOM Alteration Management System
TAV	Technical Availability
TAV	Technical Assist Visit
TCD	Target Configuration Date

TDC	TYCOM Discretionary Change
TDP	Technical Data Package
TEMPALT	Temporary Alteration
TGI	Task Group Instruction
TM	Technical Manual
TEMPEST	Telecommunications Electronics Material Protected from Emanating Spurious Transmissions
TOA	Type Commander Opportunity Availability
TP	Test Plan / Training Plan / Test Procedure
TRF	Trident Refit Facility
TS	Technical Specification
TUM	Tag-out User's Manual
TWD	Technical Work Document
TWH	Technical Warrant Holder
TYCOM	Type Commander
TYCOMALT	Type Commander Alteration
UIPI	Uniform Industrial Process Instruction
UCNI	Unclassified Controlled Nuclear Information
UNNPI	Unclassified Naval Nuclear Propulsion Information
UNSAT	Unsatisfactory
USFFC	United States Fleet Forces Command
V	Verification (point)
VR	Voyage Repair
WAF	Work Authorization Form
WBS	Work Breakdown Structure
WG	Working Group
WOO	Window of Opportunity
WPER	Work Package Execution Review
WPI	Work Package Integration
WPIC	Work Package Integration Conference
WSF	Weapons System File
XO	Executive Officer
X-RIC	Pseudo-Repairable Identification Code

EXHIBIT H-8

GLOSSARY

1. Accomplishing Activity: A required field for proper scheduling of alterations/SCs in NDE-NM. The Accomplishing Activity should reflect either the responsible headquarters command or the actual Installing Activity (IA). NDE-NM has activities broken into types. The list of Accomplishing Activity Types follows:

    a) ISEA

    b) SHIP

    c) SHIPYARD

    d) SUPSHIP

    The ISEA type is the preferred list of activities and includes government and contractor activities. Any activity missing from the list can be added with a request to the NDE Help Desk.

2. Advanced Industrial Management - Network Technology (AIM-NT): A corporately developed software application specifically tailored to performing AIM planning and execution processes on a large-scale shipyard projects, such as ship availabilities. AIM-NT is provided to the Shipyard for use on local Citrix ("legacy") servers featuring Microsoft® Network Technologies. The principal Technical Work Document (TWD) products generated by this software are the Long Form Task Group Instruction (TGI) and the Short Form TGI. Any change in the hull, machinery, equipment, fittings, computer program, and/or interface to external equipment, regardless of whether it involves a change in design, materials, number, location, or relationship of an assemblies component parts, whether it is undertaken separately from, incidental to, or in conjunction with repairs.

3. Alteration Approval, Technical (For Submarines Only): A certification that all requirements necessary for successful alteration installation, operation, and support have been met. The SPM is the technical approval authority for all SHIPALTs and Alteration & Improvement (A&I) Items and equipment alterations that affect ship's power, weight or air conditioning requirements. All other types of equipment alterations normally require approval of the PARM.

4. Alteration Authorization (Legacy FMP): Authorization that is required prior to the accomplishment of any alteration. Chief of Naval Operations (CNO) authorization is required before military improvement type K-Alts may be installed. The Ship Program Manager (SPM) approves and either the United States Fleet Forces Command (USFFC) or TYCOM may authorize or program Title D or F Ship Alteration (SHIPALTs), equipment

alterations, and A&I items. Alteration Equivalent to Repair (AERs) require that the designated system command, Program Executive Office (PEO), or SPM who exercises technical authority over the affected article approve them for accomplishment. All Command, Control, Communications, Computer, Intelligence and Combat System alterations (C5I) and alterations impacting interoperability must be authorized IAW the D-30 process by the USFFC before they can be installed, regardless of the type of alteration.

Note: The D30 process only applies to availabilities for those Submarines in a Battle Group. All other Submarine availabilities are exempt from this D30 process.

5. Alteration/SC Completion Report: A mandatory report certifying an alteration's/SC's accomplishment. The cover-page, report distribution requirements, and report enclosures are contained in Exhibit H-3 to this specification. This report provides detailed information for use in process improvement design, AIT performance measurement, alteration/SC deficiency tracking, etc.

6. Alteration Equivalent to a Repair (AER), Legacy FMP:

   a) An AER is a technical alteration, which has one or more of the following attributes:

      (1) The use of different material, which has been approved for like or similar use, and such materials are available from standard stock.

      (2) The replacement of obsolete, worn-out or damaged parts, assemblies, or equipment, requiring renewal by a more efficient design previously approved by the System Command (SYSCOM), Program Executive Office (PEO) or SPM; providing such replacement does not cause a change to the existing system design and does not affect a change to the systems or equipment normally associated with the military characteristics of the ship. All requirements for ILS will be adhered to for AERs affecting ships configuration and or technical documentation.

      (3) The strengthening of parts requires repair or replacement in order to improve the reliability of the parts and unit provided that no other change in design is involved.

      (4) Minor modifications involving no significant changes in design or functioning of equipment but considered essential to prevent recurrence of unsatisfactory conditions.

      (5) 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 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 impact any external interfaces to the system and does not affect a change to the system or equipment normally associated with the military characteristics of the ship.

b) Only the SYSCOM, PEO or SPM exercising technical control over the article, or the authority to which such technical control has been delegated by that command, shall designate an alteration as an AER and approve it for accomplishment.

c) An AER is approved for accomplishment by a Title "D" or "F" alteration, A&I, Alteration Request (AR), or Letter AER depending on the scope and effects of the change. Such AERs must be approved by NAVSEA and funded for accomplishment by the TYCOM.

7. Alteration Installation Team (AIT): An AIT is a unit (military, government activity and/or contractor and subcontractors), consisting of one or more members under the direction of an AIT Manager, that is trained and equipped to accomplish specific alterations/SCs on specified ships as defined in Reference H(v).

8. Alteration Installation Team (AIT) Activity or AIT Manager: The government activity, In Service Engineering Agent (ISEA), military person, or government civilian tasked and funded by the AIT Sponsor to initiate, plan, coordinate, schedule, manage, and oversee the successful accomplishment of the alteration/SC IAW legacy FMP/NMP policy and procedures. The AIT Manager will coordinate with the NSA to ensure satisfactory completion of the Ship Alteration (SHIPALT)/SC installation during CNO availabilities. This coordination does not relieve the AIT manager of any of his/her responsibilities.

9. Alteration Installation Team Lead: Senior member of the AIT.

10. Alteration Installation Team On-Site Installation Coordinator (OSIC): The AIT OSIC is a government or military employee designated by and acting with the authority of the AIT Manager. The AIT OSIC is responsible for the conduct of the entire alteration/SC installation and will be the point of contact with the ship, AIT Manager, and the NSA. The AIT OSIC shall be knowledgeable of and responsible for AIT adherence to all invoked requirements including safety, quality plan, technical instructions, and when applicable, the SUPSHIP Operations Manual (SOM), Appendix 4-E or NSA/AIT Manager MOAs. AITs that do not have an assigned AIT OSIC (or documented approval from the SPM that an AIT OSIC is not required) shall not attempt to accomplish alterations/SCs to ships and will be denied access to ships.

11. Alteration Installation Team (AIT) Sponsor: The Systems Command Naval Air (NAVAIR), Naval Supply (NAVSUP), Naval Sea (NAVSEA) or Space and Naval Warfare (SPAWAR), Program Executive Officer (PEO), (including PARM or SPM, Commander Pacific Fleet (COMPACFLT), Commander Submarine Force (COMSUBFOR), TYCOM, Chief of Naval Operations (CNO), or other government activity that tasks and funds the AIT Manager/AIT.

12. Alteration/Ship Change, Mature: An alteration/SC that has a reasonable expectation of successful installation, operation, maintenance, and interoperability and is fully supported logistically. A mature alteration has a JCF, SAR, SCD, SIDs, and an approved ILS Certification.

13. Alteration, Permanent: Any logistically supported alteration, which is intended to remain on board the ship for more than one (1) year or more than one (1) operational deployment.

These alterations are accomplished as Ship Alterations (SHIPALTs), AERs, TYCOM alterations and other System Commands (SYSCOMs) and TYCOM alterations (e.g., Field Changes (FCs), Engineering Changes (ECs)) for Surface Ships and Carriers, SCs by category of Program or Fleet applies.

14. Alteration Scheduling: The act of slating an alteration for installation on a given ship in a specific timeframe. Ship Program Manager (SPMs) schedule all alterations for installation during all Chief of Naval Operations (CNO) Availabilities via the SPM's Availability Advance Planning and Authorization Letters except for Title "D" and "F" alterations and AERs and Fleet SCs, which are scheduled by the TYCOM, and except for ECs/FCs/SW, which are scheduled by the PARMs.

15. Alteration, Temporary (TEMPALT) (Legacy FMP): Any alteration that provides given capabilities on a temporary basis (not to exceed one (1) year or one (1) operational deployment in duration). TEMPALTs support Research, Development, Test and Evaluation (RDT&E), exercise or mission requirements. TEMPALTs are reviewed, technically approved by the Ship Program Manager (SPM) and authorized and scheduled for accomplishment by the TYCOM. All TEMPALTs impacting Battle Force Interoperability or that are Command, Control, Communications, Computer, Intelligence (C4I) or Combat System related, need to be approved by the CFFC IAW the D-30 process, before they can be installed. The Ship Program Manager (SPM) review considers logistic support, safety, technical adequacy, impact on ship stability, operational characteristics, damage control, ship structure, ship services, ship interfaces, and habitability. ILS (final or preliminary) needs to be identified on the TEMPALT authorization letter and provided at time of installation. Alterations which are intended to be installed for a period in excess of one year or for more than one operational deployment are permanent changes to a ship's configuration and shall be accomplished accordingly (see "Alteration, Permanent"). After completion of testing requirements, mission or exercise support requirements or one year, whichever comes first, TEMPALTs must be removed and the ship restored to its previous configuration. The activity sponsoring the accomplishment of the TEMPALT shall be responsible for funding the removal of the TEMPALT and the restoration of the ship.

16. As-Built: Drawings approved by the Planning Yard (PY), used for installation, and revised to indicate the actual, "as-installed", configuration on the ship.

17. Battle Force Baseline Configuration Alterations/Ship Changes: All Command, Control, Communications, Computer, Intelligence (C4I) and Combat System Alterations/SCs and alterations/SCs impacting Interoperability, that have been approved by the CFFC for a specific ship in a specific Battle Force, IAW the D-30 process. These alterations/SCs should be technically approved by the Ship Program Manager (SPM) and coordinated with the Naval Supervisory Authorities (NSAs), IAW this document.

    Note: The D30 process only applies to availabilities for those Submarines in a Battle Group. All other Submarine availabilities are exempt from this D30 process.

18. Completion Report, Final: A message report from the ship receiving the alteration/SC identifying that all discrepancies, noted in the Installation Completion Report, have been

satisfactorily resolved. This message report is not required if the Installation Completion Report message also served as the Final Completion Report.

19. Completion Report, Installation: A mandatory message report from the ship receiving the alteration/SC identifies the successful accomplishment of the alteration/SC. This message will be drafted by the AIT and provided to the ship for concurrence prior to the AIT's final departure. The ship will ensure that all known discrepancies associated with the alteration/SC are fully documented, along with the activity responsible for resolution of each discrepancy and the estimated date of resolution. If no discrepancies exist, this report will also serve as the Final Completion Report.

20. Cost Benefit Analysis (CBA) (NMP only): CBA is a systematic quantitative method to compare the costs of implementing a specific project or course of action with the benefits to be gained from implementation. In the NMP process the CBA is used to compare the Investment Cost of an item to the potential savings or cost avoidance that that same item may provide. It is used in conjunction with the AFOM to provide the Decision Makers with criteria that will help them to decide the relative priority of one ship change with respect to all other ship changes being evaluated.

21. CU Phase: A CU Phase is the fundamental or "core" unit of work for AIM processes. Each CU Phase is a distinct job that is usually only one of a group of jobs needed to accomplish the work goal(s) set forth in a job summary. Each CU Phase is further broken down into one or more shop tasks needed to accomplish the job. All production work (and other service work) for a project is tracked, managed, and certified at the CU Phase level. The focus on attention for work is always a CU or (CU assembly), and the type of work done on the CU is a described by a standard work phase. Thus, a unique identification for any job can be created by combining a Component Unit Identifier (CUI) with a standard work item.

22. Customer Contracted Team (CCT): Any maintenance activity, organization, and/or contractor under the supervision of a Government sponsor assigned or contracted to perform authorized work or ship changes in an availability where the contract or work specifications have been developed and approved by an activity or organization who is not assigned as the NSA or LMA and where no agreement has been established between the contracting or sponsoring authority and the NSA/LMA for the development of contracted or work specifications and/or oversight. An AIT, or TYCOM assigned and tasked contractor such as CEMAT or ESU, are examples of CCTs.

23. Emergent Change (Surface Ships and Carriers Only): Emergent SCs are those items that require immediate installation and/or reprioritization of tasking and reallocation of resources to support accelerated development and installation. The emergent change process details are provided in reference H(ac).

24. Equipment Alteration: Any modification, other than a ship alteration, to the configuration of an equipment or system (including embedded equipment, computer programs, and expendable ordnance) after establishment of the product baseline. An Equipment Alteration involves a change in design, type of material, quantity, installed location, logistics, supportability, or the relationship of the component parts of an assembly within the ship.

Equipment Alterations include the addition, deletion, rework or replacement of parts, assemblies or equipment; or changes in assembly procedures. Alterations to associated computer programs include the incorporation of different computer program versions and approved modifications or corrections to both operational test and maintenance programs. Equipment Alterations are initiated by approved Class I Engineering Change Proposals (ECPs) or Ship Change Document (SCD). Equipment Alterations apply equally to changes installed in delivered systems and equipment, and changes installed in systems and equipment in production to identify differences from an established product baseline. Equipment Alterations may be initiated to correct a design defect, to change equipment operational capability, to eliminate safety hazards, to update obsolete components to change an external interface, or for any combination of these reasons. There are "types of Equipment Alterations:

a) Machinery Alteration (MACHALT): A planned change, modification, or alteration of any in-service HM&E equipment when it has been determined by the MACHALT Configuration Control Board that the alteration or modification meets all of the following conditions:

   (1) MACHALTs can be accomplished without changing an interface external to the equipment or system.

   (2) MACHALT modifications are made within the equipment boundary or are a direct replacement of the original equipment system.

   (3) MACHALTs can be accomplished without the ship being in an industrial activity.

   (4) MACHALTs will be accomplished individually and not conjunctive with an alteration or other MACHALT. If power, weight, or air conditioning requirements are modified, the modification must be discussed with the appropriate Ship Program Manager (SPM), who will decide whether to proceed with the modification as a MACHALT or an alteration.

b) Ordnance Alteration (ORDALT): An ORDALT is a change made to ordnance equipment or their associated computer programs by the addition, deletion, rework or replacement of parts, assemblies or equipment, or by a change in assembly procedures. Computer Program changes are any changes to maintenance or operational software.

c) Field Change (FC): A mechanical, electronic or electrical change, modification, or alteration made to electronic equipment after delivery to the government or installation on board ship. It includes software changes, which does not impact interfaces to other equipment within the ship, change the footprint, form or fit or change power, weight, or air conditioning requirements. If power, weight, or air conditioning requirements are modified, the modification must be discussed with the appropriate SPM, who will decide whether to proceed with the modification as an FC or alteration. FCs are initiated and approved by the Systems Command and

are implemented by Field Change Bulletin (FCB). AIT or Ship's Force can accomplish FCs. For these specific types of alterations, the SPM shall be notified of the approved changes affecting their respective platforms. The SPM shall be periodically advised of installation status and shall be notified of any logistics upgrades, which have been completed as a result of the alteration.

d) Engineering Change (EC): A modification, usually to Under-Sea Warfare (USW) equipment or systems or other equipment groups as designated by the Systems Command, Program Manager (PM), Participating Acquisition Resource Manager (PARM) or Configuration Control Board (CCB).

e) Alteration & Improvement (A&I) Item (Submarines only): Tests, inspections, and minor alterations to Submarines and Submarine tenders. No significant ILS impact or significant material is required. A&I items are approved by Naval Sea Systems Command (NAVSEA) and authorized by the TYCOM.

f) Software Delivery (SWD) Alteration/Ship Change: Any Operational Computer Program change that is not an ORDALT or FC. These programs must satisfy all platform and system certification requirements before they can be installed, or must have interim authority to be used if they have not passed appropriate software certification criteria. Provisioning Parts List (PPL) certification is required if the software is to run on the IT-21 Local Area Network (LAN).

25. Hardware Systems Commands (HSC): Commander Naval Sea Systems Command (COMNAVSEASYSCOM) is the lead hardware systems commander for the life cycle management of ships. Commander Naval Air Systems Command (COMNAVAIRSYSCOM) and Commander Space and Naval Warfare Systems Command (COMSPAWARSYSCOM) are also hardware systems commands. They must coordinate with COMNAVSEASYSCOM in the development of technical requirements essential to performing quality maintenance. The HSC provides Naval Supply (NAVSUP) with sufficient, accurate, up-to-date technical information to ensure consistent procurement and control of material that fulfills all technical requirements.

26. Hull Modernization Plan (HMP) (NMP only): The HMP is the sole, time-phased planning document for hull-specific modernization requirements; it is the authoritative input to the Maintenance and Modernization Business Plan (MMBP), SPM Letter(s) of Authorization and the TYCOM Quarterly Installation Scheduling Message(s) for each affected hull; it is available as a report from NDE-NM. The HMP is used to create the hull specific A-360 Critical Milestone LOA, and subsequent change letters at A-180 and A-120, as well as any follow-on change messages. It is also used to develop the TYCOM Quarterly Installation Scheduling Message for installations planned in other than CNO Availabilities. It is the single, authoritative document for final authorization status for all modernization actions aboard any Surface Ship.

27. Industrial Activity: An Industrial Activity is an activity capable of performing all aspects of work on ships. These activities generally include Naval Bases, Naval Ship Repair Facilities (NSRFs), FSAs, Trident Refit Facilities (TRFs), public (Naval) shipyards, and private

shipyards, which hold Agreements for Boat Repair (ABR) or Master Ship Repair Agreements (MSRAs) IAW the Naval Sea Systems Command (NAVSEA) Supervisor of Shipbuilding, Conversion, and Repair (SUPSHIP), USN Operations Manual.

28. Initiator (NMP only): Any authorized user of NDE. Provides the initial data input in an SCD or Legacy Alteration Change Request (LACR).

29. Integrated Logistics Support (ILS) Certification: The process by which the SPM validates and certifies that the proper logistics support is in place to support a specific alteration planned for installation. SPM ILS Certification is required as part of the Alteration Approval process, unless a risk impact assessment is approved allowing the installation to precede after the determination is made that not all ILS products will be available at the time of installation, IAW Section 6, reference H(ac).

30. Integrated Logistics Support (ILS) Products: Configuration and logistics items that impact a ship as a result of the installation of an Alteration/Ship Change (SC). These items include, but are not limited to, an alteration's/SC's ILS Certification, APLs, TMs, OBRPs, MAMs, MIPs/MRCs, CDMD-OA work file, support and test equipment requirements, and training requirements.

31. Maintenance Program Master Plan (MPMP): The MPMP provides a general overview of the Program Executive Offices (PEOs) and/or Ship Program Manager's (SPM's) maintenance plan for the ship class. It specifies key elements such as depot-level availability intervals and duration, frequency of intermediate-level availabilities, and any special maintenance, maintenance support, or infrastructure requirements.

32. Maintenance Support Center (MSC): Carrier Ship's Force work center in which ILS products get checked-in and tracked inside and outside CNO availabilities.

33. Method of Install (MOI): A required field for properly scheduling of alterations/SCs in NDE-NM.

    a) The list of MOI is as follows:

        (1) TBD: To Be Determined

        (2) IND: Industrial

        (3) AT: AIT Industrial

        (4) AP: AIT Pierside

        (5) MO: Mail Out

    b) Proper use is as follows:

        (1) TBD is the system default setting and needs to be changed to reflect the actual method of installation.

(2) IND is set by the system when an alteration/SC is programmed in the Program/Execution Module to be installed in a CNO availability by the shipyard or SUPSHIP.

(3) For those installations that are identified as IND it is recommended that the alteration/SC be programmed first and then scheduled so that the MOI stays as IND.

(4) AT is to be used when an installation is being executed by an Alteration Installation Team (AIT) during a CNO availability.

(5) AP is to be used when an installation is being executed by an AIT during a TYCOM controlled availability (WOO, CMAV, etc.).

(6) MO is to be used when an activity is sending an alteration/SC via mail including electronic delivery methods. The associated accomplishing activity should reflect the sending activity or responsible headquarters command, not the ship that is expected to do the installation.

34. Modernization Through Attrition/Modernization in Lieu of Repair (MTA/MILR) (NMP only): Fleet SCs used to facilitate Modernization through Attrition (i.e., SCDs which need to be installed only on an "MTA/MILR" basis, but do involve a change in ship configuration). Approval of the SCD will be based on the technical merit, ROI, AFOM, and total cost of the SC. Installation will be determined by the TYCOM during the execution year.

35. Naval Supervisory Authority (NSA): The single Naval Activity charged with the responsibility of oversight of work being accomplished on U.S. Naval ships during any type of availability. The NSA has overall responsibility for integrating the planning and execution of work on Naval Ships by all involved activities. Implementation of an integrated planning, schedule, work control, and ship certification process is essential to a project's success. Effective coordination and oversight must be provided to ensure that all work performed during any availability will allow the NSA to meet the overall project schedule, cost, and quality requirements. NSAs have the authority and responsibility to preclude and/or stop AITs from performing work when they are found to be in non-compliance with this or other invoked specifications.

36. New Construction: The period of time from sail-away to the Obligating Work Limiting Date (OWLD) for a Shipbuilding and Conversion, Navy (SCN) Surface Ship.

37. Non-Permanent Change (NPC) (For Surface Ships and Aircraft Carriers Only): A NPC is defined as a change that will be installed for Test & Evaluation (T&E) purposes and to demonstrate a new or improved capability for the fleet. A NPC may be installed on a specific hull per class, CSG, or ESG. The testing criteria is normally carried out during an at-sea exercise or during an acquisition program's technology demonstration for further development in pursuit of a Permanent Change fielding if the NPC reaches maturity. In some cases, for NPCs installed and demonstrated during a previous exercise, the systems/equipment may need to be installed and additional testing conducted during

another exercise to meet the overall criteria for a new capability. Additionally, NPCs can be used to provide an interim capability to support operational and training requirements for Platform TYCOMs, NETWARCOM, Operational Commanders, ISICs, or CFFC when formal justification and approval is provided. NPCs will be removed within 1 year from installation or a waiver is approved for longer evaluation period.

38. Post Shakedown Availability (PSA): An availability assigned to newly built, activated, or converted ships upon completion of post-delivery shakedown. PSAs will be scheduled to complete no later than the end of the Shipbuilding and Conversion Navy (SCN) obligation work limiting date, which is the date upon which SCN funding and work authority terminates. Work performed shall normally include correction of defects noted during shakedown, correction of deficiencies remaining from the acceptance trials, and performance of class modifications remaining from the new construction activation or conversion period.

39. Quality Management System (QMS): A documented set of rules and procedures, which will assure that all provided supplies and services conform to a prescribed level of quality. For alterations/SCs accomplished on ships, the minimum prescribed level of quality shall be that specified in MSRAs and Agreements for Boat Repair (ABRs), as outlined in Naval Sea Systems Command (NAVSEA) SI 009-04, and Exhibit H-4 of this TS.

40. Quick Reaction Alteration (QRA) (Legacy FMP): Alterations that are driven by an emergent requirement that requires rapid entry of high priority Secretary of Defense (SECDEF), Secretary of the Navy (SECNAV), Chief of Naval Operations (CNO), national interest items, or vital technical changes into Quick Reaction Alterations necessitate rapid Ship Alteration (SHIPALT) development and close coordination between Operations Navy (OPNAV) Resource Sponsors and the Hardware System Command (HSCs).

41. Red-Lines or Red-Lined Installation Drawings: Planning Yard (PY) approved SIDs that have been revised by the AIT to reflect all approved deviations and variances of the completed installation.

42. Regional Maintenance and Modernization Coordination Office (RMMCO): A RMC-aligned, Fleet-chartered organization that serves as the primary point of entry for all waterfront-related SC and maintenance activities. The RMMCO will serve as the office for AIT check-in and check-out, where applicable. The RMMCO's AIT Check-In/Check-Out application located at https://rmmco.sscno.nmci.navy.mil provides the AIT OSIC/AIT Lead with a means to initiate the check-in procedures required for the installation of an alteration/SC aboard ship. It also provides a means to measure performance of these installations.

43. Scheduled/Non-Scheduled Chief of Naval Operations (CNO) Availabilities: CNO Scheduled availability is a depot-level maintenance window that is scheduled by the CNO IAW the Maintenance Program Master Plan (MPMP) for the ship.

    a) CNO Scheduled Maintenance Availabilities greater than 6 months in duration include:

(1) Overhaul: Availability scheduled for accomplishment of industrial maintenance and modernization. Types of Availabilities include:

(a) Regular Overhaul (ROH)

(b) Complex Overhaul (COH)

(c) Engineered Overhaul (EOH)

(d) Refueling Overhaul (ROH)

(e) Refueling Complex Overhaul (RCOH)

(f) Engineered Refueling Overhaul (ERO)

(2) Other Availabilities: Availability scheduled primarily for industrial maintenance and installation of major, high priority alterations/SCs. Types of these include:

(a) Depot Modernization Period (DMP)

(b) Planned Incremental Availability (PIA)

(c) Docking Planned Incremental Availability (DPIA)

b) CNO Scheduled Maintenance Availabilities less than six months in duration are short, labor-intensive availabilities scheduled for accomplishment of industrial maintenance and modernization. Types of these availabilities include:

(1) Selected Restricted Availability (SRA)

(2) Docking SRA (DSRA)

(3) Phased Maintenance Availability (PMA)

(4) Docking Phased Maintenance Availability (DPMA)

(5) Service Craft Overhaul (SCO)

(6) Extended SRA (ESRA)

(7) Extended Dry-Docking SRA (EDSRA)

(8) Incremental SRA (ISRA)

(9) Extended Refit Period

c) Non-CNO Scheduled Availability: Availability that is not scheduled by the CNO. The CFFC/TYCOMs assign and schedule Restricted Availabilities (RAVs), Technical Availabilities (TAVs), TYCOM Opportunity Availability (TOA), Voyage Repair (VR)

Availabilities, Continuous Maintenance Availabilities (CMAVs), unscheduled CMAVs, "Z" availabilities, and Emergent availabilities.

44. Ship Acquisition Program Manager (SHAPM): The Naval Activity charged with the programmatic responsibility, accountability, and authority for the configuration of new construction ships. Prior to a New Construction Ship's OWLD, the SHAPM (or SHAPM representative) assumes many of the roles and responsibilities fulfilled by other activities during CNO and Non-CNO Availabilities for Active Fleet Units. These responsibilities may include, but are not limited to, the following:

    a) Serve as RMMCO Gatekeeper/Production controller, or provide additional support to the FLTCDR RMMCO to help meet additional requirements unique to managing installations aboard SCN ships.

    b) Act as the NSA during ship availabilities, within the limits discussed elsewhere in this document.

    c) Act as the TYCOM or SPM to determine alterations/SC authorization for installation and promulgate authorization documentation (e.g., TYCOM Authorization message or SPM LOA).

    d) Act as the SPM for all FMP/NMP funded C51SR installations and make recommendations to the FLTCDR. Participate in C5IMP and other Naval C5I Modernization Conference (NCMC)-related meetings as applicable. Manage C5ISR configuration status for SCN ships via the NDE-AMPS database.

45. Ship Alteration (SHIPALT): Approved permanent change to the configuration of a ship, which is documented as a SAR or SCD, and implemented through the legacy FMP Process. SHIPALTs are classified by the following titles:

    a) Title "D" SHIPALT: A Title "D" SHIPALT is an "alteration equivalent to a repair" that is formally approved by Naval Sea Systems Command (NAVSEA) in the form of a SAR. It may require Centrally Provided Material (CPM) and is programmed and funded by the TYCOM. 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, or if it is within the capabilities of ship's force or Intermediate Maintenance Activity (IMA) to accomplish. A Title "D" SHIPALT shall be issued for all non-Nuclear Alteration Equivalent to Repair (AERs) that require changes to the equipment or system ILS.

    b) Title "F" SHIPALT: A Title "F" SHIPALT is an "alteration equivalent to a repair" that is formally approved by NAVSEA in the form of a SAR. It does not require CPM and is programmed and funded by the TYCOM. Ship's force or an Intermediate Maintenance Activity (IMA) can accomplish a Title "F" SHIPALT. It is usually limited to the equipment removals or relocations or minor wiring, piping, or ducting modifications.

c) Title "K" SHIPALT: A permanent alteration to provide a military characteristic, upgrade existing systems, or provide additional capability not previously held by a ship, which affects configuration-controlled areas or systems of a ship or which otherwise requires the installation of HCPM. These SHIPALTs are approved for development and authorized for accomplishment by the Chief of Naval Operations (CNO) (military improvements) or the Hardware System Command (HSCs) (non-military improvements). Commander Naval Sea Systems Command (COMNAVSEASYSCOM) provides the technical approval for Title "K" SHIPALTs.

d) Title "K-P" SHIPALT: A Title "K" SHIPALT that is within forces afloat or AIT capability for accomplishment and for which required special program and centrally provided materials are provided as a package by the HSC.

46. Ship Change (SC) (NMP only): A Ship Change (SC) is a modernization action documented by a Ship Change Document (SCD). There are only two types of SCs in the NMP: Program changes and Fleet changes.

a) Program changes are programmed for installation by SYSCOMs or PEOs, as well as funded for accomplishment by the SYSCOMs, PEOs, or other organizations as agreed upon.

b) Fleet changes are programmed for installation by the Fleet (TYCOM), as well as funded for accomplishment by the Fleet or other organizations, as agreed upon.

47. Ship Program Manager (SPM): The Naval Sea Systems Command (NAVSEA) organization responsible for management of ships' acquisition, overhauls, modernization, maintenance and/or repairs.

48. Submitter (NMP only): Submitter is responsible and accountable for the all phases of the SCD. They will be the primary point of contact for questions or clarification throughout the process. Subsequent approvals, disapprovals, and notification to complete the next phase of the SCD will be forwarded to this point of contact.

49. Sustainment Change (NMP only): Sustainment consists of all efforts required to correct or maintain a system's design capability, maintainability, or reparability through internal equipment modifications that do not impact shipboard distributed systems. There are two types of sustainment:

a) Sustainment Type 1 (ST 1): An internal equipment modification that is a configuration change that provides new functionality, but has no impact on ship distributed systems.

b) Sustainment Type 2 (ST 2): An internal equipment modification that is a configuration change that provides no new functionality and has no impact on ship distributed systems. For example:

(1) System repair action that resolves a reliability issue

(2) Corrective maintenance (repair) that results in a requirement to back fit all systems

50. Task: A task in common usage is usually construed as a way of referring to a job; however, for AIM processes, a task has a more carefully defined meaning. (For this reason it may be beneficial to refer to AIM Tasks with a capital "T".) An AIM Task is a portion of the work within one CU Phase that requires a specific trade skill. There are usually multiple Tasks (i.e., a Task Group) developed for a CU Phase. See also Work Breakdown Structure (WBS).

a) It is interrupted by any other planned work.

b) It is associated with a physical location, test boundary, zone, and a single system.

c) It supports completion of a distinct phase of work.

d) It has its own budget allocation.

51. TEMPEST: Telecommunications Electronics Material Protected from Emanating Spurious Transmissions (TEMPEST) is the National Policy on the Control of Compromising Emanations.

52. Trouble Report: The trouble report is the vehicle for reporting significant problems to NAVSEA and other activities involved in work performed on Naval ships, Aircraft Carriers, and Submarines for use in training and improving the weaknesses identified as a result of the problems. NAVSEA Instruction 4700.17(Series) provides requirements for preparing and submitting trouble reports. The AIT Manager should use UIPI 0900-453, *Critique and Problem Analysis Matrix Processes*; Problem Identification and Investigation; or an equivalent process when preparing trouble reports.

53. Type Commander Alterations (TYCOMALTs)/SCD Fleet Change: TYCOMs are authorized to approve temporary changes to compartments of ships, other than nuclear support facilities or compartments adjacent to ship nuclear support facilities, through use of TYCOMALTs subject to the requirements laid out in JFMM (reference H(n).

54. Work Authorization Form (WAF): A WAF is required to authorize the start of work on all ship systems and equipment by activities other than Ship's Force. Work includes all maintenance repairs or modifications and installation of existing and new systems or removal of temporary support systems and equipment. Additional information is contained in reference H(n).

EXHIBIT H-9

TRAINING REQUIREMENTS

Purpose: The purpose of this exhibit is to consolidate and document the existing requirements for AIT training that must be completed in order to start work on the ship/shore facility. This will ensure the work is conducted safely, effectively and IAW governing standards. The Exhibit addresses the responsibilities for each AIT organization, local training requirements and installation specific training. Training included in this Exhibit is not all inclusive. AITs shall refer to the MOA, NAVSEA SIs and QMS for current required training requirements. AIT Training obligations for Ship's Force personnel are provided in subsection H-3.21.

Training is categorized as either formal or informal training.

Formal Training: Formal training typically includes courses and curricula, created by a specified group of instructional designers and trainers, mapped in a structured way to achieve competencies where the comprehension and retention of the required skills are normally tested and certifications, qualifications, or completion letters are exclusively awarded to individuals completing the prescribed training course(s) or curricula.

Informal Training: Informal training addresses training and/or briefings to accomplish indoctrination, orientation or other specified briefings. Informal training and/or briefings provide more flexibility to create and deliver specific content. The content is created quicker and delivered to their intended audiences in the way that makes the most sense to the cognizant authority. Usually no knowledge comprehension or retention test is administered and OQE is normally the attendance list recorded for the official record.

Note: Supplementary formal and/or informal training may be directed as a result of the corrective actions from any investigation, critique or unplanned event per NAVSEA SI 009-120 or formal review or audit. Depending upon the severity of event, the corrective action training could target re-attending the course, re-certification, and/or re-qualification or a re-briefing of areas of non-performance. Once prescribed as a corrective action the corrective training action should follow either the formal and/or informal format to provide the requisite Objective Quality Evidence (OQE) to complete and close-out the corrective action.

1. Responsibilities Section

a) NSA/LMA

Ensure informal orientation briefings and indoctrination training are conducted as necessary so that personnel are cognizant of applicable installation and/or project processes, requirements, and recent significant unplanned AIT events or lessons learned. Orientation and indoctrination training normally contains the information listed in paragraph 3, at a minimum.

The NSA/LMA should consider exportable indoctrination and orientation training where permissible and collect legible copies of attendance sheets, printed, signed and dated with a description of the training provided. Exportable training consists of informal training material which is packaged for mailing, electronic transmission or downloading. The exportable training may be tailored to the location, platform and work to be performed by the AIT. Exportable training may reduce delays when AIT is checking-in for the installation.

The NSA/LMA shall include in their surveillance plan, the formal training qualifications and certifications of AITs and report results to NAVSEA 04RP and the AIT Manager.

b) AIT Manager

Ensure personnel who conduct or supervise AIT work onboard ships and submarines are properly trained, certified and/or qualified IAW the requirements of Exhibit H-9 including:

(1) Coordinate with NSA and LMA to determine requirements for local area AIT informal training, per Paragraph 3 of this Exhibit. Where the NSA/LMA has exportable indoctrination or orientation training available, obtain and provide the training package to the applicable OSIC and/or AIT Lead for presentation to the AIT. Upon AIT completion, provide OQE (legible copies of attendance sheets, printed, signed and dated with a description of the training provided.) to the designated NSA/LMA representatives per the MOA.

(2) Ensure OSIC and AIT Lead have attended the applicable regional/state/local Environmental, Safety, and Occupational Health (ESOH) Office annual training before work commences, IAW NAVSEA SI 009-74 and local ESOH and Occupational Safety and Health Administration (OSHA) requirements. Ensure the AIT contractor personnel complies with current OSHA requirements and NAVSEA. SI 009-74.

(3) As part of QA workbook review, ensure the AIT has proper formal training, certifications and qualifications to accomplish the work.

c) AIT On-Site Installation Coordinator

The AIT OSIC must be knowledgeable of and responsible for AIT adherence to all invoked requirements including safety, environmental, workmanship, quality, technical instructions, and any NSA/LMA MOA in effect with the NSA, LMA, and AIT Manager.

Coordinate with the AIT Manager to accomplish requirements for local area informal AIT training, per Paragraph 3 of this Exhibit. When presented with the NSA/LMA exportable indoctrination or orientation training, provide the training material to the applicable AIT for completion. Upon completion, provide OQE (legible copies of attendance sheets, printed, signed and dated with a description of

the training provided) to the designated NSA/LMA representatives via the AIT Manager.

Verify AIT personnel have required formal and informal training, including personnel/procedural qualifications for processes required for the installation.

Attend regional/state/local ESOH Office training annually.

During the entire length of the installation, ensure AIT contractor employees working aboard vessels, dry docks and piers shall have a valid 10 hour OSHA Maritime Shipyard Employment Course #7615 completion card per NAVSEA SI 009-74.

d) AIT Lead

Coordinate with OSIC and/or AIT Manager to accomplish requirements for local area informal AIT training, per Paragraph 3 of this Exhibit.

When presented with the NSA/LMA exportable indoctrination or orientation training, provide the training material to all AIT members. Upon completion, provide OQE (legible copies of attendance sheets, printed, signed and dated with a description of the training provided) that the training has been accomplished to the designated NSA/LMA representatives via the applicable OSIC and/or AIT Manager.

Note: Additionally, the AIT Lead should brief the applicable local NSA Safety Office on their installation and any process control procedures and review regional safety notices to ensure all safety requirements are understood.

The following training is required for personnel serving as AIT Leads:

(1) Applicable formal training requirements per Paragraph 2.

Note: If AIT Lead is a contractor, the AIT Lead shall have a valid 10-hour OSHA Maritime Shipyard Employment Course #7615 completion card per NAVSEA SI 009-74.

(2) Attend regional/state/local informal training per Paragraph 3.

Note: AIT lead must attend the ESOH training annually.

e) **AIT**

The following minimum training requirements shall be completed by all AIT personnel prior to conducting any shipboard work.

(1) Formal training required for the task/work per paragraph 2.

Note: For all AIT contractor personnel, have a valid 10 hour OSHA Maritime Shipyard Employment Course #7615 completion card per NAVSEA SI 009-74.

(2) Informal training required per Paragraph 3.

2. Formal Training Requirements

For those skills that require specific formal training, qualification, and/or certification, to include training requirements from applicable NAVSEA SIs, AIT personnel performing these functions will be fully trained, qualified and certified.

Procedures shall be maintained to assure personnel training, qualifications and certifications that may be required to perform ship work, depending on the work to be accomplished. These include, but are not limited to, the following:

a) Hot work/welding

(1) Firewatch personnel IAW NAVSEA SI 009-07

(2) Persons performing hot work IAW NAVSEA SI 009-12

b) Test personnel (NDT) qualification IAW NAVSEA SI 009-12

c) Competent person for Confined Space Entry IAW NAVSEA SI 009-07

d) Tank cleaning personnel IAW NAVSEA SI 009-07

e) Asbestos testing or work - insulation, lagging, deck tile, underlayment, gasket, shipboard cabling, and mastic IAW NAVSEA SI 009-10.

f) Shipboard Fluorocarbon use

(1) Qualified Test Personnel IAW NAVSEA SI 009-61

(2) Certified Technician IAW NAVSEA SI 009-61

g) Electrical/Electronic Connector and Fiber Optic Work IAW NAVSEA SI 009-73

(1) Electrical/Fiber Optic Connector Fabricators

(2) Electrical/Fiber Optic Connector Fabricator Supervisors

(3) Electrical/Fiber Optic Connector Fabrication QA Inspector(s)

Note: Navy shipboard fiber optic personnel shall also meet the minimum skill sets, proficiency, training, and recertification requirements of MIL-STD-1678, Part 1, Requirement 1306.

h) Cableway Inspectors IAW NAVSEA Instruction 9304.1

i) Painting including coating of critical surface areas IAW NAVSEA SI 009-32

j) SUBSAFE work, FBW work, and DSS-SOC work for activities authorized in reference H(ai), NAVSEANOTE 5000.

k) Electrostatic Discharge (ESD) work IAW ANSI/ESD S20.20-2014

l) PCMS work IAW reference H(n) Volume VI, Chapter 37

m) WAF/Tag-out process training IAW NAVSEA SI 009-24.

n) Non-Nuclear Work on Nuclear Vessels IAW NAVSEA SI 009-110

o) Non-SUBSAFE work on SUBSAFE vessels IAW NAVSEA SI 009-109

p) OSHA 10-hour Maritime Shipyard Employment Course IAW NAVSEA SI 009-74 (for contractors only)

3. Regional/State/Local Informal Training Requirements

AITs are to follow the local area requirements of the industrial facility where the alteration/SC is to take place. Informal training includes both indoctrination and orientation briefings/training.

A type of indoctrination training is commonly conducted prior to badge access into the industrial facility. Most industrial facilities conduct the indoctrination training via video or advanced copies may be obtained through specific requests.

Orientation training (e.g., Project Orientation Briefs (POBs)) is conducted prior to the start of work to discuss lessons learned from recent unplanned events, investigations, critiques and/or trouble reports.

The indoctrination training may consist of, but is not limited to, the following areas:

a) Industrial Facility indoctrination

(1) PPE requirements and boundaries

(2) Environmental impact

(3) Badge color code and areas where the AIT is restricted from access

(4) Requirements for access to radiological controlled areas and other controlled areas

(5) Radiological controlled material handling requirements

(6) Overhead crane movements

(7) Vehicle traffic/parking

(8) Marked areas for walking

(9) Alarms/Emergency reporting procedures (i.e., what to do, what number to call)

(10) Off limit areas

b) Orientation training covers a wide range of project, shipboard or regional/state/local related training. Exportable training packages may be available through specific requests to the NSA/LMA and includes, but not limited to:

(1) WAF requirements

(2) Lock Out/Tag-Out requirements

(3) Electrical safety and what to do for a shock or electrocution mishap

(4) Manual for Control of Testing and Ship Conditions (Submarines) (i.e., Submarine awareness)

(5) Requesting, routing and labeling of temporary services

(6) Casualty Control. Reporting and knowing the location ship's exits and general knowledge of Damage Control/Firefighting equipment and personnel accountability assembly locations relative to the host's fire safety plan

(7) Classification, Handling, control and storage of drawings and material IAW Section H-3.18.5

(8) Ship Safety requirements (Surface Ships)

(9) Non-Nuclear work on nuclear vessels

(10) Unplanned events (e.g. electric shock and HAZMAT spills)

(11) Controlled evolutions (e.g. control surface movements, Mast and Antenna movement)

(12) Ship or Project-specific RADCON training

(13) Hazardous Materials (HAZMAT) requirements

(14) Non-SUBSAFE work on SUBSAFE vessels (SUBSAFE Awareness)

(15) ESOH annual training

EXHIBIT H-10

ASN MEMO ON AIT CONTRACTING STRATEGY

THE ASSISTANT SECRETARY OF THE NAVY
(RESEARCH, DEVELOPMENT AND ACQUISITION)
1000 NAVY PENTAGON
WASHINGTON DC 20350-1000

MAR 27 2009

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Comprehensive Contracting and Depot Work Integration Policy for Non-Nuclear Shipboard Maintenance and Modernization

References: (a) 27 AUG 2004 Memorandum of Understanding among U.S. Fleet Forces, COMPACFLT, COMFISC, COMNAVSEA and COMNAVSUP
(b) COMNAVSEASYSCOM Technical Specification 9090.310(E), Alterations to Ships Accomplished by Alteration Installation Teams
(c) Naval Sea Systems Command Standard Items for Repair of Vessels
(d) DFARS 207.170, Consolidation of Contract Requirements
(e) Section 2464 and 2466 of Title 10, U.S. Code, Limitations on Contracting for Core Logistics Capabilities and Performance of Depot-Level Maintenance of Materiel (50-50 Public-Private Depot Rule)

BACKGROUND

This memorandum sets forth the Comprehensive Contracting and Depot Work Integration Policy for Shipboard Maintenance and Modernization. Each year the Navy awards and administers more than two billion dollars in contracts for depot-level shipboard maintenance and modernization (repairs, alterations, installations and modifications). These contracts vary in method and type, including firm fixed-price or cost reimbursement, indefinite delivery-indefinite quantity (IDIQ), performance based logistics (PBL), original equipment manufacturer (OEM) basic ordering agreements (BOA), and multi-ship, multi-option (MSMO) contracts. There are in excess of two hundred such shipboard production contracts, creating the following undesirable conditions:

- Duplicative or redundant contracts for identical requirements;
- Identical requirements with differing or incomplete technical acceptance criteria;
- Simultaneous execution without effective coordination or integration, resulting in disruption;
- Improper cost allocation among contracts for support services.

The four Naval Shipyards (NSYs), seven Regional Maintenance Centers (RMCs), two Supervisors of Shipbuilding (SUPSHIPs) and four ship life cycle program managers (SPMs) employ these shipboard production contracts to accomplish their depot availability work, with each availability project requiring scoping, integration and administration of selected contracts.

POLICY

To improve contract coordination and reduce unnecessary contract proliferation, and maximize efficiency of depot work execution in support of the Fleet Response Plan, the Comprehensive Contracting and Depot Work Integration Policy for Shipboard Maintenance and Modernization policy contains the following requirements:

- NSYs and RMCs (referred to collectively as naval supervising activities, NSA) are accountable and have ultimate authority in the execution of all shipboard maintenance and modernization during availability periods, consistent with delegated authorities.
- The NSAs and SPMs shall serve as the planning and execution integration agents for all production contracting activity executed on Navy ships.
- All contracts for shipboard work shall:
  - be procured and administered by DoN warranted contracting officers in accordance with reference (a);
  - include technical content in accordance with references (b) and (c), and be approved by a platform technical director and NSA technical warrant holder as appropriate for the work;
  - be selected from an approved Portfolio of Shipboard Production Contracts.
- All contracts for shipboard production work shall reside in the Portfolio of Shipboard Production Contracts, maintained by the Commander, Regional Maintenance Centers. Contracts that are not in the approved Portfolio are not authorized for shipboard use.
- To ensure alignment, coordination and efficiency of shipboard contracting activity, all additions to the Portfolio shall be via an approval from the Contracts Governance Council (CGC), chartered by the Fleet Maintenance Board of Directors and composed of Fleet, TYCOM, SYSCOM and PEO representatives. The CGC will seek opportunities for consolidation of contract requirements in accordance with reference (d).
- The Fleet Maintenance Board of Directors shall be responsible for addressing issues raised by stakeholders that can not be adjudicated by the CGC, including exemptions to this policy.
- When tasked, lead maintenance activities (LMAs: NSYs and MSMOs) shall perform complete and timely integration of all shipboard production work during the course of an assigned availability.
  - The scope of integration shall include all depot (NSY, MSMO, Alteration Installation Team – AIT, Indefinite Delivery/Indefinite Quantity - IDIQ), intermediate and major organizational-level work.
  - Non-LMA activities participating in these availabilities must provide their industrial support requirements, proposed activity schedules and system light-

off requirements to the LMA for coordination and integration in accordance with cognizant NSA planning milestones.
  - LMAs shall provide a coordination framework to ensure availability execution is balanced amongst all stakeholder requirements.
- Subject to the limitations of reference (e), NSAs shall assign LMA-organic industrial production work to the LMA based on capacity and cost reasonableness. If LMAs do not have sufficient capacity or are not cost reasonable, NSAs shall assign the work to an alternate provider. This will not relieve the LMAs of their total ship integration function, and the alternate provider shall comply with the integration requirements set forth herein.
- Maintenance and modernization of nuclear propulsion systems and supporting sub-systems, as well as SUBSAFE systems and sub-systems, are exempt from this policy.

This policy will become effective for all new shipboard maintenance and modernization contract actions. My point of contact is Mr. Dan Gulotta at 703-697-3781, or daniel.gulotta@navy.mil.

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