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ALTERATIONS/SHIP CHANGES TO SHIPS ACCOMPLISHED BY ALTERATION INSTALLATION TEAMS

1 SCOPE

This specification establishes procedures applicable for all shipboard Alterations (Alts)/Ship Changes (SCs) accomplished by Alteration Installation Teams (AITs) or any organization that performs the duties or functions of an AIT.

1.1 General

This specification provides requirements for the planning, scheduling and accomplishment of logistically supported alterations/SCs on active and reserve force 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 Fleet Modernization Program (FMP) or Navy Modernization Process (NMP), as applicable, will be installed in Navy ships.

No funds shall be expended for ships scheduled for deactivation within five years without a Secretary of the Navy (SECNAV) waiver or approved Memorandum for Record (MFR).

b. **Scheduling**

For submarine Type Commander (TYCOM) Alterations, the TYCOM Alteration Management System (TAMS) serves as the official authorization data base until the Navy Data Environment (NDE) database can be modified to accommodate TYCOM requirements and Unclassified Navy Nuclear Propulsion Information (UNNPI) data. OHIO Class submarines do not use NDE. Configuration is managed in the Submarine Acquisition and Support (SAS) System and uploaded via Configuration Data Managers Database – Open Architecture (CDMD-OA) to the Weapons System File (WSF). Installations are scheduled in the Navy Tool for Interoperability Risk Assessment (NTIRA) / Submarine Modernization and Alteration Requirements Tool (SMART) and the TAMS.

Surface ship and carrier modernization is scheduled in Navy Data Environment-Navy Modernization (NDE-NM).

1.2 Definitions

As used in this document, the definitions contained in Appendix H herein apply.

1.3 Applicability

This specification applies to all legacy alterations and SCs accomplished by AITs on US Navy ships, including surface ships, carriers, submarines and service craft, except as noted in paragraph 1.4.

1.4 Exceptions

This specification does not apply to:

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).

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

d. Installation support personnel and certification teams, who only provide technical guidance, equipment check-out and grooming, certification of systems or on-site training for ship's force not associated with the accomplishment of an alteration/SC.

e. Installation support personnel for non-invasive installations supporting short term experimentation efforts where desktop/laptop computers are brought aboard and not connected to the network to support clearly defined experimentation objectives for a finite period of time and do not require AITs for installation.

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 technical specification and can be refined, if required, in a Memorandum of Agreement (MOA). A MOA template is provided in Appendix C. It is recommended that Hardware System Commands (HSC)/AIT units that use alternative AIT titles within their organization use the terminology of Technical Specification (TS) 9090-310(Series) in position description/billet assignments of personnel. If alternative titles are used, ensure personnel assigned parallel AIT duties are familiar with 9090-310(Series) responsibilities. All activities identified in this TS are responsible for entering and maintaining accurate data in NDE.

1.5.1 Naval Supervising Activity

The single naval activity responsible for the integration, oversight and verification of all work accomplished by all activities (i.e. Naval Shipyards (NSYs), Regional Maintenance Centers (RMCs), Supervisors of Shipbuilding (SUPSHIPs) contractors, TYCOM sponsored contractors, Intermediate Maintenance Activities (IMAs), AITs, and Ship's Force) working within the assigned availability, and which acts as the single point of contact for this work. The Naval Supervising Activity **(**NSA) will provide 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. In accordance with reference 2.2(b) Volume VI, Chapter 43 (Guidance For Enhanced Modernization And Alteration Installation Team Integration During Availabilities) the NSA/Lead Maintenance Activity (LMA) has overall responsibility for the availability, and possess the authority to organize, structure and coordinate all availability execution matters. All other participants shall support the NSA/LMA in this regard. Specific NSA 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. Depending on the complexity of the availability the NSA responsibilities include:

1. Participate in selected work definition and planning conferences, review conferences, design reviews, major progress conferences, and problem reviews.
2. Facilitate planning efforts. Ensure detailed planning and integration of the work package is accomplished to provide a schedule that incorporates the availability planning steps of all organizations involved in the planning process (for example an Integrated Product Team). The schedule shall address work definition, key financial events, shipchecks, job summary, 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. Identify their appropriate points of contact.
3. Ensure MOA, Standard Work Practices, and/or NAVSEA Standard Items are in place prior to the start of availability work. These documents specify agreement between the organizations (i.e., Ship's Force, NSA, maintenance activities) concerning their respective responsibilities (i.e. control of plant conditions, work control, accomplishment of work, quality assurance, support services/equipment, testing requirements, waivers, deviations or departure from specifications, radiological control, hazardous material, etc.).
4. 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.
5. Develop an Integrated Project Management Plan to efficiently coordinate work strategies, apply lessons learned, and minimize conflicts. These plans integrate the individual strategies from all involved activities and address issues including, but not limited to:
    - Early start strategies
    - Sea trial agenda
    - Material/equipment requirements
    - Work packaging
    - Temporary services
    - Crane service
    - Rigger service
    - Impacted areas and spaces, including required access to secure spaces
    - Hangar bay, flight deck, drydock and pier side lay-down areas
    - Inspection requirements (gas free, SIGSEC, TEMPEST, weight tests, etc.)
    - Environmental/Safety requirements
    - Submarine Safety (SUBSAFE)/Level I material
    - Hot work
    - Fire watches
    - Access cut requirements
    - Tank entry and closure
    - Work control
    - Impact of work on ship's crew habitability and quality of life

- Co-location and communications plan (i.e. status reports, notification requirements, meetings, briefings, etc.)
- Material condition assessment plan
- Alteration installations
- Total ship work certification process

6. Maintain a list of activities working on the ship and ensure each activity has the proper credentials (e.g., SUBSAFE, radiological, etc.).
7. Coordinate preparations by assigned activities for all key events (e.g., docking, undocking, hot operations, dock trials, fast cruise, sea trials, etc.) to include verification signature checklists of readiness to start.
8. Progress and coordinate production work within schedule constraints. Define, identify and provide resolution to coordination problems and work conflicts. Advise the appropriate organizations (e.g., NAVSEA, TYCOM, Planning Yards (PYs), Ship's Program Manager, etc.) of significant quality, cost, and schedule impacts and identified problems/deficiencies.
9. Coordinate all safety programs (such as sail safety and sail closeout) efforts by assigned activities.
10. Prior to fast cruise, sea trials and availability completion, certify all authorized work has been completed unless waived. For work performed by contractors ensure all provisions of the contract have been fully executed.
11. During work execution, review all changes to specifications and work items impacting propulsion plant or designated areas of nuclear powered ships to ensure requirements are met.
12. Participate in critiques and problem investigations (e.g. Trouble Reports) as necessary.
13. Monitor the effectiveness of AIT Managers execution of Quality Assurance (QA) oversight responsibilities (Appendix D). Monitor both the effectiveness and the quality of AIT Managers by assessing their execution of QA oversight responsibilities and by Quality Sampling. Request Qualification Records as needed in support of spot checks.
14. Perform inspections of installations, on a sampling basis, and use the sampling evidence to indicate conformance or nonconformance with NAVSEA requirements
15. Attend AIT In/Out briefs and coordinate with the AIT Manager and Ship's Force to ensure satisfactory completion of alterations. Ensure that Integrated Logistics Support (ILS) products from the AIT are properly distributed.
16. Ensure completion reports are issued for all availabilities. For work not accomplished ensure a Current Ship Maintenance Project Job Control Number (JCN) is issued.

In cases where the AIT is unable to complete the installation within the availability, the NSA shall:

1. Perform an independent assessment of the impact of the unfinished work.
2. Contact planning yard as required to complete this assessment.
3. Determine required mitigating actions as appropriate. These may include additional spare parts, installation of temporary valves, etc.
4. Ensure a Departure From Specification (DFS) is documented, if required.
5. Determine if temporary changes to watch bills, training aid booklets, operating procedures, etc., are required, and ensure required changes are implemented.

6. Provide a complete package to Ships Force, the Planning Yard, the appropriate Type Commander and the appropriate Program Executive Office (PEO) detailing how the above items 1 through 5 have been adjudicated.
7. Provide concurrence to the AIT Manager that the availability may complete.

1.5.2 Lead Maintenance Activity

Along with the NSA, the LMA has overall responsibility for the availability and possesses the authority to organize, structure and coordinate availability execution matters. The LMA will:

1. Develop an inclusive, detailed, integrated and resource-loaded schedule of all participating activities.
2. Accomplish integrated availability planning and execution.

1.5.3 AIT Sponsor

The government activity that tasks and funds the AIT Manager. The AIT sponsor will:

1. Develop a Statement of Work (SOW) that incorporates all aspects of TS9090-310 (series) as applicable.
2. Ensure AIT installations are funded to the level necessary to ensure all QMS requirements are met.
3. When appropriate, prepare and issue a formal agreement with the Techical Authority (TA)/Regional Chief Engineer (CHENG) regarding engineering and technical authority policy as well as technical support. Per reference 2.2(g), NAVSEA CHENG concurrence on the agreement is required.
4. Ensure annual quality assessments are performed of AITs by AIT Managers as delineated in paragraph 4.4.
5. Ensure that all work within the SUBSAFE certification Boundary is performed by a reference 2.2(w) activity and that Supervising Authority functions required by reference 2.2(l) are performed by a Government Activity identified by reference 2.2(w).

1.5.4 AIT Manager

The government activity, In Service Engineering Agent (ISEA), military person or government civilian 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 will:

1. Ensure that the AIT effort is fully coordinated with the Ship Program Managers (SPMs), Life Cycle Manager (LCM), NSA, TYCOM and PY, including participation in AIT integration efforts directed by the NSA during the availability advance planning process.
2. Ensure alteration/SC is authorized for installation.
3. Follow the Exception Process when warranted as outlined in reference 2.2(q).
4. When accomplishing a quick reaction alteration/emergent SC in accordance with paragraph 3.1.2.a(3)b, the AIT Manager should begin immediate liaison with the NSA and/or Regional Maintenance and Modernization Coordination Office (RMMCO) to facilitate rapid installation completion.
5. Validate that approved ILS Certification exists in NDE during In-brief to the NSA and RMMCO (as applicable). If an approved ILS Certification is not available in NDE, a Risk/Impact Assessment and Late Add Request Message must be provided. Note: the Submarine TYCOMs will not load Alteration and Improvement/Alteration Equivalent to

Repair (A&I/AER) into NDE-NM until the situation is resolved with respect to UNNPI/classified server. As a result, the supporting A&I Certifications can not be uploaded into NDE-Master List (ML). In addition, there may be PARM/LCM equipment alterations (e.g. Field Changes/Engineering Changes (FCs/ECs)) that are not in NDE-NM as well.

6. Sign MOAs in accordance with paragraph 3.1.2 d and Appendix C.
7. Identify and fund AIT contractor in accordance with paragraph 3.4.8.1.
8. Ensure that the AITs have a QMS/plan accepted by NAVSEA 04 prior to installation and that proper training, certifications and quality assurance/control is in place for the work identified.
9. Develop and maintain a cost effective AIT Manager's Quality Assurance Program (AMQAP) to ensure AIT compliance with specified technical and quality requirements. Ensure AIT compliance with specified technical and quality requirements. Guidelines and provisions for an AMQAP are provided in Appendix E.
10. Ensure AIT contractor QA workbook is available prior to each installation in accordance with paragraph 3.4.8.7.
11. Define AIT support services requirements and provide funding in accordance with paragraph 3.4.4.
12. Ensure the AIT In-brief is scheduled and conducted in accordance with Appendix F
13. Provide Plan of Action and Milestones (POA&M) to the NSA/LMA in accordance with reference 2.2(b), VolumeVI, Chapter 43. A sample POA&M is provided in Appendix C.
14. Provide information for the creation of a JCN by one of the following methods: 1) Coordinate with local RMC to generate a Work Item for Regional Maintenance Automated Information System (RMAIS). 2) For submarines and aircraft carriers, provide this information to the TYCOM Representative for loading in RMAIS.
15. Ensure an AIT On-Site Installation Coordinator (OSIC) is assigned to an installation. (A single AIT OSIC may be designated for multiple alterations/SCs).
16. Identify an AIT OSIC for each shift if multiple-shift work is to be accomplished.
17. Verify configuration change data is loaded in CDMD-OA sixty (60) days prior to start of installation and ensure final configuration data is loaded at installation completion.
18. Ensure that the appropriate Security Clearance information is provided in accordance with paragraph 3.4.8.6.
19. Identify Critical System work in accordance with paragraph 3.5.7.
20. Ensure electronic check in with RMMCO is accomplished in accordance with paragraph 3.4.2.
21. Ensure representatives are present at the Work Package Integration Conference (WPIC) and Work Package Execution Review (WPER).
22. Release readiness to start information in accordance with paragraph 3.4.8.5.
23. Ensure physical check in with RMMCO is accomplished, including submission of required documentation for review and verification.
24. Ensure adherence to safety, technical, environmental, and production process requirements. Coordinate with NSA to determine requirements for local area AIT training requirements, including (but not limited to) Shipyard safety briefings and Work Authorization/Tag-Out procedures.
25. Ensure on-site personnel execute AMQAP as planned.

26. Provide a copy of the AMQAP to the NSA for each install when requested.
27. Provide a copy of any surveillance reports or audits conducted during the install on a weekly basis to the NSA when requested. If an AIT OSIC is designated, he/she will provide information to the NSA or the AIT Manager at the discretion of the AIT Manager.
28. Investigate significant problems, and submit critique and trouble reports in accordance with reference 2.2(t) and Uniform Industrial Process Instructions (UIPI) 0900-453. The ship involved, the contractor(s) involved, and the applicable NSA will be party to the investigation and will assist in the preparation of the trouble report. Implement the corrective actions addressed in the trouble report.
29. Review and submit Liaison Action Record (LAR) requests.
30. 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.
31. Ensure proper completion of inspection/installation records.
32. Ensure RMMCO check-out is completed in accordance with paragraph 3.6.5.
33. Forward copies of the Alteration/SC Completion Report in accordance with paragraph 3.6.9. More than one completion report may be submitted for a single alteration/SC accomplished by multiple AIT activities. However, a single completion report must be issued for each alteration/SC.
34. Upon completion of the installation, reports alteration/SC completion in accordance with paragraph 3.6.6.4, verifies delivery of ILS products, shows the status of completion of each alteration/SC and listing those items authorized but not undertaken, to the TYCOM in accordance with existing instructions. Copies of the completion report will be sent to the NSA, PY, applicable Squadron/Group Commander, RMC, applicable Ship Availability Planning and Engineering Center (SHAPEC) or Submarine Maintenance, Engineering, Planning and Procurement (SUBMEPP), the applicable SPM, the Carrier Planning Activity (CPA) (Carriers only), and the Naval Sea Logistics Center (Surface Ships only).
35. Ensure that each installation is reported complete in NDE-NM in accordance with paragraph 3.6.9.
36. Upon completion of each installation, ensure that red-lined drawings are provided to the ship and to the PY in accordance with paragraph 3.6.7.
37. Support any post-installation lessons-learned meetings, including ensuring representation at post-Chief of Naval Operations (CNO) Availability Hot Washes.
38. Perform annual quality assessments in accordance with paragraph 4.4.
39. Recommend to AIT Sponsor and NAVSEA 04XQ the revoking of QMS acceptances when AITs are not in compliance with this or other invoked specifications.
40. 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.

In cases where the AIT is unable to complete the installation within the availability, the AIT Manager shall:

1. Document the amount of work left to be accomplished.
2. Ensure the NSA has 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 concurrence that all required mitigating actions and documentations have been performed.

1.5.5 AIT On-Site Installation Coordinator

The government or military employee designated by, and acting with the authority of the AIT Manager. The AIT OSIC will:

1. Attend advance-planning meetings WPICs and WPERs, etc.) during periods of alteration/SC industrial activity at the direction of the AIT Manager.
2. Support RMMCO physical check-in as directed by the AIT Manager.
3. Conduct In-Brief as directed by the AIT Manager in accordance with Appendix F.
4. Check-in with the designated RMMCO and/or NSA, as applicable.
5. Be responsible for the conduct of the installation.
6. Be responsible for the conduct of the AIT.
7. Be present for all key/critical milestones or events.
8. Act as the point-of-contact with the ship and NSA for all AITs involved with the alteration/SC installation.
9. Be knowledgeable of and responsible for AIT adherence to all invoked requirements including safety, environmental QMS, technical instructions, and any NSA MOA in effect with the NSA and AIT Manager.
10. Provide on site installation oversight and management during periods of alteration/SC industrial activity for respective installs. If work is being performed on a 24/7 basis, ensure local NSA/ Lead Maintenance Activity (LMA) have contact information for after normal duty hours in the local geographical area.
11. Ensure AIT has required environmental permits onsite prior to the start of work.
12. Ensure AIT has disposed of removed equipment as requested by the SPM/PARM.
13. Ensure a site specific Environment Protection Agency (EPA) Hazardous Waste (HW) Generator ID Number is in place for disposal of AIT generated HW.
14. Verify AIT personnel have required training and personnel/procedural qualifications for processes required for install.
15. Ensure AIT contractor is maintaining a QA workbook on site during the installation.
16. Sign for any Government “G” inspection points on AIT Contractor’s Test and Inspection Plan and follow the Test Plan.
17. Generate and process LARs as required in accordance with references 2.2(q) and 2.2(r). Ensure the AIT Manager is aware of any design changes requiring LARs.
18. Attend availability production and coordination meetings to provide updated progress on installations and changes to production schedule.
19. Provide a status report to the AIT Manager on a weekly basis as a minimum. Report shall address overall alteration status, AIT progress, problems encountered and lessons-learned
20. Have an awareness of the scope of AIT Support Services obtained for the installation. Ensure AIT Support Services are coordinated and tracked. Mediate any discrepancies

regarding AIT Support Services with the NSA in a timely fashion. Report any discrepancies to the AIT Manager.

21. Resolve quality discrepancies as directed by the AIT Manager.
22. Resolve AIT issues, particularly those relating to a stop work order.
23. Participate in the corrective action process by generating Corrective Action Requests (CARs) and participating in Critiques when warranted. Ensure copy of CAR is provided to NAVSEA 04RP.
24. In accordance with reference 2.2(l), ensure that AIT work responsibilities that involve SUBSAFE work is performed only by a reference 2.2(w) activity.
25. Execute AMQAP, including performing on-site QA surveillance inspections and audits to ensure AIT compliance with specified technical and quality requirements.
26. Upon installation completion, obtain signatures from the ship and AIT contractor for the Alteration/SC Completion Report.
27. Ensure AIT is maintaining red-lined mark-ups of all required drawings and documents reflecting any changes made during the installation and ensure copies are provided to the ship after installation in accordance with paragraphs 3.6.2 and 3.6.3.
28. Keep the NSA and ship's force appraised of any deficiencies (example Change Order Request Notifications (CORNs)) written by the AIT as a result of poor NSA or ship's force performance or support. The AIT OSICs is responsible for correction/resolution of such deficiencies.
29. Ensure delivery of all ILS products to applicable ships force, NSA, or aircraft carrier Maintenance Support Center (MSC).
30. Conduct out-brief with the ship upon installation completion.
31. Complete RMMCO check-out process in accordance with paragraph 3.6.5.
32. Forward signed completion report and any completion documentation to the AIT Manager.
33. If off-site, must remain on call and be available to respond on-site within two (2) hours of request.

Note: AITs that do not have an assigned AIT OSIC (or documented approval from the SPM that an AIT OSIC is not required) shall be denied access to the ship.

1.5.6 AIT Lead

The AIT Manager will ensure that the AIT has a designated AIT Lead. The AIT Lead will report directly to the AIT OSIC and will:

1. Ensure successful execution of the installation as provided in the SOW.
2. Ensure the AIT adheres to all aspects of TS9090-310(series) including requirements defined in applicable MOAs, NAVSEA Standard Items, and Work Specification Items.
3. Attend AIT in-brief.

In cases where the AIT is unable to complete the installation within the availability, the AIT Lead shall:

1. Inform the AIT Manager and the NSA 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 usually include "red line" drawings at a minimum.

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

1.5.7 AIT

A unit (military, government activity and/or contractor) under the direction of an AIT Manager/OSIC that is trained and equipped to accomplish specific alterations/SCs on specified ships. The AIT is responsible for the installation, performance and completion of the alteration/SC. The AIT will:

1. Perform all work in accordance with the requirements of the NAVSEA Standard Items (SI) or Naval Shipyard UIPI as applicable.
2. Provide visit clearance information to the ship, TYCOM, NSA, or other appropriate naval activity in accordance with Regional procedures.
3. Be responsible for the conduct of the installation.
4. Maintain an up-to-date accepted QMS.
5. Provide NSA with a POA&M (Appendix C) to support development of an integrated schedule in accordance with paragraph 3.5.1 .
6. Supply, assemble, and transport all of the material that is not Headquarters Centrally Provided Material (HCPM) for the installation.
7. Provide proper handling and storage of Hazardous Material (HM)/ HW during the installation process in accordance with the Hazardous Material Users Guide OPNAV P-45 110-96; reference 2.2(b), and reference 2.2(c).
8. Provide all required environmental reports cited in reference 2.2(x) to the NSA via the environmental coordinator.
9. Maintain red-lined mark-ups of all required drawings and documents reflecting any changes made during the installation and ensure copies are provided to the ship after installation in accordance with paragraphs 3.6.2 and 3.6.3.
10. Perform testing in accordance with test procedures, approved drawings, and applicable ship specifications.
11. Provide certification test results to the certifying authority.
12. Witness or conduct Pre-Installation Check-Out (PICO) of applicable systems in accordance with paragragh 3.5.5.
13. Comply with all NSA, Shipyard and Regional environmental instructions and procedures.
14. Notify the OSIC and NSA of all departure from specifications.
15. Attend scheduled out-briefs and obtain signatures from the AIT OSIC, NSA and Ship Force representative once all work has been satisfactorily completed (along with a completion of work letter).
16. Provide redline drawings to the AIT Manager after installation in accordance with paragraphs 3.6.2 and 3.6.3.
17. When requested by the NSA/RMMCO/ISEA, provide a copy of the accepted QMS, applicable work instructions/procedures, evidence of required personnel training/qualification, and evidence of required procedure approval/qualification.
18. Comply with requirements of reference 2.2(l) to ensure that all SUBSAFE work is performed by an activity authorized by reference 2.2(w).

1.5.8 Regional Maintenance and Modernization Coordination Office

A RMC-aligned, Fleet-chartered organization that serves as the primary point of entry for all waterfront related alteration/SC and maintenance activities in and out of CNO availabilitites. During alteration/SC installation efforts, depending on the local maintenance infrastructure, RMMCO duties should be tailored to fit NSA/LMA doctrine and work-flow. The RMMCO will:

1. Serve as the office for AIT check-in and checkout for all alteration/SCs
2. Ensure alteration/SCs are properly authorized, mature, or correct assumption of impact is documented.
3. Liaison with appropriate stakeholders to ensure all modernization issues are resolved.
4. Operate and maintain the RMMCO website at https://www.rmmco.navy.mil which allows entry and tracking of alteration/SC installations. This website generates the RMMCO/AIT Installation Check-In/Check-Out form.
5. Maintain database interface with NDE and SAS for verification of alteration/SC maturity, software accreditation, interoperability baseline status, Target Completion Date (TCD) compliance, etc.
6. Track completion of firmware/hardware/software updates provided to ships via mail-outs/downloads.

1.5.9 Regional Maintenance Center

Responsible for work accomplished by all activities and acts as the single point of contact. These responsibilities include but are not limited to:

1. Provides government oversight of all work performed during an availability.
2. Coordination with other maintenance activities (e.g. PYs, AITs, etc.).
3. Coordinate Advance Planning Meetings as well as WPER to address all work package and scheduling issues prior to availability execution phase.
4. Broker all I and D level work to assigned shipyards.
5. Coordinate efforts by assigned repair activities for all key events during availability execution phase (e.g. docking, undocking, production meetings, etc.).
6. Obtain all NAVSEA Availability Letters of Authorization (LOA)/Hull Modernization Plan (HMP) and monitor the CNO avails in NDE, NTIRA or TAMS as applicable.
7. Request availability funding for planning and executing repair work and alterations/SCs that will be accomplished by the assigned shipyard.
8. Review all planned alterations/SCs for maturity and completion of ILS requirements.
9. Review all planned alterations/SCs for equipment removal and disposal request by the SPM/PARM.
10. Contact AIT Sponsors listed in the LOA and obtain all required support service requests and POA&Ms. Provide this information to the assigned shipyard for planning and schedule integration purposes. Request funding from AIT Sponsors for their support requests.
11. Collect lessons-learned metrics and schedule post-availability hotwashes.

1.5.10 Planning Yard

The Ship Class Engineering Design Agent is responsibile 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 in accordance with the reference 2.2(cc). The PY will:

1. Provide detailed technical support for Justifcation Cost Form (JCF)/Ship Change Document (SCD) development efforts as tasked and funded by the cognizant SPM.
2. Submit alteration/SC, major arrangement, and system interface drawings to the SPM for review and approval when specified in the related Ship Alteration Records (SARs)/SCDs.
3. Define necessary installation/support material and ILS requirements to the cognizant SPM throughout alteration/SC development and design.
4. Participate in planning conferences, design reviews, and problem reviews with the SPM, TYCOMs, etc.
5. Provide LAR services, including on-site engineering field services, to NSAs/Installing Activities for clarification of requirements, review and approval of minor changes.
6. Provide Miscellaneous Documentation Support (MDS) as required.
7. Proof SPM specified first-time or complex alterations/SCs throughout accomplishment, and providing the associated proofing report (Proofing is to include validation of design and logistics support as defined in the SAR/SCD and ILS Certification, respectively).
8. Maintain, modify, and distribute Ship Selected Record (SSR).
9. Maintain a weight control baseline system.
10. Provide configuration control and maintaining configuration data.
11. Develop test requirements for complex alterations/SCs when specified in the SARs/SCDs.
12. Develop, review and approve Ship Installation Drawings (SIDs) as tasked by the SPM/PARM.
13. Provide a complete set of SIDs to the NSA and the ship receiving the alteration/SC.
14. Consider material standardization priorities to make recommendations or initiate action to achieve intra-class, intra-Navy and intra-ship standardization.
15. Provide alteration/SC design information to the Configuration Data Manager (CDM) for Configuration Overhaul Planning (COP) development.
16. Prepare purchase specifications of all non-standard material required for the alteration/SC except for items being procured by the Hardware System Commands (HSCs).
17. Provide technical services to the TYCOMs and other activities responsible for maintenance/operation of ships.
18. Accomplish verification shipchecks for complex or high-risk first-time alterations/SCs. Schedule verification shipchecks on Phased Maintenance Availability (PMA) and Multi Ship Multi Option (MSMO) availability ships to coincide with the contractor's pre-overhaul production shipcheck.

1.5.11 Configuration Data Manager

The designated activity, assigned by ship class, having total responsibility for the completeness and accuracy of data within the Ship Configuration and Logistics Support Information System (SCLSIS) data base, CDMD-OA. The CDM will:

1. Identify and track applicable configuration changes. Provide input to NSA/RMC/SPM
2. Report on configuration management and process issues.
3. Provide status of availability related work file processing/COP status.

4. Prepare status for Integrated Logistics Support Management Team, showing all COP items not resolved and, as required, pass to the Engineering Configuration Manager (ECM) for post availability tracking (CV/CVN hulls only).

1.5.12 In-Service Engineering Agent

That activity delegated to perform functions for the overall engineering, test, maintenance and logistics requirements incident to specific operational equipment. The ISEA functions typically include:

1. Provide installation expertise to the PY, SPM, TYCOM and AIT as required.
2. Maintain Integrated Logistics Support Plan and operational logistics support summary.

1.5.13 Immediate Superior In Command

Responsible for providing oversight during modernization availabilities for all assigned units. The Immediate Superior In Command (ISIC) will:

1. Prepare the TYCOM LOA for fleet alterations/SCs when this action has been delegated by TYCOM (e.g., as is the case with Surface Ship Class Squadrons (CLASSRONs)).
2. Participate in the availability advance planning process.
3. As required by Higher Authority, maintain the following files; Ready to Start Messages and Naval Message Completion Report, alteration/SC briefs and other related documentation.

1.5.14 NAVSEA 04RP

Responsible to NAVSEA 04 for monitoring the effectiveness of the overall AIT program. NAVSEA 04RP will:

1. Serve as the point of contact for CARs and annual QA reports.
2. Perform updates to TS9090-310(series) as required.

1.5.15 NAVSEA 04XQ Quality Programs and Certification Office

Supports NAVSEA 04RP by monitoring compliance with quality responsibilities of AIT Sponsors, AIT Managers, AIT OSICs and AITs. NAVSEA 04XQ will:

1. Develop audit plans and schedule audits of AIT Sponsors and AIT Mangers to ensure compliance to TS9090-310(series).
2. Review AIT QMSs for compliance with NAVSEA Standard Item 009-04.
3. Review AIT quality performance trends; based on trouble reports, critiques, AIT Sponsor assessments, AIT Manager audits and surveillance results and NSA oversight surveillance results; and take action, if appropriate, to remove AITs from NAVSEA's QMS acceptance list, when poorly performing AIT are identified.

1.6 CANCELLATION

This technical specification cancels and supercedes NAVSEA Technical Specification 9090-310D.

2 REFERENCED DOCUMENTS

The following documents form a part of this specification to the extent specified herein. Use current revisions where the version referenced has been superceded.

2.1 Specifications

NAVAL SEA SYSTEMS COMMAND

a. Technical Specification 9090-600(Series) - Ship Alteration (SHIPALT) Installation Drawing (SID) Preparation - http://www.fmp.navy.mil – Surface Ships and Carriers Entitled Process (EP) for Modernization (SSCEPM) Management and Operations Manual, Appendix I

b. Technical Specification 9090-700(Series) - Ship Configuration and Logistics Support Information System (SCLSIS)

c. NAVSEA Standard Items – http://www.sermc.surfor.navy.mil/ssrac1

2.2 Publications

Chief of Naval Operations

a. OPNAVINST 4790.4(Series) - Ships Maintenance and Material Management (3-M) System Policy – http://doni.daps.dla.mil

Commander, U.S. Fleet Forces Command (CFFC) /Commander U.S. Pacific Fleet (COMPACFLT)

b. COMFLTFORCOMINST 4790.3 Joint Fleet Maintenance Manual (JFMM)

c. COMUSFLTFORCOMINST/COMPACFLTINST 4720.3(Series) - Management of Afloat Combat Systems and Command, Control, Communications, Computer, Combat Systems, Intelligence, Surveillance, and Reconnaissance (C5ISR) Systems Modernization Policy

Naval Sea Systems Command (NAVSEA)

d. NAVSEA SS800-AG-MAN-010/P-9290(Series) – System Certification Procedures and Criteria Manual for Deep Submergence Systems

e. NAVSEA 0905-LP-485-6010(Series) – Manual for Control of Testing and Ship Conditions

f. NAVSEA S0400-AD-URM-010(Series) – Tag-out User's Manual (TUM)

g. NAVSEAINST 5400.95(Series) – Naval Shipyard, SUPSHIP and Fleet Engineering and Technical Authority Policy

h. NAVSEA 0948-LP-045-7010(Series) – Material Control Standard Volume 1

i. NAVSEA S9074-AR-GIB-010/278(Series) - Requirements for Fabrication Welding and Inspection, and Casting Inspection and Repair for Machinery, Piping and Pressure Vessels

j. NAVSEA 0900-LP-001-7000(Series) – Fabrication and Inspection of Brazed Piping Systems, w/CHG 1

k. NAVSEA TL855-AA-STD-010(Series) – Naval Shipyard Quality Program Manual

l. NAVSEA 0902-LP-018-2010(Series) - General Overhaul Specifications for Deep Diving Submarines (DDGOS)

m. NAVSEA 0924-LP-062-0010(Series) - Submarine Safety (SUBSAFE) Requirements Manual, Revision C, w/CHGS 1-2

n. NAVSEA S9040-AA-GTP-010(Series) - Shipboard Systems Certification Requirements for Surface Ship Industrial Periods (Non-Nuclear)

o. NAVSEA S9070-AA-MME-010(Series) - Guidance Manual for Temporary Submarine Alterations

p. NAVSEA S9AA-AB-GOS-010(Series) - General Specification for Overhaul of Surface Ships, Including the AEGIS Supplement

q. NAVSEA SL720-AA-MAN-030 - Surface Ship and Carrier Entitled Process for Modernization (SSCEPM) Management and Operations Manual - http://www.fmp.navy.mil – Also referred to as "One Book"

r. NAVSEA SL720-AA-MAN-010/020(Series) - Fleet Modernization Program Management and Operations Manual, Volume 1 http://www.fmp.navy.mil

s. NAVSEA T9066-AA-MAN-010(Series) - Navy Outfitting Program, Policies and Procedures Manual; Volume 1, Other Procurement Navy (OPN)

t. NAVSEAINST 4700.17(Series) - Preparation and Review of Trouble Reports

u. NAVSEAINST 4720.14(Series) - Temporary Alterations to Active Fleet Submarines

v. NAVSEAINST C9210.4(Series) - Changes, Repair and Maintenance to Nuclear Powered Ships

w. NAVSEANOTE 5000(Series) - Activities Authorized to Perform Submarine Safety (SUBSAFE) Work

x. NAVSEA Standard Item 009-02 – http://www.supship.navy.mil

y. NAVSEAINST 4350.2C - Contract Work Onboard Nuclear-Powered Ships

z. NAVSEA letter 4720 Ser 04X/086 of 22 Apr 2002, - Submarine Non-Nuclear SHIPALT Migration and Pricing Policy

aa. NAVSEA T9074-AD-GIB-010/1688 – Requirements for Fabrication, Welding and Inspection of Submarine Structure

bb. NAVSEA S0300-B2-MAN-010(Series), SUPSHIP Operations Manual (SOM)

cc. Integrated Design and Engineering Activity (IDEA) Operations Manual

dd. NAVSEAINST 5400.97 - Virtual SYSCOM Engineering and Technical Authority Policy

ee. Concept of Operations for the Fiber Optic Cable Plant (FOCP) In-Service Engineering Agent (ISEA) in Support of Aircraft Carrier FOCP Systems

ff. NAVSEA T9410-HD-PRO-010 - OHIO Class (SSBN/SSGN) Command and Control System (CCS) and Non-Propulsion Electronic System (NPES) Installation Standard Operating Procedures

gg. DOD-STD-2003 (NAVY) Electrical Plant Installation Standard Methods for Surface Ships and Submarines

hh. MIL-STD-1689 Fabrication, Welding and Inspection of Ships Structures

ii. MIL-STD-2042 Fiber Optic Cable Topology Installation STD Methods for Naval Ships.

jj. NAVSEA S9AA0-AB-GOS-020/GSO Supply General Specifications for Overhaul of Surface Ships (GSO) Nuclear Supplement.

kk. OPNAVINST 4700.7 (Series) – Maintenance Policy for U.S. Navy Ships

3 REQUIREMENTS

3.1 General

This specification outlines the process for the planning, scheduling and accomplishment of permanent alterations/SCs and temporary alterations/Non-Permanent Changes (NPCs) to submarines, surface ships, carriers and service craft by AITs. The AIT process flow is shown in Figure 3-1. For the purposes of this document, the AIT process commences with the scheduling of the alteration/SC in NDE-NM.

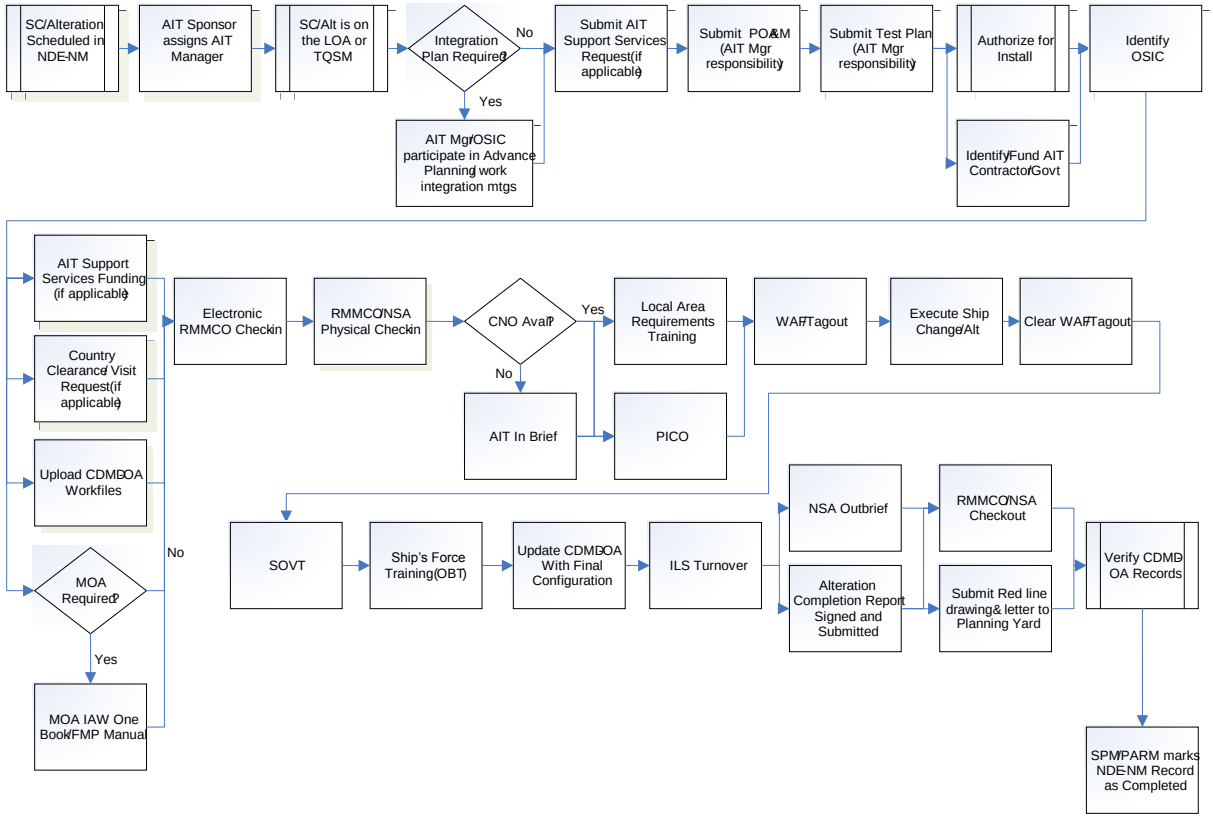

Figure 3-1 AIT Process Flow Diagram

3.1.1 Alteration/SC Installation Planning

The AIT Manager should begin planning a tentative schedule of alteration/SC accomplishment as soon as the determination is made to accomplish the alteration/SC by an AIT.

a. Submarines**.** For Ship Alterations (SHIPALTs), the planning schedule should be based on SPM approval of the SAR, SIDs and ILS, schedule of equipment delivery, availability of AITs, availability of ILS products, and the anticipated industrial availability schedules of applicable ships. For Equipment alterations/SCs, the planning schedule should be based on the schedule of alteration/SC kit deliveries, the availability of AITs, the availability of ILS products and the anticipated industrial availability schedules of applicable ships. The NSA will require submission of a draft SHIPALT or equipment alteration installation schedule at A-135 days and a final installation schedule at A-60 days, for CNO scheduled availabilities, in order to ensure proper integration into the overall production schedule.

b. Surface Ships and Carriers. The NMP SCs planning schedule is based on approval of the SCD at its first Decision Point and being placed in the Modernization Plan (MP). Once a SCD has been entered into the MP, the Submitter can begin scheduling in NDE-NM. The NSA requires submission of a tentative SC installation schedule in accordance with the planning milestones identified in Appendix G of reference 2.2(q).

The NSA determines when the AIT will be allowed access to spaces and systems so as to optimize overall project performance and adherence to schedule.

If system certification, in accordance with reference 2.2(n), is required, the certification-testing schedule must also be included. The planned schedule of accomplishment and, if applicable, system certification should be fully coordinated with the SPM(s), LCM (if not the AIT Manager), NSA, PY(s), and TYCOM(s).

3.1.2 Scheduling and Pre-Installation Coordination Requirements

a. Routine AIT Scheduling and Pre-installation Coordination Requirements for Ship Alterations/SCs/Equipment Alterations/TEMPALTS/NPCs.

(1) Common Guidance for All Availability Types. AIT Industrial (AT) or AIT Pierside (AP) are scheduled for accomplishment during CNO availabilities and during TYCOM availabilities. For submarines, alterations are programmed when they are entered into the Program Module. SCs are “programmed” when they are included in the MP.

All AIT planned installations must have configuration and/or alteration/SC records pre-loaded in the CDMD-OA database after alteration/SC approval but prior to the installation. TYCOMs must ensure that approved AIT installation schedules (e.g., quarterly scheduling message) are provided to CDMs in order for this process to function correctly. CDMs will submit configuration records in CDMD-OA for the approved alterations/SCs with an Alteration Status Code/Installation Status Code (ASC/ISC) of "J" for unconfirmed planned installations. For planned deletes, CDMs will modify ship’s configuration records with an ASC/ISC of "N"/"E". Ship configuration and logistics data will be transmitted electronically via the Automated Shore Interface (ASI) process to the Shipboard Non-Tactical Automated Data Processing (SNAP), Organizational Maintenance Management System - Next Generation (OMMS-NG) and Naval Tactical Command Support System (NTCSS)) systems for shipboard allowance generation. For

ships that do not have a configuration management system (e.g., SNAP, OMMS-NG, NTCSS) installed, a hard copy Mini-COSAL must be ordered by the TYCOM, developed by NAVICP Mechanicsburg, and returned to the AIT. The AIT must have this document at the time of alteration/SC accomplishment. At the time of entry into the NDE database, required inputs to complete an OPNAV Form 4790/2K will be provided by the AIT Manager to the RMC for loading in the RMAIS shore file to document the scheduling and, later, the accomplishment of the alteration/SC in Maintenance and Material Management (3M).

The AIT Manager or designated representative shall present the proposed alteration/SC accomplishment schedule to the SPM and TYCOM for coordination and concurrence. This will provide advance notification to the applicable ship, CDM, NSA, PY and Availability Execution Shipyard of the intent to accomplish the alteration/SC. For alterations/SCs and TEMPALTs/NPCs not identified in paragraph 1.4, as well as all other equipment alterations/SCs, this information is entered into the NDE, the TAMS or SAS for submarines, or Life Cycle Resource System (LCRS) for carriers scheduling databases.

The ISEA or the AIT Manager, as tasked by the SPM or TYCOM, shall pre-load configuration and/or alteration/SC records in CDMD-OA prior to the installation. CDMs will ensure that ship's configuration records in CDMD-OA for planned alterations/installations contain an ASC/ISC of "J" for unconfirmed planned installations prior to A-60. Subsequent to receipt of final COP data, but not sooner than A-120, the CDM will modify ship configuration records in CDMD-OA with an ASC/ISC of "P" for confirmed planned installations. For planned deletes, CDMs will ensure that ship's configuration records contain an ASC/ISC of "N"/"E".

The AIT Manager is responsible for verification of delivery of all corresponding ILS products as required in the ILS Certification. The AIT Manager will validate/verify alteration/installation accomplishment and reports the change of the ASC/ISC to the CDM. The CDM will indicate completion in CDMD-OA with the use of ASC/ISC of "D"/"G". In addition, if the affected ship has SNAP/NTCSS installed, configuration and logistics data will be transmitted to the ship via the ASI process.

(2) During Scheduled CNO Availabilities. Notification that the alteration/SC is planned, or has been authorized, for accomplishment during a CNO Availability comes in the form of the SPM's Advance Planning Letter, LOA or from the TYCOM Authorization Letter/Message.

If the AIT will require industrial support, (e.g., crane and rigging services, welding/burning, compressed air), during accomplishment of the alteration/SC, additional information (OPNAV Form 4790/2K) requesting these services will be provided for loading into the RMAIS shore file. The AIT Manager or their designated representative will prepare information for the creation of a 2K/JCN in accordance with paragraph 1.5.4. In addition, if required by the NSA, any required support services must be specified using Appendix B. The planning activity can then prepare a 4E specification work item in accordance with reference 2.2(b) for inclusion in the CNO availability work package for private sector industrial availabilities, or a job summary and Task Group Instruction (TGI) for Naval shipyard availabilities.

The AIT Manager shall verify that the alteration/SC is reflected as authorized in the SPM's Availability Authorization Letter/LOA for that CNO availability. The AIT Manager, or designated representative, shall keep the LCM, TYCOM, SPM, CNO availability planning activity, CDM, PY, and NSA informed of the AIT's's schedule and any schedule changes.

The NSA shall list the status of all availability work package alterations/SCs (whether installed by industrial activity and/or AIT) for which they are responsible in the A-60 notification letter, and any Emergent SCs /Quick Reaction alterations in the End of Availability completion report.

(3) Outside of Scheduled CNO Availabilities. When scheduling an alteration/SC in NDE, the scheduling agent must determine if the planned installation dates fall within an established modernization window for the ship in question. If outside a modernization window, the AIT Manager will ensure that a TCD waiver request is submitted to TYCOM, as detailed in paragraph 3.2.1 and reference 2.2(b). TYCOM authorizes the accomplishment of an alteration/SC scheduled during a non-CNO availability via an AIT Installation Scheduling message.

Unlike an availability executed in an industrial facility, pierside availabilities generally do not include provision of AIT support services. The AIT Manager/AIT OSIC shall ensure that all required support services are provided by the AIT or arranged via third-party providers.

The AIT Manager shall verify that the alteration/SC is authorized in the TYCOM's AIT Installation Scheduling message prior to the AIT initiating RMMCO processing. The AIT Manager, or designated representative, shall keep the LCM, TYCOM, SPM, CNO Availability planning activity, CDM, PY, and NSA informed of the AIT's schedule and any schedule changes.

b. Quick Reaction Alteration/Emergent SC Scheduling. The AIT Manager will upon receipt of SPM approval and authorization, schedule Quick Reaction Alterations/Emergent SCs, including equipment alterations, with the TYCOM, in the most expeditious manner available (For submarines, the PARM approves/authorizes and schedules equipment alterations). The NSA should be notified at least five (5) days in advance to allow adequate industrial support planning. Once scheduling is accomplished, the SPM, AIT Manager, LCM (if not the AIT Manager), PY, CDM, and NSA shall be notified of the schedule. At this time, the AIT Manager in coordination with the local RMC must provide input to generate an OPNAV Form 4790/2K to the TYCOM for loading in the RMAIS shore file to document the scheduling and, later, the accomplishment of the alteration/SC in the 3M database. Additionally, if the AIT will require industrial support during accomplishment of the alteration/SC, an additional OPNAV Form 4790/2K requesting these services will be provided to the TYCOM by the AIT Manager for loading in the RMAIS shore file. For Quick Reaction Alterations/Emergent SCs being accomplished during CNO availabilities, the requirements pertaining to access and support services in paragraph 3.1.2.a(2) should be accomplished as early as possible. The AIT Manager shall keep the TYCOM, SPM, CDM, PY, and NSA informed of any schedule changes.

c. Scoping and Readiness Assessments**.** When the alteration/SC schedule is presented to the TYCOM, the AIT shall provide an assessment of the size of the effort (number of mandays), estimated total length of time required to complete the installation (number of calendar days) and the possible impact on ship readiness requirements. When required, the TYCOM will establish a suitable availability in coordination with the appropriate operational commander unless the alteration/SC is scheduled during a CNO scheduled availability. Following TYCOM approval for installation the AIT Manager will contact the designated NSA to generate a detailed ship installation schedule in accordance with reference 2.2(b), Volume VI, Chapter 43, include the alteration/SC installation into the ship's maintenance and modernization work integration plan,

determine potential cross-task common support opportunities, determine common "trade" tasks that may be accomplished under the NSA's auspices and determine common service (e.g., electrical power, water) cost allocation.

d. Memorandum of Agreement**.** The NSA will write a MOA (Appendix C) to clarify the responsibilities of all participants involved in the installation of alterations/SCs by AITs for CNO Availabilities. For Non-CNO Availabilities the NSA will write MOAs for SHIPALTS and only equipment alterations that require integration with other ship systems for accomplishment as determined by the NSA. NSA QA support services and funding requirements to accomplish the responsibilities will be planned and clearly defined in the written MOA and, when applicable, will be in accordance with reference 2.2(z). Some NSAs have developed standard MOA templates for use during their availabilities. The NSA will provide each AIT Manager with a draft MOA containing information and requirements that are applicable to all AITs and/or other parties involved in the installations. Each AIT Manager will respond with the specific requirements of their alteration(s), not addressed in the draft MOA. The NSA will take action to review and deconflict the AIT-specific requirements (with all involved parties, as appropriate), and incorporate them into the final MOA. While NAVSEA TS 9090-310(Series) is written to provide general guidance 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 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 installing activity, NSA, LMA, LCM, Master Ship Repair (MSR), Ship, and support activities. Topics to be addressed in the MOA depend on the complexity and scope of the alteration(s)/SC(s). The following are sample topics:

1. Funding requirements
2. Meeting attendance
3. Asbestos
4. Tagout, work control & testing
5. QA, testing & certification
6. Schedules
7. Clearances
8. Hazardous waste
9. Safety
10. General cleanliness
11. In brief/out brief
12. Support services
13. Industrial radiation safety
14. SUBSAFE (Sub only) QA
15. Violations of safety/hazardous materials
16. DSS-SOC (Subs only)
17. NAVSEA Standard Items that are invoked for the installation.
18. Clearly defined Technical Authority responsibilities consistent with reference 2.2(g) and reference 2.2(dd).
19. Environmental reporting e.g. paint, solvent, adhesive, fuel, welding rod usage reports as per reference 2.2(x)

20. Painting and adhesive application permit
21. Diesel engine (50hp or greater) registration/permit
22. Site-specific EPA HW generator ID no. if using a MSR or Agreement for Boat Repairs (ABR) to dispose of HW.
23. Fly-By-Wire
24. Nuclear Interface
25. Steam plant cleanliness environmental controls
26. Detail integrated work schedules
27. Work certification
28. Ship certification.
29. Crew training
30. Paint

Note: This is not an all-inclusive topic list. The areas that may require clarification will vary with each alteration/SC installation.

e. Configuration Change Processing for OHIO Class submarines. For OHIO Class submarines, creation and processing of all planning records and configuration records are performed in the SAS system for nightly replication into CDMD-OA for subsequent upload into the Weapons System File (WSF). SAS does not have the ability to receive ASC/ISC changes from CDMD-OA. Due to the short maintenance windows of OPNAV 4000.57 mandated Refits for SSBNs and the Maintenance and Modernization Periods (MMPs) for SSGNs, the OHIO Class configuration status reporting process is highly integrated with OHIO Class Intermediate Level (I Level) maintenance processes. These I Level processes are supported by the logistics data system which interfaces with SAS to support OHIO Class configuration status accounting.

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. Further details on this configuration reporting process can be found in reference 2.2 (ff).

3.1.3 AIT Tasking

An AIT must be tasked to accomplish a specific alteration/SC (multiple activities may be required to accomplish a specific alteration/SC) by the applicable equipment/system LCM (NAVAIR, NAVSEA, and SPAWAR), SPM, or TYCOM through the AIT manager. AITs should be tasked as soon as funding is identified to allow the AIT the maximum possible planning time. The tasking may be in one or two parts, depending on the level of AIT involvement. If the alteration/SC design and ILS products are to be prepared by another activity (usually the applicable PY), the AIT may be tasked to procure the required long lead-time and incidental material and accomplishment of the alteration/SC. The AIT Manager shall ensure copies of the tasking (and all subsequent changes) are forwarded to the SPM, the equipment/system LCM and the applicable PY. AIT managers will ensure all AITs under their control are directed to report to the applicable NSA and RMMCO prior to boarding the ship, as well as check out when completed.

3.1.3.1 Alteration/SC Accomplishment Tasking

Tasking for accomplishment of alterations/SCs will authorize procurement of required long lead-time and incidental material and accomplishment of the applicable alteration/SC. Tasking will address items in Appendix A as applicable.

3.1.3.2 SHIP/SC Installation Drawings

Individual SIDs shall be prepared in accordance with reference 2.1(a) for each hull authorized in the tasking documentation, unless development of class-applicable SIDs has been authorized by the SPM. The alteration/SC design that is represented in these drawings will be based on criteria presented in the approved SAR for the SHIPALT and the approved SCD for SCs, approved guidance LAR's, installation control drawings, lessons learned, design guidance provided by the PY, actual configuration determined during a design shipcheck of the applicable ship, reference 2.2(l), reference 2.2(p) or other general specification as applicable. The PARM/ LCM, or their designated representatives, will approve System/Equipment level drawings. All SIDs require approval in accordance with para. 3.1.3.4. To ensure proper installation, PY recommends that AIT SID's address the following:

a. Interfaces to accomplish alterations/SC (ex: NAV interface, distribute systems interface (PWR, HVAC, Chilled Water., FOCP, etc)

b. Identify bulkhead, deck and overhead base material as applicable.

c. Identify mounting hardware required to ensure shock and technical requirements are met.

d. When known, specify NAVY Stock System (NSN) Standard Material.

e. Identify testing for existing hazardous materials, such as lead, asbestos and PCB's, in affected systems and components.

f. Arrangement drawing showing location of new equipment within existing space

3.1.3.2.1 Ship Alteration/SC Design Shipcheck

Whether the PY or an AIT develops the design, a design shipcheck will be conducted on each hull when the AIT Manager and SPM determine that the technical risk warrants the cost. Shipchecks shall be conducted at the convenience of the ship being checked, following the policies of the TYCOM, on a not-to-interfere basis. For those TYCOMs that hold AIT Scheduling Conferences, shipchecks shall be scheduled at these conferences. Ship availability dates will be coordinated between the activity developing the alteration design and the respective TYCOM or TYCOM designee. (Shipchecks will also be scheduled for accomplishment in the NDE-NM during TYCOM availabilities with a Method of Installation of A (AIT), as appropriate.) The AIT OSIC/AIT Lead shall provide visit clearance information to the designated NSA and ship a minimum of five (5) working days prior to arrival or as established by TYCOM policy. Prior to sending the clearance message, the AIT OSIC/AIT Lead will verify with the 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. When an AIT is performing the shipcheck, participation by the PY is required, as specified in the tasking documentation. The AIT Manager, in coordination with the SPM's designated design agent and/or the PY, shall issue a shipcheck report to the appropriate offices, including the Ship and

NSA if assigned, within ten (10) working days after the design shipcheck is completed. The shipcheck report shall include detailed sketches showing existing equipment, location and existing dimensions, existing systems and existing components designations / marking (ex: circuit numbers, valve numbers), and interface with other systems. The S/C report shall also include redline as-built mark-ups, when applicable, to reflect the ship's unique configuration to the PY, allow coordination and to identify interference/interaction with other alteration/SC designs under development by the PY. Unless otherwise agreed to by the SPM and the AIT Manager, the SPM shall be the only activity to task PY efforts.

3.1.3.3 Support Documentation

The AIT OSIC is responsible for ensuring delivery to the ship via the NSA (usually RMMCO), all documentation and ILS elements) associated with the SCs being installed per ILS Certification requirements. ILS may be divided between Hull Mechanical and Electrical (HM&E) AIT and system grooming/testing activity. The NSA/RMMCO has responsibility to revalidate the ILS products for completeness as part of the check in process. ILS element products shall be available by Start of Availability (SOA) and delivered by End of Availability/End of Installation/Production Cutoff Date (EOA/EOI/PCD) as required to support installation and testing. The AIT OSIC is responsible for delivery to the designated recipient (Ship or RMMCO) by EOA/EOI/PCD as appropriate, and shall obtain appropriate signatures verifying delivery. The NSA will validate compliance during the check-out process. Note: Submarine alterations/OPALTs are in NDE-ML. The A&I Items and equipment alterations are not in NDE-ML and will have to be provided via electronic PDF file.

a. Configuration and Logistic Support Updates. The LCM is responsible for ensuring that all equipment has proper logistics support completed and available for delivery to the ship at the time of the first alteration installation. Since accurate configuration data drives the subsequent delivery of the correct ILS products it is imperative that:

(1) COP data is the preferred method of providing a ship with supply support. Out of sequence ASI tapes shall not be used.

(2) All other alteration logistics support documentation, including proof of work file submission to CDMD-OA (i.e. a printout of the CDMD-OA AIT Verification Report which contains the Data Elements listed in Appendix C) must be supplied to the ship by the AIT at the time of alteration accomplishment. Electronic transfer of configuration data is the preferred method of transmittal.

b. Ship Selected Record Documentation. The AIT Manager may request a list of SSRs that are impacted by the alteration from the PY prior to the initiation of alteration accomplishment. When specified by the PY on the AIT drawing alteration approval LAR, the AIT Manager shall provide redlined copies of the impacted SSR to the ship and the PY as part of the Alteration Completion Report (Appendix C). Unless otherwise agreed to by the SPM and the AIT Manager, the SPM shall be the only activity to task PY efforts. The AIT Manager shall provide funding necessary for the PY update of SSR documentation as directed by the SPM and funded by the PARM, PEO or SYSCOM. The actual update of SSR documentation will be accomplished by the PY as part of the normal SSR update process associated with scheduled ship availabilities. Updates should be aligned with the normal SSR update process associated with

the next scheduled availability of the respective ship. 'As installed' drawings must be received by the PY in order for SSR updates to be accomplished.

c. ILS/3M/SCLSIS Documentation. The various elements of ILS products are discussed in reference 2.2(q) and 2.2(r). The elements of 3M documentation are discussed in reference 2.2(a). Configuration and logistics management requirements associated with SCLSIS are contained in reference 2.1(b).

d. Certification Test Documentation. When certification testing is required, and multiple AITs are tasked to perform certification testing, (there may be multiple AITs tasked) AIT(s) will issue the certification test results to the Certifying Authority within thirty (30) days of test completion, but the AIT is to immediately notify the OSIC, Ships Force and NSA if test data indicates a system problem that would impact certification.

3.1.3.4 Alteration/SC Design Approval

AIT prepared design products shall be approved by the applicable PY, and SPM authorization granted for the alteration/SC installation prior to the initiation of work on any U.S. Navy ship. Unless otherwise agreed, the AIT Sponsor, SPM, PARM, PEO or SYSCOM will provide funding for the PY to review AITdeveloped design products, including drawings. Unless otherwise agreed to by the SPM and the AIT Manager, the SPM shall be the only activity to task PY efforts. Once approved, only the PY, SPM or the SPM's designated representative can approve deviations and waivers to the design. All technical and or configuration changes, from approved SIDs, must be submitted to the PY, via LAR, for review and approval prior to execution of subject changes. **Note**: NSA Chief Engineers designated in reference 2.2(g), may approve minor deviations and waivers to the design. Acceptance and agreement by the NSA Chief Engineer to assume this responsibility will be placed in the MOA between the AITs and NSA. AITs without PY approved drawings shall not attempt to accomplish alterations/SCs to ships without documented approval from the SPM. AITs without PY approved designs or documented approval from the SPM shall be denied access to ships.

a. Alterations/SCs Affecting Nuclear Powered Ships. Reference 2.2(v) 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 2.2(v) 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 planning yard, or nuclear-capable shipyard shall be consulted if any uncertainty exists as to the applicability of reference 2.2(v).

b. Alteration/SC Drawing Approval. Unless otherwise specified in the tasking documentation, AIT developed design drawings for the first planned accomplishment of a alteration/SC on a ship class shall be reviewed and approved by the applicable PY. When tasking indicates that the drawing review will be coordinated by the SPM, the PY, the Deputy Commander for Integrated Warfare Systems (SEA 05W), NAVSEA CHENG and the system/equipment LCM will participate in the review. The drawings will be reviewed for technical accuracy, design adequacy, compliance with applicable design technical requirements (e.g. SIGSEC, TEMPEST, EMC, EMI, RADHAZ, NSV, ESD, EMP, RCS, SUBSAFE),

technical standards (references 2.2(gg), 2.2(hh) and 2.2(ii)) and applicable technical specifications (including new construction and General Overhaul, references 2.2(p) and 2.2(jj)), format in accordance with reference 2.1(a), and clarity.

AIT developed drawings will be submitted to the PY with a LAR that includes at least the following: tasking documentation, supporting calculations (as applicable), shipcheck report (as defined in paragraph 3.1.3.2.1), applicable guidance documents such as ICDs, LARs, applicable shock certification documentation, Reactor Plant PY approval documentation (where applicable), topside arrangement documentation, IC Switchboard ISEA concurrence documentation, scheduled installation date for the specific hull, two points of contact, with corresponding phone numbers and e-mail addresses, and an explanation of that submittal (i.e., initial review, comment incorporation validation, etc.)

Except for very large or complex alterations/SCs, the review cycle will be thirty (30) working days or less following PY receipt of drawings and appropriate funding. If the review cannot be completed in thirty (30) working days, the SPM will coordinate the completion date with the AIT Manager. The requirement to review alteration/SC designs for follow-on ships will be at the discretion of the applicable PY if not otherwise required by the tasking documentation. A PY review of follow-on ship alteration/change designs will usually be required due to significant design differences among ship hulls. The interpretation of the degree of change required to prompt additional design review will be defined by the PY. The PY shall, subsequent to the review of the first ship design, advise the AIT Manager if a review of follow-on ship design is considered necessary, and under what circumstances. AITs without PY approved drawings will be denied access to ships unless the TYCOM certifies that a waiver has been granted by the SPM.

c. Electronic Equipment Test Procedure/Record Approvals. Equipment-specific test procedures and test record forms for electronic equipment may be required to be approved for work on critical systems or for high visibility programs. The approving activity in these cases shall be the system/equipment LCM (usually the AIT Manager). When an alteration/SC impacts interfaces with other systems or equipment via various modes (fiber or copper Local Area Networks (LANs), switchboards, etc.), the ISEAs for each impacted system or equipment shall participate in the test procedure approval process.

d. FOCP Requirements. For CVNs, all fiber optic systems shall utilize the Blown Optical Fiber (BOF) FOCP per ECM Training Bulletin No. 08-01 dated 14 March 2008 and comply with reference 2.2(ee). All FOCP path reservation assignments are required to be provided by NNSY code 273 ECM prior to SID development and are to be requested via LAR. If situations arise where deviations from this requirement are necessary, a LAR shall be submitted to Norfolk Naval Shipyard (NNSY) Code 273, ECM prior to work being conducted. Resolutions to LARs affecting the FOCP will be coordinated between NNSY and the FOCP ISEA (Naval Surface Warfare Center (NSWC) Dahlgren Div).

3.2 Target Completion Date/ Electronic Configuration Control Board Process for C5IMP Authorizations Performed Outside CNO Availabilities

3.2.1 TCD Waiver Process

TCD Waivers are requested by utilizing the C5IMP Configuration Control Board (CCB) Readiness/Impact Assessment Form process. Details of this process can be found in reference 2.2(c).

3.2.2 C5IMP CCB Input

Command, Control, Communication, Computers, Intelligence and Combat Systems (C5I) hardware and software changes planned for installation on US Navy ships and classified as Strike Force Interoperability (SFI) Category (CAT) 1 or CAT 2 must be included as part of the Fleet Commander Baseline in accordance with reference 2.2(c). This requirement has been established to ensure that planned upgrades have met specified maturity elements and interoperability requirements prior to installation.

The Fleet Commander Baseline for a given ship is established at the Naval Netwar Forcenet Enterprise (NNFE) C5I Modernization Conference (NCMC), which is held three times each year. Ships with upcoming availabilities within a defined time range (or strike group or as specified by the Fleet Commanders) are scheduled for review at each NCMC. Upgrades proposed for these ships are examined and either rejected as not ready or accepted as part of the Baseline.

Once a ship's Fleet Commander Baseline is established at a NCMC, any proposed changes must pass a CCB review process and be approved by the appropriate Fleet Commander (COMNAVNETWARCOM for East Coast ships and COMPACFLT for West Coast ships and Forward Deployed Naval Forces (FDNF).

NAVSEA 05W4 has been tasked with maintaining and updating the Fleet Commander Baseline. Display and maintenance of the baseline takes place on the Afloat Master Planning System (AMPS) portion of the NDE. Proposed and approved C5I Baselines are listed for every US Navy ship and submarine.

Additions/deletions to established Fleet Commander Baselines are proposed, reviewed, and approved utilizing an automated C5IMP CCB process also hosted on the AMPS system. This process utilizes an on-line questionnaire (Risk/Impact Form) for review, voting and adding any related comments. When all appropriate votes and comments have been collected, the Chairman of the CCB forwards the Readiness/Impact Assessment Form to the Fleet Commander for final decision. The Fleet Commander decision updates the AMPS Baseline display.

3.3 Temporary Alteration/Non-Permanent Change Pre-Installation Requirements.

3.3.1 TEMPALT/NPC Development, Planning and Scheduling

Development, pre-installation planning, and scheduling of TEMPALTs is specified in reference 2.2(r). For surface ships and carriers, NPCs are used in lieu of TEMPALTs. The process for development and scheduling of NPCs is specified in reference 2.2(q).

3.3.1.1 Support Documentation

TEMPALTs/NPCs shall be supported with all requisite ILS products to the extent necessary to support operation and maintenance of the equipment for the time the modification will be aboard ship in accordance with Section 8 of reference 2.2(r) for submarines and Section 6 of reference 2.2(q) for surface ships and carriers and as determined by the SPM. ILS requirements shall be documented on the ILS Certification. It is recommended that ILS documentation be provided to the SPM no later than (NLT) 150 days prior to availability start (A-150) in order to ensure ILS approval by A-120 The applicable submarine TEMPALT ILS requirements are in accordance with references 2.2(o) and 2.2(u).

3.4 Installation Preparation Requirements

3.4.1 Installation Planning and Preparation

The AIT shall not initiate preparation for alteration/SC accomplishment until specifically tasked and funded by an AIT Manager. The AIT Manager will coordinate with and obtain approval of the SPM, LCM (if not the AIT Manager), and applicable TYCOM(s) prior to tasking an AIT.

3.4.2 RMMCO Electronic Check-In Process

The RMMCO AIT Check-In/Check-Out application process at https://rmmco.navy.mil/ 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. RMMCO check-in form shall be initiated by the AIT Manager or AIT OSIC at least 30 days prior to installation start. To conduct the RMMCO check-in, access to the RMMCO web application must be obtained by requesting access at the website. With website access, the following steps are required to enter an alteration installation: Select check in at the RMMCO menu, select ship from dropdown menu, enter fiscal year, select the alteration from the ALT ID dropdown or if the ALT ID dropdown does not include the installation alteration, click for manual entry procedure and then manually enter the alt id/equipment # along with the alteration description and type. Once the alteration has been selected, the RMMCO application will automatically open the Submit RMMCO Form page. Fill in entry blocks as applicable. Under required items, mark the blocks as appropriate. This section of the application starts by marking each item as required. If a particular item is not required for this alteration, click the checked block to remove the check. If an item is required, mark the approved block for that item. If the item is approved but not available, enter the estimated delivery date and enter the email address of the person responsible for providing that item to support the installation. For alterations documented in RMAIS, leave the block checked and enter the JCN provided by the maintenance team. Enter the applicable Installation Scheduling Authority information. Attach applicable documents pertaining to the installation such as ILS certification, POA&M and MOA. A minimum requirement to attach the ILS certification is invoked. After all items on the form have been addressed, select the okay selection at the bottom of the form to submit.

3.4.3 Pre-Installation Coordination Requirements

Liaison between the AIT Manager, CNO availability planning activity, designated RMMCO and NSA shall be initiated NLT 180 days prior to the start of the scheduled installation. The AIT will

notify the NSA who will then provide the MSR/ABR when applicable, all significant installation preparation requirements including material, team formulation and AIT production schedule to allow coordination and integration of the alteration/SC. Installation preparation requirements shall be provided to the NSA in accordance with reference 2.2(r) for submarines and reference 2.2(q) for surface ships and carriers. These include

a. AIT activity and alteration(s)/SCs to be accomplished

b. Type of MSR/ABR industrial support services (welding, rigging, hazardous material handling/disposal, etc.) that will be required to support both the Production and Testing phases of the installation (See SUPSHIP SWT 980-01, "Alteration Installation Team Support Service, Provide"). A sample checklist is provided as Appendix B.

c. Quantity (mandays, man-hours, number of lifts, etc.) of each service that will be required.

d. Listing of systems, locations and proposed sequence of events in which the AIT work will be accomplished, including lay-down area requirements.

e. Verification of compliance with insurance and quality systems requirements.

f. Points of contact for the AIT.

g. Alteration installation production and testing schedule (including ship work approximate start date). This schedule should be provided via electronic means (i.e. Microsoft Project, Excel, etc.) whenever possible to facilitate timely integration into the overall CNO availability schedule and rapid NSA review.

h. Expected duration of the AIT ship work (in calendar days).

i. Installation production test schedules and Bills of Material (desired in electronic format). These schedules will specify the expected start dates and duration of all AIT shipboard work and testing to include PICO and post-installation System Operation & Validation Test (SOVT) schedules, along with time frames that could significantly impact ship's operations.

j. Planning and integration requirements for Navy activities participating in CNO availabilities requirements.

3.4.4 Special Requirements

The AIT Manager is responsible for providing advance notification of alteration/SC accomplishment requirements/impacts and making arrangements (including funding) for any required support services not being provided by the AIT in accordance with Appendix B. These arrangements shall be made with the appropriate activity, including NSA, prior to the arrival of the AIT for accomplishment of the alteration/SC in accordance with established milestones. Notification of these requirements may include, but are not limited to:

a. Material delivery and stowage requirements (number of boxes/pallets, special handling [e.g. Electrostatic Discharge (ESD), SUBSAFE, magnetic protection], special stowage, etc.).

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

c. Rigger service requirements.

d. Impacted areas and spaces, including required access to secure spaces.

e. Inspection requirements (gas-free, Signal Security (SIGSEC), TEMPEST, weight tests, etc.).

f. Scope of PICO requirements for ship's force validation of existing equipment/system operating conditions prior to accomplishment of the alteration (specific equipment, testing, etc.).

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

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

i. Access cut requirements.

j. Work control review of specific equipment, systems, circuits, components, piping or valves which will require isolation, deactivation or removal to accomplish planned work, and any associated tag-out processing requirements.

k. Planned handling, use and disposal of identified hazardous materials (e.g. fluorocarbons, paint, welding rods, partially used material, HW).

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

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

n. Weapons/ordinance handling requirements.

o. Post-installation testing support requirements.

p. System certification (SIGSEC, TEMPEST, Electromagnetic Compatibility (EMC)/Electromagnetic Interference (EMI)/Radiation Hazard (RADHAZ), SUBSAFE, etc.) that could be required/affected by accomplishment of the alteration.

q. Non-Destructive Testing (NDT) requirements.

r. Man-aloft requirements.

s. Diver and cofferdam requirements.

t. NSA turned-in equipment/material disposal requirements.

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

v. Scaffolding and staging requirements.

w. Entry of OPNAV form 4790/2K for ALT/SC being accomplished and for any services required from the assigned NSA. AIT will coordinate with the local RMC to generate 2Ks for RMAIS.

x. Tagout/Lockout

y. Applicable environmental permit.

z. Site-specific EPA HW Generator ID Number.

aa. Applicable environmental reporting as per reference 2.2(x).

Whether these requirements are to be provided by the AIT or arrangements are to be made with the ship, NSA or another activity for meeting these requirements, they shall remain the responsibility of the AIT. The AIT Manager will provide the designated activity with the funding for any required support services in accordance with reference 2.2(q) and reference 2.2(r) to support MSMO contract award or facilitate the start of availabilities to be accomplished at public shipyards.

3.4.4.1 NSA Notification of Special Requirements

When alterations/SCs are planned for accomplishment during a CNO scheduled availability, the applicable NSA and availability planning activity shall be notified of any special requirements needed to accomplish the alteration/SC, as soon as the requirements are identified. Funding for these special requirements shall also be identified. Excepting emergent requirements, the notification shall be provided in accordance with Navy Modernization milestones identified in Appendix G of reference 2.2(q) for surface ships and carriers and 180 days prior to the start of availability for submarines in order to support the contract solicitation process. Funding for support services during a CNO availability shall be provided to the NSA in accordance with Navy Modernization milestones identified in Appendix G of of reference 2.2(q) for surface ships and carriers and 90 days prior to the start of availability for submarines. To facilitate this process, Appendix B provides a recommended format for the AIT Manager to provide this information to the NSA. The NSA shall provide the AIT coordinator a cost estimate for required support services in accordance with reference 2.2(q) and 2.2(r) milestones.

3.4.5 Design Shipcheck

In preparation for the design shipcheck, the AIT Manager shall establish contact with the applicable NSA or TYCOM to determine acceptable design shipcheck dates. For TYCOMs that hold AIT scheduling conferences, the AIT Manager should present the proposed shipcheck schedule at the next AIT scheduling conference to allow notification of applicable ships and NSA of the intent to accomplish the alteration/SC.

3.4.5.1 Design Shipcheck Security Clearances

Where access is required to secure areas or equipment, the individual design shipcheck team members requiring such access are required to have the proper level of clearance for access without escort. Whether a shipcheck is to be accomplished in or out of a scheduled CNO availability, the AIT OSIC/AIT Lead shall provide visit clearance information to the ship, TYCOM, NSA and other appropriate Naval activities a minimum of five (5) working days prior to the scheduled ship check date or as established by TYCOM policy.

3.4.5.2 Design Shipcheck In-Brief

A design shipcheck in-brief shall be conducted upon arrival on board for appropriate members of ship's force, TYCOM, NSA personnel and the PY On-Site Representative (OSR). The briefing

will explain the purpose and extent of the planned alteration(s)/SCs and provide an outline of data to be gathered, spaces requiring access, and any other relevant information.

3.4.5.3 Design Shipcheck Out-Brief

After completion of the design shipcheck, the team shall conduct a design shipcheck out-brief for appropriate members of ship's force, TYCOM representative, NSA personnel and, the PY OSR. This briefing 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. The AIT Manager shall ensure that a shipcheck report is provided to all appropriate offices in accordance with paragraph 3.1.3.2.1.

3.4.6 Incidental Material

The AIT shall 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), required to accomplish the alteration/SC.

3.4.7 Material Requirements

All material required to be installed/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 required logistic support items (special tools/test equipment, interim spares, Allowance Parts List (APL) [or Preliminary APLs where no APL is yet available], maintenance plans, technical manuals, test procedures, PMS, Maintenance Assistance Modules (MAMs), Operating Space Item (OSI), Material Safety Data Sheets (MSDS), etc.) required to be turned over to the ship. In support of the CNO directed Fleet Response Plan (FRP), all ILS requirements will be provided by the End of Installation (EOI) or have a signed waiver and an estimated delivery date.

a. When ordering AIT -procured material (other than shop stores-type material) from the Federal Supply System, the AIT should first check with 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 on-board effort, prefabricated material (foundations, cable/harness assemblies, etc.) should be used to the maximum extent possible.

c. All material in the SUBSAFE boundary shall be accompanied with a full set of certification documentation to expedite alteration/SC accomplishment.

d. All material in the SUBSAFE boundary (e.g., Level I, etc.), which is temporarily removed as part of a submarine alteration, shall be controlled, stored and protected while removed in accordance with reference 2.2(m) and reference 2.2(h) respectively in order to maintain the SUBSAFE or Level I certification of the material.

e. All DSS-SOC material shall be controlled and protected in accordance with reference 2.2(d) to maintain certification of the material.

f. All DSS-SOC material shall be accompanied with a full set of certification documentation to expedite alteration accomplishment.

3.4.8 AIT Requirements

The make-up and management of the AIT is the responsibility of the AIT Manager tasked to accomplish the alteration/SC.

3.4.8.1 AIT Contract Award

The AIT Manager shall have in place the AIT contract in accordance with references 2.2(b) Volume VII Chapter 13 Shipboard Contracting Strategy and Utilization, 2.2(q) and 2.2(r) modernization milestones. Contract tasking can also include testing support, incidental and consumable material, ship check, and post-install support. The selected contractor must have a NAVSEA 04XQ accepted QMS in order to accomplish shipboard industrial work. The AIT Manager shall ensure that the contract identifies all contractor deliverables necessary to complete schedule, return costs and design change feedback.

3.4.8.2 AIT Formulation

The make-up of the AIT shall 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. Each AIT will be outfitted with all required hand tools, Personal Protective Equipment (PPE), General Purpose Electronic Test Equipment (GPETE), special purpose electronic test equipment, Installation and Check-Out (INCO) spares, special alignment equipment, etc., required to accomplish the alteration/SC. For those skills that require specific training, qualification and/or certification (welding, electrical connector assembly, SUBSAFE, SIGSEC, TEMPEST, PCMS installation, Level 1, fiber optic cable/equipment installation, etc.), AIT members performing these functions shall be fully qualified/certified.

3.4.8.3 Participation of Other Activities

Any participation of a system/equipment ISEA or other activity which is required for accomplishment of required conjunctive or associated Ordnance Alterations (ORDALTs), Machinery Alterations (MACHALTs), Field Changes (FCs), SCs, etc., or for testing or certification of equipment or systems associated with the accomplishment of the tasked alteration(s)/SC(s) shall be coordinated with the AIT and the AIT Manager to ensure responsibilities for work are clearly defined and how certification of the alterations/SCs will be accomplished.

3.4.8.4 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.

3.4.8.5 AIT Readiness to Start Message

At least five (5) working 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 Appendix C. The AIT Manager shall 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 considered pertinent. Security clearance data required may be incorporated, if desired.

3.4.8.6 Security Clearances

The AIT Manager shall ensure that Security Clearances are in place and shall communicate with the NSA to ensure local requirements are clearly defined. For CONUS installations, the AIT Manager shall 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. For OCONUS installations, the AIT Manager will ensure that a Country Clearance Message is issued a minimum of 30 days in advance of the installation start (or 30 days in advance of the CNO Availability start date if the install is taking place within a CNO Availablility). Arrangements shall be made with the local NSA to ensure latest guidance is followed.

Where access is required to secure areas or equipment, the individual AIT members requiring such access shall have the proper level of clearance for access without escort. A minimum of five (5) working days prior to arrival or as established by TYCOM policy, the AIT OSIC/AIT Lead shall provide clearance information for AIT members to the ship, TYCOM, NSA, and any other appropriate Naval activities. In situations requiring a quick response, security clearance information will be provided as far in advance as possible and by the fastest means practicable. For alterations/SCs being accomplished during CNO availabilities, the AIT shall comply with security requirements of the industrial or naval activity in addition to those required for access to the ship.

3.4.8.7 AIT Contractor Quality Assurance Workbook

The AIT Manager must insure that the selected contractor develops a QA workbook that outlines the scope and process of the installation. A unique QA workbook is required for each Ship Change / legacy alteration. In addition, the QA workbook will outline all personnel requirements and identify procedures that will be used in accordance with reference 2.1(c). The QA workbook must be presented by the contractor to the AIT Manager in advance of the install for satisfactory review, and be available onboard the ship during install.

The QA workbook shall contain at a minimum, the following items:

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

Section 2: Personnel – a comprehensive list of all contractor personnel that will be onboard during the installation. This list should also identify subcontractors and temporary employees. 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 Appendix D (AIT Quality System Requirements).

Section 3: Procedures – Objective Quality Evidence (OQE) is required to show that AIT contractor is operating under an approved QMS. Contractor shall list all NAVSEA Standard Items (as outlined in NSI 009-09) that are relevant to the work being performed shall be listed in

this section. The contractor shall develop all process control procedures and should cross-reference with personnel qualifications that are provided in the previous section.

Section 4: Installation POA&M – Gantt Chart that provides a breakdown of contractor work being accomplished in a sequence of events, and provides time requirements.

Section 5: SID or Install Procedures – For SC/legacy alterations where SIDs are required, depending on size of SID package the contractor shall enclose a set of SIDs that reflects the latest drawing revisions. If the size of SID package is large, contractor can include only the list of drawing numbers. For internal equipment mods, the contractor should include the install instructions that were developed by PARM/ISEA.

Section 6: Test and Inspection (T&I) Plan – This Section provides a step-by-step outline for accomplishing the work. This ensures that all work is done safely, meets all technical specifications, and provides all OQE that work has satisfied all requirements. This provides all of the Inspections, Verification and OSIC observation points (typically referred as I,V&G points) that demonstrated contractor has completed all process control procedures.

Section 7: Test & Inspection Records – Includes all forms that will be used to document the tests and inspection performed in Section 6. The AIT Manager will either retain or ensure AITs retain all completed records of this section after installation has been completed.

3.4.8.8 Personal Protection Equipment (PPE)

Each AIT member is responsible for possessing and properly using PPE while on board a ship and while transiting an industrial area to or from a ship. For alterations/SCs being accomplished at an industrial activity, PPE shall meet the requirements of that facility. The AIT OSIC shall ensure compliance with this requirement and needed PPE and Hazardous Communication (HAZCOM) training, etc. by all AIT members. AIT members who do not possess or use proper PPE while on board ship or while transiting an industrial area will be required to leave the facility/ship.

3.5 Installation Requirements

The alteration/SC installation is to be accomplished at the convenience of the ship in accordance with the AIT Task Data (Appendix A) and Alteration/SC Completion Report (Appendix C) and, to the maximum extent possible, on a not-to-interfere basis. Ship's Force will monitor the quality of AIT performance in accordance with reference 2.2(b). All work practices shall conform to the latest version of reference 2.1(c). The AIT shall provide and maintain a QMS in accordance with the requirements of section 4 below and Appendix D. The AIT OSIC will ensure the AIT is following its QMS procedures, quality inspection and test plan, applicable safety and environmental compliance requirements, and technical instructions. The NSA has QA sampling and monitoring responsibilities and will assist ship's force in monitoring the quality of AIT performance. Ship's Force has ultimate responsibility and authority for all matters related to the safety and security of the ship and has the authority to inspect or stop work at any time. If Ships Force stop work order is expected to last in excess of 1 hour, the AIT OSIC must coordinate with the NSA, ship's force and AIT Manager if practical to determine a plan of action and resolution of the stop work order. The AIT OSIC/AIT Lead is responsible for keeping Ship's Force apprised of the status of their work aboard the ship and of any impact the work may have

on ship's operations or safety. The general procedure for AIT accomplishment of an alteration/SC is as follows:

3.5.1 AIT Check-In and Pre-Brief

The AIT Manager (s) or AIT OSIC (s)/AIT Lead(s) or designated agent(s) shall check-in with the NSA and/or RMMCO/and pre-brief the installation prior to reporting to the ship. A copy of the in-brief will be provided to NSA and/or RMMCO as part of the installation check-in. When AIT sponsors fund more than one government activity to accomplish a specific alteration/SC each activity must check in with NSA and/or RMMCO as appropriate for their portion/area of responsibility of the alteration/SC i.e. industrial work, system testing, ILS, On Board Repair Parts (OBRPs), technical manuals etc. During this check-in, NSA and/or RMMCO (as applicable) will ensure the alteration/SC has been approved for installation, all deliverable items are available for shipboard delivery, AIT QMS has been accepted by NAVSEA and that the schedule is accurately reflected in the AIT's installation plan. Once the AIT installation package is verified, the RMMCO check-in form and general report will be printed. These forms will identify all deliverable items that will require signature verification of delivery from ships force representatives prior to checkout. The TYCOM, Squadron, NSA, RMMCO, and AIT Installation Coordinators shall be invited to attend the in-brief. During the AIT Check-in brief a detailed installation plan (POA&M) shall be provided. A sample POA&M is provided in Appendix C. ILS products shall be reviewed by the NSA and/or RMMCO reps performing a hands-on validation of the ILS products identified on the alterations/SCs ILS certification, (using the ILS certification as the baseline) and note ILS deficiencies, identify special support requirements, safety and environmental compliance and review SOVT requirements and On-Board Training (OBT) requirements (as applicable). For AITs not meeting any of the above requirements the ship will be notified of the deficiencies by email from RMMCO and should not allow the installation to commence until resolved.

3.5.2 In-Brief

An in-brief with the TYCOM, Squadron, NSA, RMMCO, AIT OSICs and ship shall be scheduled and coordinated by the AIT Manager/AIT OSIC. The in-brief shall be conducted after completion of the check-in brief, upon arrival on board the ship and prior to the initiation of alteration/SC accomplishment. The in-brief shall be conducted as outlined in Appendix F. Whenever possible, for alterations/SCs which impact several systems or spaces or will require more than a week to complete, or will impact systems identified in paragraph 3.5.6, the in-brief shall be held for key personnel prior to the start of alteration/SC accomplishment, and coordinated by the TYCOM, NSA or Squadron, as appropriate. Ship's personnel present should include ship's personnel listed within the table, or their designee's as applicable:

Commanding Officer (CO)	Executive Officer (XO)
Operations Officer	Combat Systems Maintenance Officer
Systems Test Officer (STO)	Combat Systems Officer (CSO)
Combat Direction Center Officer	Communications Officer
Intelligence Officer	Supply Officer
Maintenance Manager/3-M Officer	Electrical Officer
Engineering Officer	Weapons Officer

Ship Material Maintenance Officer (SMMO)	Electronic Material Officer (EMO)
Associated technical and operational personnel (e.g. ET, FC, IT, OS, IC, EM, ratings, etc., as applicable)	

If the alteration/SC is to be accomplished during a scheduled CNO availability, the NSA, the PY On-Site Representatives (Program Representative and CDM), AIT Sponsor or designated representative and the lead ship availability manager from the industrial activity will also be invited to attend. The AIT Manager will designate a recorder of attendance and minutes of the in-brief and ensure distribution of this information to all attendees. **AITs that have not held an in-brief shall be denied access to the ship**.

3.5.3 Ship Work Outside of a CNO Scheduled Availability

If the alteration/SC is to be accomplished outside of a scheduled ship CNO availability, the AIT OSICs shall check in with the TYCOM designated point of contact (usually the RMMCO) and then report to the previously established ship's point-of-contact: the applicable Department Head, Division Officer or the Commanding Officer prior to the arrival of the AIT and the installation material. Work shall be conducted in accordance with the schedule presented at the in-brief. It will be the responsibility of the AIT to perform required ship work around restrictions that may be imposed by the ship due to emergent ship's evolutions. Any changes to the work schedule provided to the ship at the in-brief shall be reported to the ship, and TYCOM designated point of contact as soon as changes are identified. The TYCOM and Ships designated point of contact shall be informed of the progress/completion of OBT if required, ship work and SOVT.

3.5.4 Ship Work During a CNO Scheduled Availability

If the alteration/SC is to be accomplished during a scheduled CNO availability, the AIT OSICs shall report to the NSA and RMMCO (as applicable) prior to the arrival of the AIT. The previously established ship's point-of-contact shall also be contacted. As in the case of work accomplished outside of availability, the AIT shall be responsible for scheduling work around events occurring as part of the availability. Any changes to the work schedule provided to the NSA and RMMCO (as applicable) and the ship at the in-brief shall be reported to the NSA and RMMCO (as applicable) and the ship as soon as they are identified. The NSA and RMMCO (as applicable) shall be informed regularly on the progress/completion of OBT if required, ship work and SOVT.

3.5.5 Pre-Installation Check-Out

For alterations/SCs that modify or relocate existing systems and require validation of operational status, Ship's Force shall complete a PICO, witnessed and assisted by the AIT Lead if feasible. Required PICO is coordinated with the ship by the AIT Manager and shall be completed prior to start of installation. Should the ship operational schedule permit, completion of PICO is preferred 30-60 days prior to the availability. PICO is conducted in order to validate the operational status and characteristics of the systems and equipment affected by the installation. Ship's Force PICO testing shall be based upon PMS currently implemented on the ship. Any additional test requirements shall be provided by the AIT OSIC/AIT Lead. A PICO completion report shall be provided by the Ship's Force. The report will outline SAT or UNSAT performance, and will include all known discrepancies. The Ship's Force will provide a copy of

the PICO report to the AIT OSIC/AIT Lead within 3 working days of PICO completion. The AIT OSIC/AIT Lead will evaluate discrepancies and recommend the activity responsible for correction. The AIT OSIC /AIT Lead will then forward the PICO report to the NSA, ISIC and TYCOM representatives for record purposes. PICO completion reports (see Appendix C for sample) shall also be formalized via naval message prior to the start of the availability and shall be addressed to all activities including AIT sponsors.

3.5.6 Installations in Nuclear Powered Ships

Reference 2.2(kk) defines the work in nuclear-powered ships which must be assigned to nuclear-capable activities (e.g. nuclear-capable shipyards). Reference 2.2(y) 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 reference 2.2(v) and the associated requirements in reference 2.2(y) 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 prior to execution. The AIT OSIC is responsible during execution. The NSA should be requested to assist in review of changes to specifications during execution to ensure requirements are met.

3.5.7 Installations Impacting Critical Systems or Critical System Boundaries

For CNO scheduled availabilities, the AIT Manager will fund and assign production work required for any portion of an alteration/SC impacting critical system boundaries to the cognizant NSA for execution.

Critical systems are defined as all SUBSAFE, Level 1, Deep Submergence scope of certification, and P1 and P3A piping systems as defined in the reference 2.2(d), 2.2(h), 2.2(i), 2.2(j), 2.2(m) and 2.2(aa) technical guidance documents:

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 inspection on critical systems.

If the NSA cannot execute the critical work due to resource constraints or other significant reasons, the NSA shall contract out the work utilizing a RMC or obtain the required resources from another NSA. If either of these situations is not feasible, the NSA can coordinate and approve the AIT manager assignment of this work to a qualified contractor. For contracted work, the NSA shall perform QA oversight in accordance with the requirements of reference 2.2(b), reference 2.2(k) and reference 2.2(bb), as applicable, to ensure compliant production processes, personnel/procedure qualifications, and work documentation and certification. For SUBSAFE work to be contracted, the NSA will need to comply with the requirements of reference 2.2(w) and reference 2.2(m).

3.5.8 Workmanship

Workmanship and work practices shall meet the requirements of all contract specifications including applicable NAVSEA Standard Items and Submarine Maintenance Standards as

invoked/applicable. AIT subcontractors that perform a substantial part of the alteration installation will be required to have an accepted QMS (paragraph 4.2). Subcontractors that perform small portions of an installation may use the prime AIT QMS procedures that are applicable for an install when invoked in subcontract purchase order (Note: Special process procedures, such as welding cannot be delegated to subcontractors). The AIT documented QMS will include or make reference to procedures that will ensure product conformance. Any AIT without an accepted QMS will be denied access to the ship. PYs shall provide oversight in AIT installations and production milestones (critical path) to ensure conformance to ship specifications and that the installation is accomplished in accordance with design. PY participation will ensure cradle-to-grave conformance to ship standards throughout the entire AIT installation process. Upon request, in support of NSA spot-checks conducted in their oversight role, the AIT should provide documentation (i.e. welder quals) showing the requirements included in Appendix D are met. AITs are responsible for the quality of alteration/SC installation including sub-contractor work, and ensuring sub contractors adhere to the requirements of this specification. NSA's or Ship's Force shall report AIT deficiencies, either minor or major, to the OSIC in writing,

3.5.9 System and Equipment Deactivations

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 Commanding Officer's designated representative and assigned NSA shall be notified in writing, using a Work Authorization Form (WAF) in accordance with reference 2.2(b), of equipment and systems that require isolation to accomplish the alteration/SC. During availabilities when the NSA is coordinating all WAFs and Tag-outs, this request should be made to the NSA. This notification shall be provided prior to initiation of ship work so that tag-outs can be accomplished as required by reference 2.2(f). Notification shall be made at least forty-eight (48) hours prior to required deactivation to ensure proper coordination with other on-going work. During periods of intense 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 and AITs. **AIT members shall comply with all the requirements identified in the TUM**. Deactivated SUBSAFE or Level I material removed as part of a submarine TEMPALT, which is intended to be reinstalled when the TEMPALT is removed, shall be controlled and stored in accordance with paragraph 3.4.7.

3.5.10 Interference Removal

Removal, reinstallation and testing of temporary interference shall be in accordance with the requirements of NAVSEA Standard Item 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. AITs are responsible for removal of equipment and mounted stowages if qualified, or coordinating with a qualified activity to gain access for alteration/SC accomplishment.

3.5.11 Housekeeping

The AIT shall perform general housekeeping, 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/SC accomplishment. At the completion of each shift, each work site shall be broom-cleaned of all debris and trash, including any hazardous waste; industrial waste or excess hazardous material and all trash and debris shall be removed from the ship. The AIT shall properly dispose of all installation and associated material. Additionally, the AIT OSIC will be responsible for protecting equipment from contamination and damage during the alteration/SC installation process. NAVSEA Standard Item 009-06 (Maintaining Protection and Cleaniness from Non-Radiactive Contaminate Producing Operations) and NAVSEA Standard Item 009-07 (Confined Space Entry, Certification, Fire Protection and Housekeeping) provides additional housekeeping guidance. The AIT OSIC will also ensure that all hoses, welding leads, temporary ventilation trunks, and other material and services are kept clear of water tight doors and hatches or be capable of being removed in accordance with reference 2.2(e) for submarines.

3.5.12 Testing

The AIT will test the alteration/SC and all equipment directly impacted by accomplishment of the alteration/SC in accordance with the approved drawings, test procedures and applicable ship specifications. This includes inspection and testing of all systems impacted by the alteration/SC, including systems that have had equipment or machinery removed and reinstalled due to interference. Systems shall be subjected to appropriate testing to demonstrate operational acceptability including SIGSEC, TEMPEST, EMC, SUBSAFE, CPS, etc., as applicable. Such tests will be conducted under conditions simulating normal service conditions as closely as possible. An individual alteration/SC will not be considered complete until a SOVT and/or appropriate systems integration testing has been successfully accomplished. The AIT shall maintain completed test reports during accomplishment of the alteration/SC. A complete set of the test reports shall be provided to the ship at the completion of the alteration/SC and shall be included/addressed in the AIT QA Workbook. When ship work is to be accomplished during a scheduled CNO availability, testing requirements shall be finalized with the NSA and industrial activity by the A-60 time point for inclusion into availability Integrated Test Plan/Total Ship Test Plan. This will ensure that testing requirements do not conflict with other on-going ship work or present possible personnel safety hazards. The NSA shall be notified prior to all testing events. Completed test reports shall be provided to the NSA. For submarines, any testing required to be accomplished at sea must be identified to the NSA prior to commencement of the alteration.

3.5.13 Integrated Logistics Support (Including Training)

Upon alteration/SC completion installation training shall be conducted as required to support operation, administration and maintenance of all new and modified equipment. Alteration/SC completion is defined as completion of removal, installation, modification, and testing of associated equipment. All ILS items including any required interim items supported on-board, spares that cannot be procured by requisition, documentation and a complete set of redlined installation drawings shall be turned over in accordance with the check off lists in Attachments 2 through 5 of the Completion Report in Appendix C. The AIT OSIC shall ensure that any ILS products not provided prior to installation completion are reported/documented via a DFS or

TYCOM approved waiver. On CV/CVN platforms, all ILS/Technical documentation will have been turned over to the MSC. For applicable ships, this data, including the Completion Report, shall be delivered directly to the local PY Homeport Representative. Combat system software/-firmware and related documentation shall be turned over to the designated officer. This includes unclassified and classified programs. Unique OBRPs or interim spares (as applicable), publications (1 hardcopy and 2 electronic copies unless otherwise defined in NAVSEAINST 4160.3(series)), special test equipment and ship's red-lined drawings, marked to indicate all variances, will be turned over to the appropriate ship's representative. If MAMs are being pushed, these should be turned over directly to the ship's Supply Department. Pushed MAMs and OBRPs can be turned over to the NAVSEA Staging Facility. This will allow proper recording of the receipt of the material in the ship's shipboard configuration management system (e.g., SNAP, OMMS-NG, NTCSS) or other custody files. Proof of work file submission to CDMD-OA (i.e. CDMD-OA AIT Verification Report which contains the Data Elements listed in Appendix C) and a completed OPNAV Form 4790/2K with the JCN assigned will be turned over to the Ship's 3-M Coordinator and the NSA. For ships that do not have SNAP installed, appropriately annotated hard copy APL pages will be supplied through the TYCOM. Any OBRPs that are not covered under APL must be listed on a Preliminary Allowance List (PAL) with a correct Record Identification Code (RIC) assigned from the responsible ISEA. This updated information, validated by the AIT and ship's representatives, will serve as both basis and authority for generating configuration change information in accordance with reference 2.2(a) and requisitions for supply support deficiencies in accordance with reference 2.2(s).

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

1. Advanced planning, coordination and scheduling of training in accordance with ship's preferences
2. Identification of targeted crewmembers, pre-qualified for post-installation training in accordance with FLTMPS criteria.
3. Training follows Program Office approved training package w/defined objectives and measured achievement.
4. Training delivered by pre-qualified personnel in accordance with Program Office approved process.
5. Training documented in a comprehensive package of metrics documenting all elements of the training delivered.

Specific guidance is provided in Appendix D, paragraph 1.3.3, Installation Training Process Guidance.

3.5.14 Final Housekeeping

After completion of all ship work, the AIT will conduct final housekeeping 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. Turn-in of cryptographic equipment will be the responsibility of the ship. If the alteration/SC is accomplished during a scheduled CNO availability, the NSA shall be notified by the AIT of their departure from the alteration/SC site and of all outstanding discrepancies, environmental reports (paint, solvent, adhesive, welding, fuel, and abrasives usage report) and the corrective POA&M indicated in the completion report. All special badges,

passes, check-out forms, dosimeters, etc. shall be turned-in, as required, in accordance with NSA requirements.

3.5.15 Fire Protection

AITs must have a fire safety plan for their employees. This plan must comply with the host employer's fire safety plan. Specific OSHA law elements (OSHA 29 CFR 1915) that need to be addressed for AITs are:

§ 1915.501 General provisions.

§ 1915.502 Fire safety plan.

3.5.16 Damage Control, Fire Fighting and Fire Protection Equipment

The AIT shall know the location and details of all damage control, fire fighting, and fire protection equipment and systems (e.g., detection, suppression, equipment stowage).

3.6 Installation Follow-Up

3.6.1 Out-Brief

After completion of all ship work, the AIT OSIC will conduct an out-brief and obtain the signature(s) of the ship's force and NSA designated representative(s) on the Alteration/Ship Change Completion Report **(**see Appendix C**).** The AIT OSIC must check out of RMMCO with completed/signed check-out sheet, completed SOVT, and completed general report. The RMMCO office reviews the forms as applicable and makes appropriate entries into the RMMCO website to register the completion status. When AIT sponsors fund more than one government activity to accomplish a specific alteration/SC, each activity must check out with the RMMCO for their portion/area of responsibility (i.e. industrial work, system testing, ILS, OBRPs, Tech manuals etc.). The TYCOM, NSA, RMMCO/ SEA21 PMR, AIT OSIC and, the local PY OSRs (Program Representative and CDM) shall be invited to attend all out-briefs.

3.6.2 Drawings Developed by the Planning Yard

For alterations/SCs where the design drawings are prepared by the PY, the AIT Manager shall provide a redline mark-up of the drawings to the ship upon installation completion and to the PY within 15 working days of installation completion indicating any/all deviations/variances authorized by the PY to support the actual alteration/SC accomplishment. Copies of LARs, which authorized the deviations or waivers, shall also be forwarded to the PY. Unless otherwise agreed to by the SPM and AIT Manager, the SPM shall be the only activity to task PY drawing revision efforts.

3.6.3 Drawings Developed by the AIT

For alterations/SCs where design drawings are prepared by the AIT, and reviewed and approved by the PY, the AIT Manager shall ensure the approved design drawings including all deviations/variances approved by the PY are revised to indicate the actual "as installed" configuration on the ship. The ship will receive a redlined copy of the drawings at the time of alteration/SC completion. When revised, electronic media copies of the as-installed drawings shall be forwarded (in AutoCAD format), NLT 30 days after alteration/SC completion, to the

applicable ship and the PY. Copies of any LARs, which authorized deviations or waivers from approved designs, shall also be forwarded to the PY NLT 30 days after alteration/SC completion.

3.6.4 Ship Selected Record Documentation

Update of SSR documentation will be accomplished by the PY as part of the normal SSR update process associated with scheduled ship availabilities. SSR updates for AIT installations accomplished outside of scheduled ship availabilities may be accomplished on an annual basis, but shall be accomplished before expiration of AIT funding and, if possible, be aligned with the normal SSR update process associated with the next scheduled availability of the respective ship. The PY must receive the as-installed drawings for SSR updates to be accomplished.

3.6.5 RMMCO Check-Out Process

After completion of all ship work, the AIT OSIC will conduct an out-brief and obtain the signature(s) of the ship's force and NSA designated representative(s) on the RMMCO installation check-in sheet. The AIT OSIC must check out of RMMCO with completed/signed check-in sheet, completed SOVT and completed general report. The RMMCO office reviews the forms as applicable and makes appropriate entries into the RMMCO website to register the completion status.

3.6.6 Reporting Requirements

For all alterations/SCs, there are a minimum of four (4) reports required from the AIT for each task: Task Status Report, Readiness to Start Naval Message (including Impacts), Naval Message Completion Report, and an Alteration/SC Completion Report. In the event that the Naval Message Completion Report and Alteration Completion Report list installation deficiencies, the ship receiving the installation will send a naval message Final Completion Report when all deficiencies have been corrected and the ship has accepted the installation as complete. Suggested formats for these naval message reports and the Alteration/SC Completion Report are provided in Appendix C. Additionally, the AIT will accomplish reporting of alterations/SCs in accordance with NAVSEA Standard Item 009-102.

3.6.6.1 Task Status Report

A periodic Task Status Report, as required by the tasking activity, shall be submitted to the AIT Manager with copies to the SPM, applicable TYCOMs, applicable NSA, LCM, and the PY. The form and format of Task Status Reports shall be as specified by the tasking activity. 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. Whether tasked by the LCM, SPM, or another activity, copies of the report will be distributed so the LCM, SPM and PY are informed of the progress of the task(s).

3.6.6.2 Readiness to Start Naval Message

At least 5 working 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 Appendix C. The message will reference all pertinent scheduling information and coordination, the required industrial level skills, design readiness, ship requirements, effect of the alteration/SC, ships

spaces affected, duration of the installation, and any other pertinent information. Security clearance data required in paragraph 3.4.8.6 may be incorporated, if desired.

3.6.6.3 Naval Message Completion Report

Upon completion of the installation, the AIT Manager and ship will send a "joint" naval message reporting completion of the effort, as well as any deficiencies in the installation and the comments from the ship's Commanding Officer relative to the installation. For alterations/SCs accomplished outside of availability, a joint ship/AIT alteration/SC completion message shall be issued within 72 hours of operational certification. The message will indicate any system interface not demonstrated during operational certification and include all known discrepancies assigned to the responsible activity (e.g. the ship, the AIT, TYCOM). An alteration/SC completion message is required in addition to the Alteration Completion Report required in paragraph 3.6.9. A sample Naval Message Completion Report format is provided in Appendix C.

3.6.6.4 Alteration/SC Completion Report

The AIT OSIC/AIT Lead or his designated agent will fill out the Alteration/SC Completion Report to include signatures and data filled in on all applicable attachments (attachments 1 through 5 for ALL ALTERATIONs/SCs) they've installed. The AIT OSIC shall return the signed Completion report to the AIT Manager immediately after alteration completion/RMMCO check-out. The AIT Manager shall forward copies of the completed and signed Alteration Completion Report (Appendix C) to the applicable TYCOM, Group Commander, Squadron Commander, LCM, SPM, ship's CDM, PY (if the PY is not the CDM), ISEA and NSA within fifteen (15) working days of alteration/SC completion. For alterations/SCs to CV/CVN's, a copy shall also be forwarded to CPA (Code PMS 312C); for submarines, to SUBMEPP (Code 1800); and for surface ships, to the appropriate RMC. PYs will notify the SPM in the event of non-receipt of an Alteration Completion Report within thirty (30) days of the scheduled completion date initially established in accordance with the provisions of this specification. AIT activities responsible for relatively large numbers of AIT equipment alteration/SC installations may customize the format of Appendix C as long as all of the essential information required by the LCM, SPM, CDM, NSLC and PY for the AIT alterations/SCs is included. The SPM or a designated representative must enter completion data in NDE-NM as part of the completion process. Submarine SPMs do not enter ECs, ECPs, FCs, OAs, MAs, TEMPALTs, or SW in NDE-NM and therefore will not enter the completion status. PARMs will enter status for ECs, ECPs, FCs, OAs, MAs or SW in NDE-AMPs.

3.6.7 Submittal of Red-Lined SC Installation Drawings (SID) Package

Upon completion of AIT installation and satisfactory RMMCO checkout, the AIT Manager or his designated OSIC will provide a set of redlined SIDs to the ship that provides all of the design changes and deviations that were authorized during the install in accordance with paragraphs 3.6.2 and 3.6.3. Redlined SID package must also include all LARs/Reverse LAR (RLARs) that were approved by the PY or PY OSR. Confirmation for receipt of redlined SID package will be initialed by a Ship's Force representative and AIT OSIC on the Alteration Completion Report (General Report, Section 7) and RMMCO checkout sheet.

The AIT OSIC will send the signed Alteration Completion Report and another set of red-lined SIDs and applicable LARs/RLARs to the AIT Manager. The AIT Manager is responsible for forwarding the red-lined SIDs with a formal serialized letter to the applicable PY, and info applicable SPM (transmittal to SPM is not applicable to Carriers), within 30 days after alteration/SC completion. If the installation of the alteration/SC is in accordance with the SID package and resulted in no redlines, AIT Manager shall document this on the Alteration Completion Letter.

3.6.8 Naval Message Final Completion Report

Upon correction of all deficiencies reported in the Completion Report, the ship receiving the alteration/SC installation will send a Naval Message Final Completion Report accepting the installation as complete. If ILS deficiencies exist, they will be listed in detail in the Naval Message Completion Report. A sample Naval Message Final Completion Report format for this report is provided in Appendix C.

3.6.9 Alteration/SC Completion Reporting in NDE-NM

It is the AIT Manager's responsibility to review and keep current their alteration/SC records and ship completion dates in NDE-NM. Upon AIT install completion, satisfactory RMMCO checkout, and issuance of the Completion Report and/or Completion Message, the SPM, AIT Manager or PARM, as applicable, shall enter status code 'R' (Install complete – ILS not verified) and the completion date in the ship's alteration record in NDE-NM. Once the SPM, AIT Manager, or PARM has received either the Alteration Completion Letter or ship's Completion Message, they will update the status code to 'C' (Complete – ILS verified).

4 QUALITY MANAGEMENT SYSTEM PROVISIONS

4.1 AIT Responsibilities

The AIT Manager will ensure the AITs have a QMS/plan accepted by NAVSEA 04 (that complies with Appendix D) prior to installation, and that proper training, certifications and quality assurance/control is 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.

4.2 Acceptance of the Quality Management System

4.2.1 Initial Acceptance

Contractors and government activities performing AIT work shall submit their QMS for review and acceptance to NAVSEA 04. The QMS shall comply with the requirements of Appendix D.

4.2.1.1 Supervisor of Shipbuilding (SUPSHIP), Conversion and Repair Acceptance

SUPSHIP offices are authorized to review and accept an AIT's QMS. The SUPSHIP office shall then forward a copy of the acceptance letter to NAVSEA 04 for their master files.

4.2.1.2 RMC Acceptance

RMC offices (due to the transfer of the Repair Supervisors of Shipbuilding, Conversion and Repair, USN (SUPSHIP) to CFFC, and Commander, Pacific Fleet and the incorporation of those SUPSHIPs within the RMC) have assumed responsibility within their geographic region for ship maintenance work contracted for accomplishment by commercial activities. RMCs, when formally delegated in writing by NAVSEA 04XQ, may review and accept an AIT's QMS for compliance with ANSI/ISO/ASQ Q9001-2000 and Appendix D. RMCs authorized to perform these NAVSEA compliance and acceptance reviews will be subject to periodic review/audit by NAVSEA. The RMC offices performing ANSI/ISO/ASQ Q9001-2000 and Appendix D compliance reviews must forward a copy of the AIT acceptance letter to NAVSEA 04 for their master files.

NOTE: MSRA and ABR contractors. Contractors performing AIT work who are MSRA or ABR Agreement holders are not required to submit their QMS to NAVSEA 04, but must maintain a current QMS that has been accepted by the designated RMC. On an annual basis, RMCs shall provide SEA 04XQ with a listing of their qualified MSRA and ABR contractors.

4.3 Resubmittal

When changes to technical requirements are made or when the AIT contractor's status changes, the QMS shall be resubmitted to NAVSEA 04 or NAVSEA approved RMCs for re-acceptance.

4.4 Quality Assessment

The AIT Sponsor will ensure an annual quality trend analysis for each sponsored AIT is performed, using oversight reports, deficiency reports, departure requests, critiques, customer feedback, etc. to evaluate contractor performance. The AIT Sponsor will report results of this trend analysis including weaknesses identified and actions taken to NAVSEA 04.

4.5 Revoking of Quality Management System Acceptance

NAVSEA 04 is responsible for reviewing AIT quality trends and taking action when negative trends can degrade product quality. 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.

5 SPECIFICATION COMPLIANCE

5.1 Performance Inspections/Compliance Audits

The TYCOMs, NSAs, Headquarters Systems Commands (NAVSEA, SPAWAR, NAVAIR), SPMs, LCMs, PYs and AIT Manager shall perform inspections of installations, on a sampling basis, and will use the sampling evidence to indicate conformance or nonconformance with this specification. NAVSEA 04 is responsible for monitoring compliance with this document at both Command and field activity levels. NAVSEA 04XQ shall audit, on a sampling basis, AIT Sponsors and AIT Managers 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 Appendix D as directed by SEA 04.

5.2 AIT Quality Assurance Oversight Program

The AIT Manager will administer the Quality Assurance Program, outlined in Appendix E (AMQAP), to evaluate the effectiveness of the AIT's QMS. This includes conducting and documenting in-process inspections of the AIT work; documenting a CAR when the AIT fails to satisfy quality and technical requirements; and conducting quality data evaluations at established, periodic intervals. AIT Managers/OSICs are required to develop a quality oversight plan and process surveillance checklists to monitor AIT work performance for compliance. A copy of AIT Manager/OSIC quality oversight plan and process surveillance checklists shall be made available when requested by applicable NSA.

APPENDIX A - AIT TASKING DATA

ALTERATION INSTALLATION TEAM TASKING DATA

a. The specific alteration/SC(s) covered by the task.

b. The specific applicable hull(s) covered by the task.

c. The type of task (alteration/SC design or accomplishment).

d. Whether Naval Sea Systems Command (NAVSEA) 0902-018-2010, NAVSEA S9070-AA-MME-010/-SSN/SSBN, NAVSEA S9AAO-AB-GOS-010/GSO or other 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 Technical Specification.

e. The Ship Program Manager (SPM) point(s) of contact.

f. The equipment/system Life Cycle Manager (LCM) (Naval Air Systems Command (NAVAIR), Naval Sea Systems Command (NAVSEA), Space and Naval Warfare Systems Command (SPAWAR), etc.) point of contact and, when certification in accordance with reference 2.2(o) is required, the designated Certifying Authority.

g. The AIT Manager point of contact (if other than the LCM or the SPM).

h. The applicable Class Planning Yard (PYs) points of contact.

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

j. For submarines, whether SUBSAFE work is required and verification the SUBSAFE work is tasked to an activity authorized by reference 2.2(y) to perform SUBSAFE work.

APPENDIX B - AIT SUPPORT SERVICES REQUEST FOR (ALTERATION/SC NAME AND NUMBER)

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)	

POCs

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

Support Services

Service	Qty.	Remarks/Additional Info
Crane, Rigger, Transport (# of lifts)		
Max Height of Crane Lift (ft.)		
Conex Storage (sq. ft.)		
Lay-down Area (sq. ft.)		
Labor (# of mandays)		
Welding, Burning, Brazing (# of mandays)		
Firewatch (# of mandays)		
Other Mandays (# of mandays)		
Forklift (# of lifts) (Max lift 2,500 lb.)		
Insulation/Lagging (# of mandays)		
Sandblasting and Painting (# of mandays)		
Material ($)		

Work Scope (Spaces/Compartments Impacted)

(Insert additional rows in each table as necessary.)

Compartment Name	Compartment No.	Remarks/Additional Info

Equipment Removal

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

Equipment Install

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

Compressed Air

Compartment Name	Compartment No.	Remarks/Additional Info

Supply and Exhaust Ventilation

Compartment Name	Compartment No.	Remarks/Additional Info

Lighting

Compartment Name	Compartment No.	Remarks/Additional Info

Electrical Power

Compartment Name	Compartment No.	Remarks/Additional Info

Other Requirements

Compartment Name	Compartment No.	Remarks/Additional Info

Staging

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

Rolling Staging

Compartment Name	Compartment 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 Reqts.

Special Tool Requirements

Other Requirements

Test Requirements

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	

APPENDIX C - MESSAGES CHECKLISTS & REPORTS

Suggested Format for Readiness to Start Naval Message

Suggested Format for PICO Completion Report Naval Message

Suggested Format for Installation Completion Report Naval Message

Suggested Format for Final Completion Report Naval Message

Sample AIT POA&M Schedule and Test Plan

Memorandum of Agreement Template

Alteration Completion Report

- Attachment (1) General Report
- Attachment (2) AIT ILS Verification Statement Checklist Completion Instructions
  - AIT Installation Check-In Sheet
  - Section I - AIT Installations Completed Outside CNO Availability
  - Section II - AIT Installation Completed During CNO Availability
  - Exceptions to ILS Verification
- Attachment (3) End of Installation Report
  - Alteration ILS Summary
  - Onboard Repair Parts Summary
  - Modified Spares
  - Technical Documentation Status
  - Removed Material
- Attachment (4) Physical Configuration Audit Report
- Attachment (5) Training Verification Statement

SUGGESTED FORMAT FOR READINESS TO START NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R DTG
FM AIT MANAGER//
TO IMMEDIATE SENIOR IN COMMAND//
SHIP/STATION//
INFO TYPE COMMANDER//
GROUP COMMANDER//
NAVAL SUPERVISING ACTIVITY (AS APPLICABLE)//
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//04M5/05/PMS444/SPM//
PEO (AS APPLICABLE)//
COMSPAWARSYSCOM SAN DIEGO CA//04F//
NAVICP MECHANICSBURG PA//
CLASSRON//
SUPSHIPS RMC NEWPORT NEWS VA//1800//(CARRIERS ONLY)
RMC PORTSMOUTH VA//900//(SURFACE SHIP ONLY)
SUBMEPP PORTSMOUTH NH//1800//(SUBMARINE ONLY)
BT
UNCLAS //N04720//
MSGID/GENADMIN/SENDER'S PLAD//
SUBJ/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 (IF APPLICABLE). RED LINE DRAWINGS TO BE PROVIDED TO PLANNING YARD UPON COMPLETION OF WORK. (IF APPLICABLE)
C. ILS CERT DATE: DD MMM YYYY
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

SUGGESTED FORMAT FOR PICO COMPLETION REPORT NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R (DTG)
FM SHIP/STATION
TO ISIC
INFO TYPE COMMANDER//N43/N6//
COMNAVNETWARCOM NORFOLK VA//C4/FN/RA/OPS//
GROUP COMMANDER/SQUADRON COMMANDER
PLANNING YARD
NAVAL SUPERVISING ACTIVITY (AS APPLICABLE)
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, PMS312 for Carriers)//
COMSPAWARSYSCOM SAN DIEGO CA//04F//
NAVICP MECHANICSBURG PA//
CLASSRON//SURFACE COORDINATOR// (SURFACE COMBATANTS)
CLASSRON// for AMPHIB SHIPS
SUPSHIPS RMC NEWPORT NEWS VA//1800//(CARRIERS ONLY)
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.)
3. 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.)
4. AIT POC (Name, phone number and e-mail address, list POCs for each equip/system reported upon)
5. COMMANDING OFFICER'S COMMENTS.//

BT
#
NNNN

SUGGESTED FORMAT FOR INSTALLATION COMPLETION REPORT NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R (DTG)
FM SHIP/STATION
TO ISIC
INFO TYPE COMMANDER//N4/N6//
GROUP COMMANDER
PLANNING YARD
NAVAL SUPERVISING ACTIVITY (AS APPLICABLE)
SHIP'S CONFIGURATION DATA MANAGER (IF OTHER THAN PLANNING YARD)
IN-SERVICE ENGINEERING AGENT (ISEA)
LIFE CYCLE MANAGER (LCM)
COMNAVSEASYSCOM WASHINGTON DC//04M5/05/PMS444/SPM//
PEO (as applicable)
COMSPAWARSYSCOM SAN DIEGO CA//04F//
NAVICP MECHANICSBURG PA//
CLASSRON//
SUPSHIPS RMC NEWPORT NEWS VA//1800//(CARRIERS ONLY)
RMC PORTSMOUTH VA//900//(SURFACE SHIP ONLY)
SUBMEPP PORTSMOUTH NH//1800//(SUBMARINE ONLY)
Designated NSA, RMMCO, as applicable
BT
NCLAS //NO4720//
MSGID/GENADMIN//
SUBJ/(EQUIPMENT/SYSTEM INSTALLATION ON USS SHIP)
RMKS/
1. THIS IS A JOINT (SHIP)/AIT MESSAGE.
2. (EQUIPMENT/SYSTEM) WAS (INSTALLED/MODIFIED/REMOVED) ON (COMPLETION DATE) AND ACCEPTED AS OPERATIONAL WITH/WITHOUT DISCREPANCIES.
(List all known discrepancies, responsible activity, and date discrepancy will be completed. If there are no discrepancies, this is the final and only message report required.)
6. FOLLOWING INFORMATION PROVIDED:
   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 WILL BE PROVIDED TO SHIP AND PY NLT (15 DAYS FROM COMPLETION FILL IN BLANK).
   F. ALTERATION COMPLETION REPORT COMPLETED AND FORWARDED NLT (15 DAYS FROM COMPLETION FILL IN BLANK)
   G. EQUIPMENT INSTALLED: NOMENCLATURE, SERIAL NUMBER, 4790/CK JCL, RINs Affected
   H. ILS STATUS STATEMENT (individually listed MAMs to include serial number)
   I. SUMMARY OF INSTALLATION
7. INSTALLATION ACTIVITY POC (Name, phone number and e-mail address)
8. COMMANDING OFFICER'S COMMENTS.

NOTE: IF OPERATIONAL CERTIFICATION HAS BEEN ACCOMPLISHED PRIOR TO THE 15 DAYS CITED IN PARAGRAGH ‘F’ ABOVE, THEN THIS MESSAGE AND THE SUGGESTED NAVAL MESSAGE FORMAT FOR FINAL COMPLETION REPORT APPLICABLE CONTENTS SHOULD BE CONSOLIDATED INTO ONE MESSAGE.

SUGGESTED FORMAT FOR FINAL COMPLETION REPORT NAVAL MESSAGE

ADMINISTRATIVE MESSAGE
ROUTINE
R (DTG)
FM SHIP/STATION
TO ISIC
INFO TYPE COMMANDER//N4/N6//
GROUP COMMANDER
PLANNING YARD
NAVAL SUPERVISING ACTIVITY (AS APPLICABLE)
SHIP'S CONFIGURATION DATA MANAGER (IF OTHER THAN PLANNING YARD)
LIFE CYCLE MANAGER (LCM)
IN SERVICE ENGINEERING AGENT (ISEA)
COMNAVSEASYSCOM WASHINGTON DC//04M5/05/PEOEXW/PMS444/PEO/SPM//
COMSPAWARSYSCOM SAN DIEGO CA//SPAWAR 04F//
NAVICP MECHANICSBURG PA//
CLASSRON//Surface coordinator//
SUPSHIPS RMC NEWPORT NEWS VA//1800//
RMMCO as applicable
BT
UNCLAS //NO4720//
MSGID/GENADMIN//
SUBJ/(EQUIPMENT/SYSTEM INSTALLATION ON USS SHIP)
REF/A/RMG/SHIP/STATION/DTG//(ORIGINAL INSTALLATION MSG RPT)
REF/B/DOC/DATE/SERIAL// (AIT INSTALLATION COMPLETION REPORT)
RMKS/
1. THIS IS A FINAL COMPLETION REPORT MESSAGE.
2. (EQUIPMENT/SYSTEM) WAS (INSTALLED/MODIFIED/REMOVED) ON (COMPLETION DATE). ALL DISCREPANCIES LISTED IN REFS A AND B CORRECTED/COMPLETED.
3. INSTALLATION ACTIVITY POC
4. SEND NAVAL MESSAGE COMPLETION REPORT WITHIN SEVENTY-TWO (72) HOURS OF OPERATIONAL CERTIFICATION OF INSTALLATION.
5. AIT MANAGER AND SHIP WILL DRAFT THIS JOINT MESSAGE.
6. IT WILL INCLUDE SYSTEM INTERFACE NOT DEMONSTRATED DURING OPERATIONAL CERTIFICATION AND INCLUDE ALL KNOWN DISCREPANCIES ASSIGNED TO THE RESPONSIBLE ACTIVITY FOR COMPLETION (I.E. AIT, SHIP).
7. COMMANDING OFFICER'S COMMENTS.
NOTE: ANY COMPLETION MESSAGES SUBMITTED PRIOR TO THE END OF THE AVAILABILITY WILL BE INCORPORATED INTO A FINAL AVAILABILITY MESSAGE. THIS MESSAGE WILL BE USED AT THE AIT PROGRAM OFFICE, ISIC AND TYCOM LEVELS TO ENSURE DISCREPANCIES ARE CORRECTED.

SAMPLE POA&M

Title

ID No.	Activity Accomplishing Work (AIT, SHIP etc)	Alt Brief Title	Duration (days)	Start Date	Finish Date	Location	Total Manhours	Predecessors	Successors	MSR Requirements
1		**LST-X SA 01234K Any Alteration**	72	9/6/2006	11/16/2006		2880			
2		**STARTUP**	1	9/6/2006	9/6/2006		40			
3	NAWCAD AIT	Ship's Force In-brief	1	9/6/2006	9/6/2006		40			
4	NAWCAD AIT	On Load Equipment/materials/Tools	1	9/6/2006	9/6/2006		40			
5	NAWCAD AIT	Pre-Installation Check-Out (PICO)	1	9/6/2006	9/6/2006	07-69-3-Q Radar Room # 1	40			
6		**REMOVALS Radar Room #1 07-69-3-Q/ CIC 06-65-3-C**	5	9/6/2006	9/11/2006	07-69-3-Q/06-65-3-C	200			
7	SHIP	Ship's force tag-out equipment power	1	9/6/2006	9/6/2006		40			
8	SPAWAR AIT	Safety Checkpoint - AIT leader verify that equipment power has been secured.	1	9/6/2006	9/6/2006		40			
9	SPAWAR AIT	Identify and mark cables for removal/reinstallation IAW Installation Control Drawings	1	9/6/2006	9/6/2006		40			
10	MSR	De-install RT-2349A/APR-72 RCVR-TXMTR	1	9/6/2006	9/7/2006	07-69-3-Q Radar Room # 1	40		16	MSR remove eq in dwg 123456
11	SPAWAR AIT	De-install TS-13843B/VPX Transponder Test Set	1	9/7/2006	9/7/2006	07-69-3-Q Radar Room # 1	40			
12	SPAWAR AIT	De-install TD-937B/SPX Electronic Gadget	1	9/7/2006	9/7/2006	07-69-3-Q Radar Room # 1	40		22	
13	NSWCCD AIT	De-install R-IT1 Connection Box (AN/AUX-72)	1	9/7/2006	9/7/2006	07-69-3-Q Radar Room # 1	40			
14	NSWCCD AIT	De-install CY-68916A/BPX-72 Control Enclosure (C-62890A(P)/BPX-72)	1	9/7/2006	9/7/2006	CIC 06-65-3-C	40	12		soft patch, crane and rigging
15	SPAWAR AIT	Remove cables not used in new configuration	1	9/7/2006	9/8/2006	07-69-3-Q/06-65-3-C	40			
16	SPAWAR AIT	QA Checkpoint	3	9/8/2006	9/11/2006		120			
17		**INSTALLATION**	3	9/11/2006	9/13/2006	07-69-3-Q Radar Room # 1	120			
18		**07-69-3-Q Radar Room # 1**	3	9/11/2006	9/13/2006		120			
19	SPAWAR AIT	Install new power cable from power panel to J-616	1	9/11/2006	9/11/2006		40			
20	NSWCPHD AIT	Install R-IT5 between Radar Room and CIC	2	9/11/2006	9/13/2006	07-69-3-Q/06-65-3-C	80	14		P1 welder required 2 M/D
21	SPAWAR AIT	Mount and secure Transponder Set AN/APX-2118	1	9/13/2006	9/13/2006		40			
22	NSWCPHD AIT	Connectorize all power and control cables, connect to equipment	1	9/13/2006	9/13/2006		40			
23	NSWCPHD AIT	QA Checkpoint	1	9/13/2006	9/13/2006		40			
24		**Combat Information Center CIC 06-65-3-C**	1	9/13/2006	9/13/2006	CIC 06-65-3-C	40			
25	NAVSUP AIT	Mount and secure CY-8882/APX-118	1	9/13/2006	9/13/2006		40			
26	NAVSUP AIT	Connectorize control cable and connect to CY-82882	1	9/13/2006	9/13/2006		40			
27	NAVSUP AIT	QA Checkpoint	1	9/13/2006	9/13/2006		40			
28		**TESTING/TRAINING Radar Room #1 07-69-3-Q/ CIC 06-65-3-C**	2	11/13/2006	11/14/2006	07-69-3-Q Radar Room # 1	80			
29	NSWCCD AIT	Ship's force clear tag-out and provide power to Transponder system equipment	1	11/13/2006	11/13/2006		40			
30	NSWCPHD/SHIP	Perform System Operational Verification Test (SOVT)	1	11/13/2006	11/13/2006		40			
31	SHIP	QA Checkpoint	1	11/14/2006	11/14/2006		40			
32	NAWCAD AIT	Provide ship's force operational and maintenance training	1	11/14/2006	11/14/2006		40			
33		**COMPLETION**	1	11/14/2006	11/15/2006	07-69-3-Q Radar Room # 1	40			
34	NAWCAD AIT	Final Housekeeping - Including off load of legacy equipment and tools	1	11/14/2006	11/14/2006		40			
35	NAWCAD AIT	ILS Turnover - Technical manuals, PMS, CDMD-OA workfile, red-lined installation drawings	1	11/15/2006	11/15/2006		40			
36	NAWCAD AIT	Obtain all required signatures for RMMCO/AIT check-out	1	11/15/2006	11/15/2006		40			
37	NAWCAD AIT	Ship's Force Out-brief	1	11/15/2006	11/15/2006		40			
38	NAWCAD AIT	**Complete RMMCO/AIT Check-Out**	1	11/15/2006	11/16/2006		40			

Notes (for instructional purposes only)

- Activity Column denotes who is actually doing the work
- MSR requirements provide valuable information to the MSR to assist in schedule integration

AIT POA&M SCHEDULE AND TEST PLAN

Alteration Ship/Change Information

Ship:

Alt/SC Identifier:

Alt/SC Description:

POC

Name	
Organization/Company	
Phone Number	
Email Address	

Planning Milestones

Refer to the NAVSEA SL720-AA-MAN series for planning milestone date requirements.

Execution Milestones

If available, NSA should provide general execution milestones to help AITs plan their execution schedule.

General Execution Milestones	Date
WPER	
Avail Start	
Production Start	
50% Conference	
Crew Move Aboard	
Combat Systems Light Off (CSLO)	
Light Off Assessment (LOA)	
Production Complete	
Sea Trials	
Avail Complete	
Hotwash	
End of Mod Window	

Download a sample POA&M worksheet from the FMP web site under the One Book for Surface Ship and Carrier (Revision 2) link. Click the Sample POA&M Schedule Worksheet box next to Appendix H to download the Excel file. Insert additional rows and enter detailed information as necessary.

MEMORANDUM OF AGREEMENT
FOR
(Enter name of installation/ removal/ upgrade and applicable alteration/SC/Non-Permanent Change/Tempalt numbers)
In
(Enter ship name and hull)

A. Introduction:

1. This Memorandum of Agreement (MOA) is initiated for (enter name of installation/ removal/ upgrade) onboard (enter ship name and hull), from (enter installation period/availability dates). (Activity Name) will serve as the Naval Supervising Authority (NSA) (CNO Availabilities) or Lead Maintenance Activity (LMA) (only if scheduled during a Non-CNO Availability).

   a) The work will include:
   (Enter brief description of work, tempalt/alteration/SC/Non-Permanent Change numbers, etc.)
   b) This work is authorized via NAVSEA Authorization Letter, in conjunction with the Type Commander's (TYCOM) Quarterly Installation Message.

2. References:
   a) CINCLANTFLT/CINCPACFLTINST 4790.3, Joint Fleet Maintenance Manual
   b) NAVSEA Technical Specification 9090-310(series)
   c) Locally invoked Instruction XXXXXXX

B. Purpose:

1. This MOA specifies the functions, responsibilities and actions which (enter installing activity (s)) and the NSA/LMA must take in support of the (enter installation/ removal/upgrade) onboard (enter ship name and hull number) in accordance with reference (a).
2. This MOA, including the above references, and set of references invoked by the contract, specifies the total set of requirements for this installation.

C. Applicability:

1. This MOA is applicable to the (enter ship name) for the (enter installation/ removal/ upgrade and the specific scheduled availability period).

D. Responsibilities:

1. **(NSA/LMA)** will**:**

   a) Provide a responsible individual to serve as the NSA/LMA Representative who acts as a single point of contact for all work.
   b) Provide Meeting schedules to the installation team and expected participation.
   c) Provide anticipated requirements for progress and schedule updates of the ongoing installation.
   d) Negotiate with the AIT Manager for the accomplishment of critical and Subsafe System work.

2. **Alteration Installation Team (AIT)Manager or On-site Installation Coordinator (OSIC)** will**:**

   a) Designate a responsible individual to serve as the Outside Activity Representative who acts as a single point of contact for all work.
   b) Request specific Ship Force support required prior to, during, and at completion of the installation.
   c) In-brief ship's force and the NSA/LMA/Maintenance Coordinator prior to the start of any work.
   e) Request NSA/LMA support services required via Appendix B of reference (b).
   f) Attend meetings as required or specified by the NSA/LMA.
   g) Provide daily/weekly progress reports to the NSA/LMA.
   h) Provide a briefing on the contract requirements to the NSA/LMA on the specifics of reference (b), standard items, and locally invoked items (specific to installation site).
   i) Request and negotiate requirements of support for the accomplishment of Critical Systems and Subsafe work.

3. **USS (enter ship name and hull number)** will:

   a) Provide a systems expert as their representative who acts as a single point of contact.
   b) Provide specific support requested by the AIT Manager or On-site Installation Coordinator requested and agreed to prior to commencing the installation.
   c) Attend the Installation In-Brief, at a minimum attendees shall be as recommended in reference (b).

E. Responsibilities for Quality Assurance:

1. The (enter Installing Activity) AIT Manager will be responsible for developing and maintaining an AIT Manager's Quality Assurance Program (AMQAP) in accordance with reference (b).
2. NSA/LMA shall provide Quality Oversight in accordance with reference (b).

F. Responsibilities for Recertification of Work Performed:

1. (Enter activity responsible for recertification and applicable details/description)

G. Changes to the Memorandum of Agreement:

1. Changes to this MOA other than Key Points of Contact will be executed with the formal consent of each of the signatory parties. This MOA will be maintained by (NSA/LMA).

H. Activity Signatures:

The activities involved with the work addressed by this MOA agree to the functions, responsibilities and actions assigned above for the installation/ removal of (enter name of installation/ removal/ upgrade) being accomplished on (enter name of ship).

Print: _____

Sign: _____
(enter Installing Activity) Government Representative
Date

Print: _____

Sign: _____
Authorized USS (enter ship name and hull) Representative
Date

Print: _____

Sign: _____
Authorized NSA/LMA (enter NSA/LMA Activity) Representative
Date

Print: _____

Sign: _____
(enter any additional party– otherwise delete) Representative
Date

ALTERATION COMPLETION REPORT

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:

Sqaudron/Group

Points of Contact

	Name	Phone	Email	Activity
Ship Program Manager				
Planning Yard				
Life Cycle Manager				
Installing Activity				
NSA				

Signatures

	Signature	Name	Dept./Division/ Company	Phone	Date
Ship					
Govt. OSR					
AIT Contractor					
CDM					

These signatures do not acceptance of the alteration/SC as 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.

ATTACHMENTS: (Check reports applicable and provided)

☒ 1. General Report (All Installations)
☒ 2. Integrated Logistics Support Verification Statement Checklist (All Installations)
☒ 3. END OF INSTALLATION (EOI) INTEGRATED LOGISTICS SUPPORT (ILS) REPORT (ALL INSTALLATIONS)
☒ 4. PHYSICAL CONFIGURATION AUDIT REPORT (ALL INSTALLATIONS)
☒ 5. TRAINING VERIFICATION STATEMENT (ALL INSTALLATIONS)
☐ 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
Naval Supervising Activity (NSA)
Regional Maintenance Center (RMC)
Life Cycle Manager (LCM)
NAVSEA Ship's Program Manager (SPM)
NAVSEA 04M5
In-Service Engineering Agent (If different than LCM)
Ship's Configuration Data Manager (CDM)
Planning Yard (if different than the CDM)
RMC NEWPORT NEWS (Code 1800) (Carriers only)
SUBMEPP PORTSMOUTH NH (Code 1800) (Submarines only)
RMC PORTSMOUTH VA (Code 900) (Surface Ships only)

GENERAL REPORT

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 shipcheck was conducted jointly by the NSA/RMC, 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 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). AIT Coordinator blocks are signed by the AIT OSIC.

1. In-Brief. An In-Brief by a Government representative was held with Ship's Force and a Naval Supervising Activity (NSA) representative.

Ship's Force:			AIT Coordinator:		
	Yes	☐		Yes	☐
	No	☐		No	☐
	N/A	☐		N/A	☐

Remarks: _____
_____

2. 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 to Ship's Force representatives within 3 working days of PICO completion.

Ship's Force:			AIT Coordinator:		
	Yes	☐		Yes	☐
	No	☐		No	☐
	N/A	☐		N/A	☐

Remarks: _____
_____

3. Operational and/or operational testing. An equipment operational test and/or System Operational and Verification Test (SOVT) was performed on all equipment/systems impacted by accomplishment of the alteration.

Ship's Force:			AIT Coordinator:		
	Yes	☐		Yes	☐
	No	☐		No	☐
	N/A	☐		N/A	☐

Remarks: _____
_____

GENERAL REPORT

4. Integrated Logistic Support (ILS). ILS for new equipments was provided and verified. ILS checkout sheet was completed and turned over to NSA or RMC representative as applicable.

Ship's Force:	Yes	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____

_____

5. Training. On-the-Job operator and maintenance training for ship's force was conducted and verified.

Ship's Force:	Yes	☐	AIT Coordinator:	Yes	☐
	No	☐		No	☐
	N/A	☐		N/A	☐

Remarks: _____

_____

6. Physical installation shipcheck. To ensure conformance with quality standards and procedures, the following elements were shipchecked after completion of ship work:

a. Design conformance. Alteration was accomplished in accordance with the approved alteration drawings provided.

Ship's Force:	Yes	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		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	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____

_____

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	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____

GENERAL REPORT

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	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		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	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		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	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____

g. Cableways. Cableway work (hangers, supports and trunks) is satisfactory in terms of workmanship, clearances, spacing, new hanger/support installation (when required), fit and finish. New banding has been applied to all new or disturbed hangers.

Ship's Force:	Yes	☐	AIT Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐
	N/A	☐		N/A	☐		N/A	☐

Remarks: _____

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 Coordinator:	Yes	☐	NSA/RMC:	Yes	☐
	No	☐		No	☐		No	☐

GENERAL REPORT

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, backshell application (type, assembly, cable shield termination, strain relief, etc.), and accessibility.

Ship's Force:	Yes ☐		AIT Coordinator:	Yes ☐		NSA/RMC:	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 Coordinator:	Yes ☐		NSA/RMC:	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 Coordinator:	Yes ☐		NSA/RMC:	Yes ☐	
	No ☐			No ☐			No ☐	
	N/A ☐			N/A ☐			N/A ☐	

Remarks: _____

_____

l. Compartment marking. Compartment marking, which was removed or damaged during accomplishment of the alteration and requires restoration or relocation, has been restored in accordance with 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 Coordinator:	Yes ☐		NSA/RMC:	Yes ☐	
	No ☐			No ☐			No ☐	

GENERAL REPORT

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 Coordinator:	Yes ☐	NSA/RMC:	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 Coordinator:	Yes ☐
	No ☐		No ☐
	N/A ☐		N/A ☐

Remarks: _____

_____

o. Out-brief. A government representative held an Out-Brief with Ship's Force, Planning Yard and appropriate NSA/RMC representative.

Ship's Force:	Yes ☐	AIT Coordinator:	Yes ☐	NSA/RMC:	Yes ☐
	No ☐		No ☐		No ☐
	N/A ☐		N/A ☐		N/A ☐

Remarks: _____

_____

7. Redline Drawings. Redline drawings have been provided to the ship and the AIT will also forward a copy to the Planning Yard within 15 working days.

Ship's Force:	Yes ☐	AIT Coordinator:	Yes ☐
	No ☐		No ☐
	N/A ☐		N/A ☐

GENERAL REPORT

Remarks: _____
_____

8. Correction of Discrepancies (if required). POA&Ms for discrepancies noted above is (are) as follows:

Ship's Force: Yes ☐ No ☐ N/A ☐ AIT Coordinator: Yes ☐ No ☐ N/A ☐

Remarks: _____
_____
_____
_____

Ship's Force: _____ AIT Coordinator: _____ NSA/RMC: _____

Printed Name/Rank _____ Printed Name: _____ Printed Name: _____

Signature: _____ Signature: _____ Signature: _____

Date: _____ Date: _____ Date: _____

AIT ILS VERIFICATION STATEMENT CHECKLIST COMPLETION INSTRUCTIONS

1. The AIT Checklist must be completed for all Alterations/Ship Changes (SCs), Temporary Alterations/Non-Permanent Changes (TEMPALTs/NPCs), Ordnance Alterations (ORDALTs), Engineering Changes (ECs), Field Changes (FCs), Machinery Alterations (MACHALTs), and all other configuration changes accomplished by an AIT. An AIT is a Navy activity (military, government civilian or civilian contractor, including shipyard TIGER teams and intermediate maintenance activities) tasked and supervised by a Headquarters/Hardware Systems Command (HSC) or TYCOM. AITs are trained and equipped to accomplish approved shipboard installations and modifications, including Alterations Equivalent to Repair (AERs) and Modernization Through Attrition (NMP only) and Modernization in Lieu of Repair (MTA/MILR), on specific ships.

2. Specific completion instructions are as follows:

   a. Annotate items that do not apply as "NA" (Not Applicable).

   b. To report ILS verification for multiple alterations accomplished on single system/equipment the use of a matrix highlighting applicability of each checklist item is authorized.

   c. For AIT installations completed outside of CNO availability complete Section I.

   d. For AIT installations completed during CNO availability complete Section II.

   e. For ships in CNO availability but not co-located with the Integrated Logistics Overhaul (ILO) site, complete Section I (AIT Installation Check-In Sheet).

   f. Obtain the signature of authorized acting personnel or equivalent duty personnel in the absence of designated individual. The Command Duty Officer (CDO) will be point of contact if department head/ department duty officer is not available. Prior to certifying delivery of ILS products, the ship's authorized agent must verify the ILS products listed in the Logistics Support Products were delivered to the ship.

   g. All AITs must check-in/check-out with the applicable Naval Support Activity (NSA)/ Regional Maintenance and Modernization Coordination Office (RMMCO) before and after installation. It is recommended that all AITs, which are required to check-in through the appropriate RMMCO, use the RMMCOs web-based check in site. This will expedite check in and save time. AIT initial check in can be accomplished through RMMCO web site at https://rmmco.navy.mil/

   h. AITs checking in during a CNO availability shall contact the appropriate NSA Logistics code for check-in procedures.

   i. Use the End Of Installation (EOI) ILS REPORT (Attachment 3 of this Appendix) to list all of the Logistics Support Products provided to ship, (e.g. technical manuals by identification number, Maintenance Index Page (MIPs)/Maintenance Requirement Card (MRCs) by number, Test Equipment by SCAT code, Allowance Parts List (APL)/Allowance Equipage List (AELs) by number, with LSSC status indicated and listing of all material being delivered by category [On Board Repair Parts (OBRPs), Maintenance Assistance Module (MAMs) and Operating Space Items (OSI) by National Stock Number (NSN) or Part Number [P/N]).

   j. Prepare an Exception Report for deficient ILS, identifying the activity responsible for providing deficient ILS and expected delivery date.

3. The completed checklist and EOI ILS document shall be attached to the Completion Report. A copy of the completed checklist and EOI document shall be forwarded to Naval Sea Logistics Center (NSLC) Code N54.

AIT INSTALLATION COMPLETION CHECK SHEET NOTES

1. SUBMET, TYCOM, etc. RMMCO (specifics for each region see below) inserts initial, date and locally assigned serial number to indicate RMMCO approval.

Region	CV/CVN	Submarines	Combatants	Amphibs/Aux/Com	MCM/MHC/MCS
SW-RMMCO	CNAP N43	SUBMET-SW	CHET	EHET	N/A
NW-RMMCO	CNAP N43	N/A	IMACC	IMACC	N/A
MP-RMMCO	N/A	NSSC	CHET	CNSGMP	N/A
YO-RMMCO (Yokosuka)	CNAP N43	SUBGRU SEVEN?	CHET	SURFMO Yokosuka/PE	N/A
SA-RMMCO (Sasebo)	N/A	N/A	N/A	SURFMO Sasebo/PE	SURFMO Sasebo/PE
GQ-RMMCO (Guam)	N/A	CSS15	COMLOGWESTPAC	N/ A	N/A
MA-RMMCO	MA-RMC	MA-RMCMA-RMC	MA-RMC NORFOLK		N/A
NE-RMMCO	N/A	SSSU NLON	SUPSHIP BATH	MA-RMGC EARLE	N/A
SE-RMMCO (Mayport)	CNAL	N/A	CHET	N/A	N/A
SC-RMMCO (Ingelside)	N/A	N/A	N/A	N/A	ACT
SC-RMMCO (Pascgoula)	N/A	N/A	CHET	N/A	N/A

2. RMMCO shall fill-in Section I blanks based on information provided by the AIT Lead.
3. RMMCO shall verify that visit clearance request (including overseas requirements) has been received. If not on hand, notify AIT Lead of requirement.
4. RMMCO shall review SAR/SCD, Master List and other available information sources to determine which items are to be delivered to the ship by the AIT If items are required, check the “Required” block. If Items are known to be authorized, check the “Authorized” block. If items are in the waiver process, enter estimated delivery date and POC responsible for providing the waiver. For the items under the "In-Hand" section, if one or more EDD is beyond Production Schedule installation completion date, RMMCO contact TYCOM for waiver status. If items are sighted at time of check-in, check the “In-Hand” block. If items are required, but not available for RMMCO physical verification at check-in time, RMMCO enter estimated delivery date and POC responsible for delivering item by entered date. If one or more EDD is beyond Production Schedule installation completion date, RMMCO contacts TYCOM for waiver status.
5. SAR is not applicable to Letter type AER (surface ships), A & I item (subs only) and Alt Requests (CV/CVN only)

5a. ILS Certification: Provide a current, approved copy to NSA and RMMCO (as applicable).

6. RMMCO shall ensure that AIT’s company appears on the list of companies that have a NAVSEA-approved Quality Management System. If the company is not on the list, contact the RMMCO Coordinator for assistance. If installation involves SUBSAFE work, ensure that AIT’s company appears in NAVSEANOTE 5000. If the company is not on the list, contact the RMMCO Coordinator or Submarine RMMCO for assistance.
7. Operating Sequencing Instructions and Procedures include such items as CSOSS, EOSS, SSM (subs only), etc.
8. Check the “YES” block if this ALT has SPM/TYCOM/PARM or SCD Submitter authorization for installation during the scheduled installation dates entered in section II and fill in the appropriate means used to obtain this authorization in the block below. Check the “NO” block if the alteration/SC has not received SPM/TYCOM authorization for installation or the scheduled installation dates in section II are not in accordance with the SPM/TYCOM scheduling guidance. Contact the TYCOM to obtain authorization. Check appropriate “Authorization/waiver granted?” block (“YES” or “NO”) and enter TYCOM POC name, date and time. RMMCO shall notify RMMCO Lead and OSR/MC of all AITs being denied access.
9. RMMCO shall check the appropriate security check-in POC location block (specifics for each region see below).

Region	CV/CVN	Submarines	Combatants	Amphib/Aux/Cmd	MCM/MHC/MCS
SW-RMMCO	SSSD Det NASNI	SUBMET-SW	SSSD (C-190)	SSSD (C-190)	N/A
NW-RMMCO	SSPS	N/A	SSPS	SSPS	N/A
MP-RMMCO	N/A	NSSC	SS Det PH/PHNSYSS Det	PH/PHNSY	N/A
YO-RMMCO	CNAP N43	N/A	SRF (C213)	SRF (C213)	N/A
SA-RMMCO	N/A	N/A	N/A	SRF (C480?)	SRF (C480?)
GQ-RMMCO	N/A	CSS15	N/A	N/A	N/A
MA-RMMCO	MA-RMC	MA-RMC	MA-RMC Norfolk	MA-RMC Norfolk	N/A
NE-RMMCO	N/A	SSSU/SUBBASE New London	SUPSHIP BATH	MA-RMC EARLE	N/A
SE-RMMCO	TBD	Kings Bay	CHET	N/A	N/A
SC-RMMCO	N/A	N/A	N/A	N/A	ACT
SC-RMMCO	N/A	N/A	CHET	N/A	N/A

10. The RMMCO shall only check this block if the ALT is to be accomplished in a Master Ship Repair (MSR) or Naval Shipyard facility. Checking this block signifies that the AIT Lead must check-in with the designated MSR/NSY prior to the production POC.
11. The RMMCO will fill in the appropriate Production Check-in POC’s name, activity and phone number based on OSR/MC guidance.

AIT INSTALLATION COMPLETION CHECK SHEET NOTES

12. Check-out POC shall review the NSTS 9090.310(Series) Installation Completion Report message to ensure the listed information addressees are included as appropriate (see list below). If addressees are incorrect, direct the AIT Lead to correct the discrepancies and provide a corrected copy of the message report. Ensure that the ISIC and Battle Force Commander are listed on all messages.

SW-RMMCO: SOUTHWEST RMC SAN DIEGO CA //40/41/42/60// (all messages)
CHET SAN DIEGO CA //OIC// (all combatants)
COMNAVAIRPAC SAN DIEGO CA//N42/N43/N436/N6/N61/N62/N63// (all CVNs)
SUBMETSW SAN DIEGO CA //N40// (all submarines)
NW -RMMCO: NORTHWEST RMC PUGET SOUND WA //40/41/42/60// (all auxiliaries)
CHET EVERETT WA//OIC// (all combatants)
COMNAVSURFGRU PACNORWEST//N43/N431// (all aux/combatants)
COMNAVAIRPAC SAN DIEGO CA//N42/N43/N436/N6/N61/N62/N63// (all CV/CVNs)
(TBD) SUBDEVRON NINE//xx/xx// (all submarines)
MP-RMMCO: RMC PEARL HARBOR HI//00// / (all messages)
COMNAVSURFGRU MIDPAC//N43// (all amphibs)
CHET PEARL HARBOR HI//OIC// (all combatants)
NSSC PEARL HARBOR HI//N40// (all submarines)
YO-RMMCO: NAVSHIPREPFAC YOKOSUKA JA//OIC// (all messages)
COMCARGRU FIVE SURFMO YOKOSUKA JA//JJJ// (all messages)
COMPHIBGRU ONE (all amphibs)
CHET YOKOSUKA JA//OIC// (all combatants)
COMCARGRU FIVE SURFMO YOKOSUKA JA//JJJ// (all combatants)
(TBD) COMSUBGRU SEVEN //N4/N3/N5/N7// (all submarines)
SA-RMMCO: NAVSHIPREPFAC YOKOSUKA DET SASEBO JA//OIC// (all messages)
SURFMO SASEBO JA//JJJ// (all messages)
RMC SASEBO JA//JJJ// (all amphibs)
COMNAVAIRPAC SAN DIEGO CA//N42/N43/N436/N6/N61/N62/N63// (all CV/CVNs)
GQ-RMMCO: COMSUBRON FIFTEEN //N4// (all submarines)
MA-RMMCO: RMMCO NORFOLK VA//OIC// (all messages)
NE-RMMCO: TO: SUBRONSUPPU NEW LONDON CT//RMMCO/N42// (all submarines)
INFO: SUPSHIP GROTON CT//157// (all submarines)
RMC BATH ME//100/600// (all combatants)
TO: MA-RMC// (all AOE's)
INFO: SUPSHIP COLTS NECK NJ//100/600// (all AOE's)
SE-RMMCO: CHET MAYPORT FL//OIC// (all messages)
Kings Bay SUBRON (all submarines)
CHET PASCAGOULA MS//OIC// (all Gulf combatants)
RSG INGLESIDE TX//N40// (all MHC/MCM/MCS)
(TBD) COMNAVAIRLANT NORFOLK VA//N42/N43/N436/N6/N61/N62/N63// (all CV/CVNs)

13. RMMCO shall ensure that the AIT Lead understands the check-out procedure to be followed after installation completion. Review RMMCO check-out sheet with AIT Lead, then identify check-out POC and "X" appropriate block in top section of check-out sheet.
14. Check the "YES" block if a waiver, deviation or DFS is required. Check the "Approved" "YES" block if it was approved. The AIT Lead will provide any waiver, deviation or DFS data describing the deviations or outstanding issues, if required.
15. The Command Duty Officer (CDO) or Supply Officer will be the point of contact if the dept. head/dept. duty officer or RMC /MARMCpersonnel are not available.
16. For CV/CVNs deliver to Maintenance Support Center (MSC). MSC signature required. The authorized acting personnel in the absence of the designated individual are the Combat System Officer of the Watch (CSOOW).
17. Technical manuals provided in electronic media format Compact Disk – Read Only Memory (CD-ROM) must be loaded into the Advanced Technical Information System (ATIS).
18. For AEGIS ships Combat Systems/C^4ISR material, deliver to Combat Systems Maintenance Central (CSMC) Systems Test Officer (STO). STO signature is required. For HM&E material, deliver to Central Control Station (CCS).
19. SNAP/NTCSS is the only official source of configuration and supply data. This list is for the administrative use of the AIT only. In the event of a conflict between the list and SNAP/NTCSS, SNAP/NTCSS always takes precedence.
20. AIT Lead shall provide a copy of the SOVT/OPT page with the ship/sub POC's signature affixed indicating receipt acknowledgement
21. The check-out POC will "X" the appropriate RMMCO block. If RMC/NSA involvement was requested by the OSIC/AIT Manager, the check-out POC will forward the RMMCO/AIT CHECK-IN/-OUT SHEETS, the NSTS 9090.310 Alteration Completion Report, any

AIT INSTALLATION COMPLETION CHECK SHEET NOTES

waiver or deviation documentation and the SOVT/OPT receipt documentation page to him/her. The RMC/NSA shall review this documentation and resolve problems as necessary. The IPM will then forward all documentation to the RMMCO. If IPM involvement was not requested, the RMMCO shall complete the IPM duties noted above. The RMMCO will initial the appropriate blank in the bottom section of the check-out sheet, file the documentation originals and provide copies as appropriate.

22. Planned configuration changes shall be verified in CDMD-OA or proof of inclusion in CDMD-OA (i.e. a printout of the CDMD-OA AIT Verification Report containing the following data elements: Ship Hull, Install Date, RIN, RIC, ISC, EFD, EIN, PRID, Summary Title, RECD DATE, ALT TYPE, ALT ID, ALT RIC, ALT RIN and ALT STATUS). OPNAV 4790/CK is required only if configuration data has not been pre-loaded in CDMD-OA.

EXCEPTIONS TO INTEGRATED LOGISTICS SUPPORT (ILS) VERIFICATION

ALTERATION/SHIP CHANGE IDENT: _____ DATE_____
(Type Hull-Class-Alteration/SC Number)

SHIP: _____ ALTERATION/SC ACCOMP DATE: _____
(Hull No./Name) (From - To)

INSTALLING ACTIVITY: _____

1. The following ILS was <u>not</u> provided upon completion of this alteration/ship change:

   a. Technical Manuals (listed by identification number and equipment application).

   b. Spares Support that is without RIC/PAL No./Interim Repair Parts (listed by Equipment Nomenclature).

   c. Coordinated Shipboard Allowance List (COSAL) Updates (list documentation not onboard).

   d. Test Equipment and Maintenance Assistance Modules (MAMs) (listed by Equipment Nomenclature).

   e. Planned Maintenance System (PMS) Documentation (listed by Maintenance Index Pages (MIPs), Maintenance Requirements Card (MRC) Numbers).

   f. Ship Selected Record Drawings (SSRD) Markups (list mark-ups not onboard).

   g. Installation Drawings (list drawings not onboard).

2. The following information is provided for items indicated in paragraph (1):

   a. Information on how and when this missing ILS was ordered (i.e. Requisition Number, Letter/Transmittal Number, etc.).

   b. Information on the current status/estimated receipt date/reason for late arrival (if known) (i.e. out of stock, not developed, etc.).

   c. Information on the anticipated method of transfer to the ship when received (i.e. transshipment, forwarding letter, to be accomplished by someone other than Naval Supervising Activity (NSA)/Alteration Installation Team (AIT), etc.).

REMARKS:

END OF INSTALLATION ILS REPORT

4720
Ser ____/____
Date_____

From: INSTALLING ACTIVITY
To: APPLICABLE SPM

Subj: End Of Installation (EOI) Integrated Logistics Support (ILS) Report for USS ( ) OF ( ) 2001

Encl: (1) Alteration/Ship Change ILS Summary
(2) Onboard Repair Parts Summary

1. Provision of the following logistic support products (as listed in the Ship Program Manager (SPM) approved ILS Certification) is certified in accordance with 9090-310(Series) Certification criteria:

ALT	EQUIPMENT	OPNAV 4790/2K	OPNAV 4790/CK	CDMD OA UPDATE	REPAIR PARTS	TECH DOC	PMS	TEST EQUIP	DWG NO.	APL/ AEL	MAMs	OSS	TRAINING

LEGEND:
C - COMPLETE - ENCL (1) AND ATTACHMENTS THERETO PROVIDE ILS STATUS
I - INCOMPLETE - ENCL (1) PROVIDES STATUS OF INCOMPLETE ACTIONS
N - NOT APPLICABLE - ALTERATION DOES NOT IMPACT ILS

2. Activity Name, Code point of contact is _____, Commercial (___)___-____/DSN ___-____, or Commercial (___) ___-____/DSN ___-____.

By direction

Copy to:
COMNAVSEASYSCOM (PMS 444)
TYCOM
Designated NSA
ISEA
CDM
PLANNING YARD
NAVSEALOGCEN (CODE N54)
RMC (if applicable)
CHET (if applicable)
USS _____ ( )

END OF INSTALLATION ILS REPORT
CONTINUATION SHEET DATE_____

USS_____(_____)

ALT	EQUIPMENT	OPNAV 4790/2K	OPNAV 4790/CK	CDMD OA UPDATE	REPAIR PARTS	TECH DOC	PMS	TEST EQUIP	DWG NO.	APL/ AEL	MAMs	OSS	TRAINING

ALTERATION INTEGRATED LOGISTICS SUPPORT (ILS) SUMMARY FOR USS _____

DATE_____

SHIP IS SNAP I _____ SNAP II ___ MANUAL_____ NTCSS_____

	STATUS	NOTE
1. Updated Configuration Data Manager Database – Open Architecture (CDMD-OA) Data Base		
2. Provided Push Spares to Supply Department		
3. Provided ADD/DELETE List for On board Repair Parts (OBRPs)		
4. Provided Coordinated Shipboard Allowance List (COSAL) SOEAPL update information (NON SNAP/NTCSS ONLY)		
5. Provided COSAL Part I Sections A & B update information (NON SNAP/NTCSS ONLY)		
6. Provided Hard Copy Allowance Parts List (APL) as indicated below		
7. Provided Technical Documentation identified on page __		

Following APL's were provided and/or deleted:

ALT	APL NUMBER	LSSC	EIC	DATE	MOD FLSIP	.25 FLSIP	.50 FLSIP	APL ADD/DEL

NOTES: (1) CONFIGURATION DATA ENTERED IN CDMD-OA. (COPY OF THE CDMD-OA AIT VERIFICATION REPORT IS ATTACHED)
(2) SNAP/NTCSS DATA BASE UPDATED BY JSN'S: PENDING TRANSACTION REPORT IS ATTACHED.
(3) SNAP/NTCSS DATA BASED UPDATED BY JSN'S:
(4) OPNAV 4790 CK PROVIDED IF CONFIGURATION DATA NOT ENTERED IN CDMD-OA (TYCOM approval)

REMARKS:

DATE_____

ALTERATION/SHIP CHANGE ILS SUMMARY (Continued)

Following APLs were provided and/or deleted:

ALT	APL NUMBER	LSSC	EIC	DATE	MOD FLSIP	.25 FLSIP	.50 FLSIP	APL ADD /DEL	

NOTES: (1) CONFIGURATION DATA ENTERED IN CDMD-OA. (COPY OF THE CDMD-OA AIT VERIFICATION REPORT IS ATTACHED)
(2) SNAP/NTCSS DATABASE UPDATED BY JSNS: PENDING TRANSACTION REPORT IS ATTACHED.
(3) SNAP/NTCSS DATABASE UPDATED BY JSNS:

REMARKS:

DATE_____

ON-BOARD REPAIR PARTS SUMMARY

ALT NO.	PART NUMBER	NSN	NOMENCLATURE	ADD		DELETE		APL	NOTE
				QTY	ONBD	QTY	REMVD		

NOTES: (1) PART SHOULD BE REQUISITIONED BY THE SHIP
(2) SRI PUSHED BY ALTERATION
(3) OSI/MAM PUSHED BY ALTERATION
(4) ITEM DELETED FROM ALLOWANCE PARTS LIST/REMOVED SEE PAGE
(5) PART MODIFIED SEE PAGE____FOR DETAILED INFORMATION
(6) NON-ALLOWED PUSH ITEM SHIP TO STOCK AS AT5

DATE_____

MODIFIED SPARES

MODIFIED	PART NUMBER	NSN	NOMENCLATURE	SER	QTY	O/B	ALT	APL	NOTE
FROM									
TO									
FROM									
TO									
FROM									
TO									
FROM									
TO									

NOTES: (1) PART SHOULD BE REQUISITIONED BY THE SHIP
(2) SRI PUSHED BY ALTERATION
(3) OSI/MAM PUSHED BY ALTERATION
(4) ITEM DELETED FROM ALLOWANCE PARTS LIST/REMOVED SEE PAGE
(5) PART MODIFIED SEE PAGE____FOR DETAILED INFORMATION
(6) NON-ALLOWED PUSH ITEM SHIP TO STOCK AS AT5

TECHNICAL DOCUMENTATION STATUS DATE_____

	TECHNICAL MANUALS							PMS			
ALT NO	BASIC MANUAL AND NSN	VOL	PART	REV	CHG	ON BOARD Y	N	MIP/MRC	ON BOARD Y	N	NOTE

REMARKS:

REMOVED MATERIAL DATE_____

THE FOLLOWING MATERIALS WERE REMOVED FROM THE EQUIPMENT ONLY AND RETURNED TO: (SEE BELOW)

ALT	PART NO.	NSN	NOMENCLATURE	QTY	NOTE

NOTES: (1) DISPOSITION CODES

PHYSICAL CONFIGURATION AUDIT REPORT

Ship:

Alt/SC Identifier:

Alt/SC Description:

Alt/SC Start Date:

Alt/SC End Date:

Installing Activity:

Equipment Nomenclature:	
Serial No.:	
Location:	
Equipment Disposition: (Installed, Removed, Modified)	
EIC No.:	
4790/2K JCN: (4790/2K and 4790/CK if not pre-loaded in CDMD-OA [Attached])	
Technical Manual(s): (New, Revised, Modified)	
APL/AEL/PAL:	
Test Equipment:	
PMS Documentation (MIP No.):	
Remarks:	

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 equipments installed as part of the above alteration/SC as follows:

Operator Training

Equipment	Name	Signature

Maintenance Training

Equipment	Name	Signature

Ship Integration Training (If Applicable)

Equipment	Name	Signature

2. Formal training for this equipment is available as follows:

Course No.	CIN	Quota Control	Training Activity	Course Length	NEC	Phone No.

APPENDIX D - ALTERATION INSTALLATION TEAM (AIT) QUALITY MANAGEMENT SYSTEM REQUIREMENTS

ALTERATION INSTALLATION TEAM (AIT)
QUALITY MANAGEMENT SYSTEM REQUIREMENTS

The AIT shall provide to NAVSEA 04 and maintain a documented Quality Management System (QMS) to ensure product conformance to contractual requirements. The system shall be accepted by NAVSEA 04 and, as a minimum, comply with the requirements of Naval Sea Systems Command (NAVSEA) Standard Item 009-04 and all additional contract requirements.

NOTE: This will provide for the same level of quality assurance 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/Non-Permanent Change (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:

1.1. Master Test Plans (MTPs). MTPs describe test objectives and 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. An 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 Naval Supervising Activity (NSA).

1.2. Test Procedures (TPs). Equipment-unique TPs 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. Testing will be adequate to demonstrate compliance with applicable installation certification requirements (Signal Security [SIGSEC], TEMPEST, Radiation Hazard [RADHAZ]/Electromagnetic Interference [EMI]/Electromagnetic Compatibility [EMC], Submarine Safety [SUBSAFE], etc.). When TPs are not available from the system/equipment LCM or the responsible ISEA, the AIT shall develop the equipment unique TPs based on technical manual

information and direct coordination with the responsible ISEA, PY and Class Planning Regional Maintenance Centers (RMC)..

1.3. 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. At a minimum, process controls shall include the following:

1.3.1. Design product control procedures. 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.

1.3.2. 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 in accordance with the drawings. These instructions shall include, but are not limited to:

a. Control of magnetic material.

b. Material storage at the work site.

c. Storage and use of hazardous materials including:

(1) Control of respirable fibers from man-made mineral fiber thermal insulating material during insulation and lagging operations.

(2) Control of fluorocarbons when used aboard ship.

(3) Control of MIL-H-19457 and MIL-H-22072 hydraulic fluid when used aboard ship.

(4) Control, clean-up, and disposal of Poly Chlorinated Biphenyl (PCBs).

(5) Control, clean-up, safety precautions, and environmental precautions for organotin.

(6) Initial monitoring, daily monitoring, and control of insulation and lagging operations.

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. Hotwork including:

(1) Determination of gas-free status and for control of hot work safety. (Note: AITs are required to use an OSHA certified marine chemist for entry into confined spaces.)

(2) Welding, brazing, and inspection operations (one for each operation). (Note: NAVSEA 04/RMC approval of the quality plan does not constitute approval of individual welding, brazing and NDT procedures. The approval requirements for these procedures are specified in NAVSEA S9074-AQ-GIB-010/248 (Requirements for Welding and Brazing Procedure and Performance Qualification) or NAVSEA T9074-AS-GIB-010/271 (Requirements for Non-Destructive Testing Methods).)

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. P-1 Piping.

n. Workmanship, which includes cleanliness of the ship. As a minimum, workmanship shall comply with all contract specifications including applicable NAVSEA Standard Items.

NOTE: 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.

1.3.3 Installation Training Process Guidance. Training for this shipboard system installation shall be provided as outlined in the approved Navy Training System 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 in accordance with a Program Office approved Installation Training Package. Actual conduct of the training shall be performed by an activity certified by the program office to deliver the approved training package and process. The Program Office shall assign responsibility to plan, manage and track execution of installation training events to ensure tracking and metrics are fully documented and archived. The following guidance details the specific process for coordination, delivery and documentation of installation training that shall be followed:

a. PLANNING, SCHEDULING AND COORDINATION

- A-180 Message: Training portion of text to cover:
  i. INFORM: What training will be provided, Who is to be trained; What are the training pre-requisites; How long is the training; Date when training will become available; What accesses, facilities and ship's support will be required for training
  ii. REQUEST: Ship provide primary, secondary and tertiary preferred dates for training and identify a Training POC (phone, fax and e-mail) to coordinate with on scheduling issues.
  iii. REQUEST: Ship identify candidates for training in accordance with FLTMPS criteria

  NOTE: The Program Office or designated activity will draft and release the A-180 Message.

- Installation In-Brief: Training section of brief will cover:
  i. INFORM: Review what training will be provided, who is to be trained; How long is the training; Date when training will become available; What accesses, facilities and ship's support will be required for training
  ii. CONFIRM: The ship specified date(s) when training will be delivered.
  iii. CONFIRM: The ship has qualified candidates entered into the FLTMPS and scheduled for installation training

  NOTE: The PEO C4I Program Office or designated activity will draft slides for the training section of the Installation In-Brief.

- Direct Coordination: Well in advance of the scheduled training date but at least two weeks in advance of scheduled training:
  i. CONFIRM: Ship is ready for the training, required accesses, facilities and ship's support will be provided and qualified personnel are entered into FLTMPS and are available for training

ii. PREPARE: Training materials, technical documentation and associated products as specified in the Program Office approved Training Package.

NOTE: Program Office or designated activity shall directly coordinate via e-mail and TELCON with the ship's designated training POC to optimize the installation training outcome.

b. INSTALLATION TRAINING PACKAGE CRITERIA

Program Offices shall ensure the installation training package and process meet the following criteria:

- Installation training packages shall be developed in accordance with validated system requirements analysis and existing approved training products.
- Packages will be focused on ship specific training requirements not addressed in pre-requisite training.
- Packages shall define specific training objectives and include appropriate methods (tests, job sheets, etc) to verify objective achievement.
- Packages shall include a Pre-Training Checklist to identify preparations required and resources that must be provided
- Packages shall include a Training Checklist to track completion of each training element
- Packages shall include all required forms and data collection tools to capture and compile Training Completion Reports in accordance with paragraph d. below.

c. CONDUCT OF FORMAL INSTALLATION TRAINING

- Installation training will be conducted and documented in strict conformance with the Program Office approved training package and process. Training events will include but not be limited to the following elements:
  i. Administer/document Student Profile questionnaire
  ii. Conduct training in accordance with Program Office approved training outline
  iii. Track/document student participation and attendance
  iv. Track/document student performance, achievement of objectives

d. INSTALLATION TRAINING REPORTS AND METRICS

- Installation training performance metrics shall be captured, documented and delivered in Training Completion Reports to the Program Office, TYCOM Coordinators and other activities as directed by the Program Office. Training Completion Reports will include but not be limited to the following data:
  i. Student Profile Questionnaire
  ii. Student participation and attendance record
  iii. Student performance and objective achievement record
  iv. Student End-of-Course Critiques
  v. Instructor Training Summary

1.4. 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. These certifications include, but are not limited to, the following:

a. Hot work.

(1) Competent Person. Department of Labor Form OSHA 73, Designation of competent person(s) for each certified member of the AIT and designation of the certified marine chemist(s) responsible of preparing certificates are required.

(2) Firewatch personnel. Certificates of training for fire watch standing.

(3) Tank cleaning personnel. Certificates of safety practices training for tank cleaning personnel.

(4) Persons performing hot work. Certification(s) of qualification for performance of applicable hot work.

(5) Test personnel qualification. Certification(s) qualifications for nondestructive testing personnel.

b. Insulation work.

(1) Qualified Person. Provide written designation of the qualified person who will take and count samples, monitor personnel, inspect affected spaces, and certify affected areas are safe to enter.

c. Fluorocarbon use.

(1) Qualified/Competent Person. Certification of the person who will monitor atmosphere, inspect and certify spaces are safe to enter, and who will supervise these activities.

d. Electrical/Electronic Connector and Fiber OpticWork.

(1) Qualified personnel. Qualification certification for all Electrical Connector Fabricators, Connector Fabricator Supervisors, and Connector Fabrication Quality Assurance Inspector(s). Fiber Optic Fabricators, Installers, Fabricator Supervisors, and Fabrication Quality Assurance Inspectors shall obtain a MIL-STD-2042 based qualification certification from an Approved Trainer designated by the Naval Surface Warfare Center Dahlgren Division (NSWCDD).

e. Accomplishment of Nondestructive Testing (NDT).

(1) Qualified personnel. Certification of qualifications for all certified NDT inspectors in the applicable NDT method/methods to be employed.

f. Painting of Critical Surfaces.

(1) Qualified personnel. Certification of qualification for all certified coating inspectors and painters/blasters.

g. Entry into Confined Spaces. Provide written designation of the OSHA certified marine chemist who will inspect atmosphere of confined spaces prior to entry.

h. SUBSAFE work. Workers require qualification and/or certification. AIT must be on NAVSEA Note 5000 in order to perform subsafe work.

i. Electrostatic Discharge (ESD) Work. Workers require ESD qualification.

j. PCMS Work. Workers require qualification/certification.

1.5. Headquarters Centrally Procured Material (HCPM).

1.5.1. Receipt of 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.

1.5.2. Records of HCPM. Records of the receipt and disposition of each HCPM item shall be maintained.

1.6. 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 the following:

1.6.1. Equipment accounting. For each piece of HCPM equipment (not material), which 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.

1.6.2. Software accounting. For each software item, which is to be installed in shipboard equipment, a computerized index of purchase orders, modifications accomplished and final disposition shall be provided and maintained.

1.6.3. Weight Accounting. Depending on the program and the ship class, the AIT may be tasked to maintain a written record of equipment and material removed (weight and installed location) which are not indicated on removal drawings to allow the ship and equipment managers to maintain an accounting of weight changes on weight critical ships. Generally this includes the removal of unused or dead-ended

cables, the removal of unused foundations or the removal of unused equipment with associated cables and foundations when such removal is authorized by the ship and designated NSA and approved by the Ship Program Manager (SPM). The material control process shall provide procedures for weight accounting and reporting to the Planning Yard (PY) when required.

1.7 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.

APPENDIX E - AIT MANAGER'S QUALITY ASSURANCE PROGRAM (AMQAP)

LISTING OF ATTACHMENTS.

(1) Corrective Action Request
(2) Quality Oversight Schedule and Surveillance Plans (Examples Only)
(3) AIT Sponsor/Manager's Annual Quality Assessment Report of AIT Performance (Example Only)

1. PURPOSE. This Appendix establishes basic guidance for assisting Alteration Installation Team (AIT) Manager's role in performing 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. This Appendix supports Quality Assurance (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 are: AIT Document/Procedure Review, Process and Product Surveillance Inspections, Quality System Audits, Corrective Action and Quality Data Evaluation. The AIT Manager and/or designated On-Site Installation Coordinator will develop, apply and maintain an effective program for performing Government Contract Quality Assurance actions consistent with AMQAP.

2. PROGRAM DIRECTION AND CONTROL.

2.1. AIT Responsibilities. The AIT carries out the obligations as set forth in the terms and conditions of the contract/tasking and in accordance with 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/On-Site Installation Coordinator (OSIC) execution of AMQAP and NSA 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 to NAVSEA 04R and NAVSEA 04XQ by February. Attachment C provides a sample form for providing an annual quality assessment report of an AIT's performance.

2.3. AIT Manager / On-Site Installation Coordinator Responsibilities. The AIT Manager is the government activity tasked and funded by the AIT Sponsor to initiate, plan, coordinate, schedule, manage and oversee the successful accomplishment of the alteration, in accordance with the legacy FMP/NMP policy and procedures. The AIT OSIC is a government or military employee designated by and acting with the authority of the AIT Manager. The AIT Manager shall ensure that scope of authority designated to the OSIC is documented. 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. The AIT Manager may task and fund AMQAP responsibilities to the NSA. This delegated scope of authority shall be documented in the MOA.

2.4. Naval Supervising Activity (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 monitoring 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.

2.5. Compliance. The Government determines if the contractor's performance of work complies with the requirements of the contract. The contractual documents must provide the authority to require the contractor to maintain a QMS adequate for the work. To implement this, cognizant Government personnel will determine the effectiveness of the contractor's quality effort, as well as perform the product inspections necessary to ensure contractor's conformance to the specification.

3. ELEMENTS OF AN AIT MANAGER QUALITY ASSURANCE PROGRAM (AMQAP).

3.1. Document/Procedure Review. Document Review is the AMQAP element for verifying that the contractor's documented procedures and technical data comply with contractual/tasking requirements, including latest applicable version of invoked NAVSEA standard items. 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 contactor has developed a specific quality/installation plan (including all applicable inspections and testing) needed to ensure product quality. When the contractor does not develop required written procedures or fails to correct inadequate procedures previously reported to the contractor, the AIT Manager/ OSIC shall initiate corrective action.

3.1.1. The AIT quality/installation plan shall be made available to the applicable NSA.

3.2. AIT Documented QMS. The collection of documents describing the AIT's policy and methods for implementing quality system requirements of NAVSEA Standard Item 009-04, constitute an AIT's documented QMS. The AIT Manager and OSIC shall ensure that all AIT activities, have a QMS accepted by NAVSEA (or NAVSEA designated agent) prior to installation. Subcontractors that perform a part of an install shall have same quality system procedures that would be required of prime contractor. AIT activities not meeting above requirements (Paragraph 4.2) are to be denied access to ships.

3.2.1. Proof of an AIT QMS acceptance shall be made available to the applicable NSA prior to ship work.

3.3. Process and Product Surveillance Inspections. Process inspections verify that the contractor is compliant with written quality procedures and that procedures are accomplishing the intended purpose of controlling product/process quality. AIT Managers/OSICs are required to develop quality overview plans for use during AIT work performance to ensure AIT compliance with established requirements. Product inspections (via attribute sampling) verify that product offered by the AIT for acceptance conforms to contract/tasking requirements. The scope and depth of these inspections depend on the complexity and size of the alteration. Process and product inspection plans shall be developed using attribute checklists or inspection points where AIT Manager/OISC intends to verify compliance. These inspection plans also serve as an inspection record when completed. Attachment B provides examples of a surveillance oversight plan and attributes used when conducting surveillance inspections.

a. Flexibility for adjusting frequency of inspections will depend on nonconformity rates and problem areas identified based on contractor's quality history. A minimum AIT Manager/OISC inspection frequency shall be established for each AIT installation.

3.3.1 Process and product inspection results shall be made available to the applicable NSA when requested.

3.3.2 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 contractor compliance with quality system requirements.

3.3.2.1 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 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 correction of the nonconformity alone does not satisfy this goal. Corrective action as described in this section employs the "closed loop" concept (i.e., appropriate measures must be taken to identify the cause and prevent the recurrence of nonconformities). The contractor will be required not only to correct specific nonconformities but also to initiate preventive action to eliminate cause of nonconformities. Preliminary investigations and critiques shall be held to ensure a thorough analysis and documentation of unplanned events, and to determine the reporting and corrective actions necessary to minimize the potential for future occurrences locally and at other applicable facilities. The AIT Manager/OSIC's use of a Corrective Action Request (CAR) (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. In addition to the CAR, a Trouble Report shall also be prepared and distributed in accordance with reference 2.2(u) for all significant problems encountered during AIT shipboard installation. Significant problems are those that affect ship safety, cause significant damage to the ship or its equipment, delay ship deployment or incur substantial cost increase or involve severe personnel injury. Trouble Reports should also identify systemic problems and issues that constitute significant lessons learned for other activities. Critiques leading to issuance of a Trouble Report shall also include participation by the applicable NSA.

3.4.1. CARs should be discussed with AIT management 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 (e.b. 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 will be requested.

3.4.1.1. Minor Nonconformities (Method A). Minor nonconformities are isolated deficiencies with minimal overall impact and no significant consequences. These minor nonconformities shall be presented to responsible AIT personnel verbally or in writing for correction. Verbal corrective action must be documented by AIT Manager/OSIC as part of the corrective action process. . 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. When the AIT is not required to provide a written response, the AIT Manager/OSIC's process shall ensure that minor nonconformities are corrected and will document satisfactory resolution by signature and date verified. While causal analysis or long term action is not required,. However, the AIT Manager/OSIC shall evaluate Minor nonconformities for trend analysis.

3.4.1.2. Major Nonconformities (Method B). Major non-conformities are problems or trends which, if not found and corrected could result in a critical problem. Major problems must be investigated to determine and correct the causes, but do not necessarily require a Trouble Report.

When major non-conformities are detected or a trend of recurring minor nonconformities is noted, a formal CAR will be initiated citing the specific requirement violated and provide a clear description of the non-conformity. The CAR form also contains pertinent control information such as: contract number/job order, ship, appropriate references, originator name, unique serial number, AIT's corrective action response (including elimination of causes to prevent recurrence) and AIT Manager/OISC indication of acceptability and signature. The CAR should 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 CARs is required. An interim reply may be acceptable pending AIT's completion of corrective actions.

3.4.1.3. Systemic/Critical Nonconformities (Method C). When major CARs fail to obtain satisfactory corrective action results; when severity of a total quality system breakdown occurs, or a problem or trend occurs which has or could result in significant rework, significant environmental hazard, radiological incident, equipment malfunctions, significant personnel injury or renders safeguards ineffective, the AIT Manager shall ensure that a Method C letter is sent to AIT's senior management notifying them that a critical systemic or 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 shall be issued by the Contracting Officer notifying the AIT's top level of management that a systemic or critical problem has not been corrected and that immediate management action must be taken to comply with the provisions of the contract.

3.4.2. CARs should be discussed with the AIT before issuance. An effective follow-up system will be maintained on all CARs to ensure acceptable resolution.

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 Surveillance Inspection results
f. Quality System Audit results.

3.5.1 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. 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 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 NSTS 9090.310 to determine if internal departments are in compliance with this instruction and internal quality related directives and procedures. Audit Periodicity shall be conducted every 12 months. Audit periodicity may be extended to two year cycle based on satisfactory performance.

4. NAVSEA EVALUATIONS

NAVSEA, at its discretion, will perform periodic evaluations/audits of AIT Sponsors, AIT Managers and OSICs to assess and determine conformance to QA functions and responsibilities.

Corrective Action Request

To:	From: (AIT Manager Name)
SHIP/HULL NUMBER:	REFERENCS:
PROBLEM SEVERITY LEVEL: ☐ Critical ☐ Major ☐ Minor	
CONTRACT NUMBER:	
SERIAL NUMBER AND DATE:	
STATEMENT OF NONCONFROMANCE (INCLUDE CONTRACT/SPECIFICATION REQUIREMENTS:	
CONTRACTOR CORRECTIVE ACTION TAKEN TO CORRECT NONCONFROMANCE:	
IDENTIFICATION OF ROOT CAUSE:	
CONTRACTOR PREVENTIVE ACTIONS TAKEN TO CORRECT ROOT CAUSE: _____ _____ SIGNATURE OF CONTRACTOR REPRESENTATIVE DATE	
VERIFICATION OF CONTRACTOR'S RESPONSE: ☐ SATISFACTORY ☐ UNSATISFACTORY COMMENTS: _____ _____ SIGNATURE OF GOVERNMENT REPRESENTATIVE DATE	
FOLLOW UP REQUIRED: ☐ YES ☐ NO RESULTS OF FOLLOW-UP ☐ SATISFACTORY ☐ UNSATISFACTORY _____ _____ SIGNATURE OF GOVERNMENT REPRESENTATIVE DATE	

QUALITY OVERVIEW SCHEDULE AND

SURVEILLANCE PLANS

(EXAMPLE ONLY)

I. Introduction: This Quality Oversight Plan is for AIT Manager or AIT Name oversight actions during installation of alterations/SCs _____.

II. References:

a. NAVSEA 0902-018-2010; General Overhaul Specification for Deep Diving Submarines

b. NAVSEA S9073-AM-SBV-010/020; Noise Monitoring of SSN/SSBN Auxiliary Machinery

c. NAVSEA Technical Specification 9090-310(Series)

III. Enclosures:

1. AIT OSIC QA Surveillance Oversight Plan
2. Surveillance Checklist
3. In-Progress Monitoring
4. Work Package Review Record Sheet
5. Housekeeping Record Sheet
6. Contractor QA Plan Audit Record
7. Annual Quality Assessment Report of AIT Performance

IV. The AIT Manager (insert name) Government On-Site Installation Coordinator (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 Standard Items and Submarine Maintenance Standards as invoked/applicable.

B. The AIT performs general housekeeping, 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 On-site Installation Coordinator/AIT Lead will be responsible for protecting equipment from contamination during the alteration installation process. NAVSEA Standard Item 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 T&I plan. The

Attachment 1 Quality Overview Schedule provides details on planned audit and surveillance tasks and includes forms used for documentation.

1. Provide copies of completed surveillances to the NSA at the end of every work week.

G. Ensure all members of the AIT comply with all requirements specified in the Tag-out User's Manual (TUM).

H. Ensuring tag-out notification is submitted in a timely manner so that tag-outs can be accomplished as required by NAVSEA Instruction S0400-AD-URM-010/TUM(Series), Tag-out Users Manual (TUM). Notification shall be made at least forty-eight (48) hours prior to required deactivation to ensure proper coordination with other on-going work.

I. Act as the central point-of-contact with the ship, NSA and AIT.

J. Ensure AIT adherence to safety, environmental, quality, and technical requirements.

V. Mitigate AIT issues, particularly those relating to a stop work order.

VI. Testing

A. Ensure the NSA is notified prior to all testing events

B. Maintain completed test reports during accomplishment of the alteration/Ship Change.

C. Provide completed test reports to the NSA.

VII. Attend NSA availability production and coordination meetings and all other appropriate meetings, as required.

VIII. Monitor the progress of work against the installation POA&M and provide updated installation progress.

IX. Ensure delivery of all documentation, test reports, ILS elements.

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.

X. Resolve quality discrepancies.

XI. Ensure that AIT work responsibilities that involve SUBSAFE work is performed only by a NAVSEA Note 5000 activity.

XII. Ensure adherence to schedule requirements.

XIII. Ensure the following actions have been completed for alteration/SC _____:

A. AC Plant tested in accordance with Section 9590 of reference (a) per alteration/SC instructions.

B. Validate all new equipment meets noise requirements specified in the alteration/SC.

C. Validate Structureborne Noise testing completed for all modified equipment during operations per reference (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 (a).

E. Validate completion of Airborne Noise Survey of the affected areas upon alteration/SC completion per Section 9400-1 of reference (a).

AIT OSIC QA SURVEILLANCE OVERSIGHT PLAN (EXAMPLE)

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 ManagerOSIC 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 AITr 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.

EXAMPLE SURVEILLANCE CHECKLIST
STRUCTURAL WELD SURVEILLANCE REPORT

Ship Alt Number:	SHIP:	Date:	AIT Manager/OSIC

Attributes:	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?				
4. Does welder have the correct filler material type and size required by procedure?				
5. Does welder have more than one filler material type in his possession that could lead to material mix-up?				
6. 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) rebaked 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?				
7. Where applicable, Did welder ensure that confined space was certified gas free prior to welding?				
8. Did welder ensure that equipment was protected prior to welding?				
9. Was a fire watch in position during welding operations?				
10. Did welder check pre-heat and				

EXAMPLE SURVEILLANCE CHECKLIST
STRUCTURAL WELD SURVEILLANCE REPORT

interpass temperatures for correct temperature required by weld procedure? 11. Does welder have correct temperature sticks or other devices to check base material temperature?				
12. Does welder clean base material to ensure weld is not contaminated with foreign material?				
13. Did welder perform Visual Inspection (VT) of welds? a. Has welder been training to perform VT inspection per MIL-STD-1689A?				
14. Were All NDT inspections required by Drawing or Fabrication Specification performed?				
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: S9074-AQ-GIB-010/248, and MIL-STD-1689A				

WORK IN PROGRESS MONITORING (EXAMPLE)

Project Name: _____ **Date:** _____

Alteration(s): _____

Worker Company: _____ **Worker Name:** _____

Work Package Number: _____ **Type of Q/A Required for task:** Visual Inspection

Task being accomplished: _____

Remedy/Recommendations: _____

Comments/Lessons Learned: _____

Work Package/WAF

Copy of WAF at jobsite? _____
Is work within WAF boundaries? _____
Copy of work package at jobsite? _____
Required tools and materials present? _____
Is worker recording completion of steps, as required? _____
Is QA, as documented in the package, being performed? _____
Have forms required by the work package been completed? _____
Type of QA required _____
Does the work package have the required technical documentation?

Worker

Are the worker's quals current? _____

WORK IN PROGRESS MONITORING (EXAMPLE)

Is the worker following safety requirements specified in the work package? _____

Is the worker observing cautions, warnings and notes, as applicable? _____

Has a contractor supervisor visited the work site during the shift? _____

Is the mechanic using good work practices?

Site

Is the hot work certificate valid (signed and dated), if required? _____

Are there any unsafe conditions? _____

Are there any conditions that need correction (ie FME, stowage)? _____

Are HAZMAT items properly labeled? _____

Signature: _____ **Date:** _____

WORK PACKAGE REVIEW RECORD SHEET (EXAMPLE)

Project Name: _____ **Date:** _____

Alteration(s): _____

Company: _____ **Work Package Number:** _____

Work Package Number: _____ **Type of Q/A Required for task:** Visual Inspection

Task being accomplished: _____

Remedy/Recommendations: _____

Comments/Lessons Learned: _____

Work Package

Does work package have appropriate references? _____
Are copies of drawings and other technical data included? _____
Does work package require worker to sign for work steps complete? _____
Does work package have QA inspection points? _____
Does work package have government verify steps at appropriate points? _____
Does the work package identify safety and/or security precautions, if required? _____

WORK PACKAGE REVIEW RECORD SHEET (EXAMPLE)

Does work package identify prerequisites for the work? _____

Is required material referenced or listed in the work package? _____

Are required inspections identified? _____

Does the work package have job steps? _____

Does the work package identify required worker quals, if required?

Does work package have record sheets for OQE?

Signature: _____ **Date:** _____

HOUSEKEEPING RECORD SHEET (EXAMPLE)

Project Name: _____ **Date:** _____

Work area: **On ship:** _____

Alteration(s): _____ **Off ship:** _____

_____

Remedy/Recommendations: _____

_____

_____

_____

Comments/Lessons Learned: _____

_____

_____

Was end of shift cleanliness checkout completed?	_____
Is the work area clean?	_____
Have tools and materials been removed from the work area?	_____
Have tools and materials, left at the worksite been adequately stowed?	_____
Have materials for in-process work been properly stowed?	_____
Are there any unsafe conditions?	_____
Are FME covers installed, where required?	_____
Are FME covers adequate, where required?	_____
Is area properly posted, if required?	_____
Are services properly secured?	_____
Are there any HAZARDOUS materials at the site?	_____
Is there any HAZARDOUS waste requiring disposal?	_____
Is there any industrial waste requiring disposal?	_____

Signature: _____ **Date:** _____

QA PLAN AUDIT RECORD (EXAMPLE)

Project Name: _____ **Date:** _____

Product Audited _____ **Company:** _____

Remedy/Recommendations: _____

Comments/Lessons Learned: _____

Review the requirements of the contractor's approved Quality Assurance Plan. _____
Is the contractor performing the required audits and surveillances as apecified in the plan? _____
Are surveillances adequately documented? (OQE to indicate compliance with the plan) _____
Are audits adequately documented? (OQE to indicate compliance with the plan) _____

Signature: _____
Date: _____

ANNUAL QUALITY ASSESSMENT REPORT OF AIT PERFORMANCE (EXAMPLE)

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 verage

Comments: _____

_____

____(Name and CAGE Code)_____ ☐ Below Average ☐Average ☐Above verage

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

ANNUAL QUALITY ASSESSMENT REPORT OF AIT PERFORMANCE (EXAMPLE)

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 Contractor (e.g., rework, material not ordered properly, or staged when required, lack of personnel assigned for work to be accomplished, unqualified personnel or procedures)

_____

_____

_____

ANNUAL QUALITY ASSESSMENT REPORT OF AIT PERFORMANCE (EXAMPLE)

Considerations in Developing Assessments

❖ MOA

- ❑ NSA – QA Support Services Requested in accordance with 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

APPENDIX F SHIP'S FORCE IN-BRIEF

SHIP'S FORCE IN-BRIEF

Purpose: The purpose of a Ship's Force in-brief is to provide an overview and objectives of the alteration/ship change to be accomplished. The in-brief shall outline 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 Integrated Logistics Support (ILS) products and training to be provided.

1. Alteration/Ship Change Overview: The overview provides a description of the alteration/ship change purpose and the expected improvements to be provided, areas of the ship impacted by the alteration/ship change and additional areas affected by the accomplishment of the alteration/ship change and the impact on ship's services.

2. 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 used or removed and handling and disposal procedures

c. Review of ship's systems impacted during alteration/ship change accomplishment and duration of impact

d. Review of areas that may have restricted access during alteration/ship change 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 for fire prevention, hot work, sight and hearing protection, protection of pipes, cables, and equipment during ship work, system or equipment deactivation/reactivation, material storage at the work site, 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/ship change), material for staging and screening, temporary covers and shelters, uncrating/unpacking of equipment, cleanliness of the ship and workmanship.

f. Review of personnel qualification/certifications for work requiring specific qualifications.

Schedule of events: A detailed review of schedule-of-work and test plan and/or System Operational Verification Testing (SOVT) agenda of all functional items shall be provided during the briefing. Key event checkpoints (e.g. piping flush, hydrostatic testing, cableway and compartment closeout) 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.

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 ship work around these restrictions. If restrictions exist which can not 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 Naval Supervising Activity (NSA) for accomplishment of the alteration/SC during a subsequent availability and withdraw from the ship.

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 Chief of Naval Operations (CNO) availability, arrangements and associated funding for services included in the contract (if the alteration/SC is to be accomplished at 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.

Points-of-contact: The AIT OSIC/AIT Lead shall request the ship to provide a list of all points-of-contact for accomplishment of the alteration(s)/SC(s). The points-of contact list will include those technical personnel assigned to work with the AIT and witness testing, the names of those people authorized to sign-off the Alteration/SC Completion Report, and the names of personnel authorized to accept delivery of computer tapes and ILS items. For alterations/SCs being accomplished during CNO availability, the NSA representatives, Planning Yard (PY) On-Site Representatives (Program Representative and Configuration Data Manager [CDM]), and the lead ship availability manager from the industrial activity will also be identified. For alterations/SCs being accomplished during a CNO availability, the AIT OSIC will also identify which AIT member(s) will attend daily progress meetings.

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.

ILS and training to be provided: The AIT OSIC/AIT Lead 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 Alteration/SC Completion Report and any known ILS deficiencies shall be addressed.

APPENDIX G - LIST OF ACRONYMS

List of Acronyms

3M	Maintenance and Material Management
AAO	Approved Acquisition Objective
ABR	Agreement for Boat Repair
ACAT	Acquisition Category
AD	Airworthiness Directive
ADP	Automated Data Processing
ADUSD(L)(MDM)	Assistant Deputy Under Secretary of Defense(Materiel and Distribution Management)
AEL	Allowance Equipage List
AER	Alteration Equivalent to Repair
AIPS	Alteration Installation Planning System (Now NDE-NM)
AIT	Alteration Installation Team
A&I	Alteration and Improvement Item
ALT	Administrative Lead Time
ALT	Alteration (or change/ modification)
ALTID	Alteration Identification
APL	Allowance Parts List
AR	Alteration Request
ASC	Alteration Status Code
ASI	Automated Shore Interface
BG	Battle Group
BOM	Bill of Material
BOSS	Buy Our Spares Smart Program
C4I	Command, Control, Communications, Computer, Intelligence
C4ISR	Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance
C5IMP	Command & Control, Communications, Computers, & Combat Systems Installation Master Plan
CAGE	Contractor And Government Entity
CCB	Configuration Control Board
CCP	Container Consolidation Point
CDO	Command Duty Officer
CD-ROM	Compact Disk - Read Only Memory
CDM	Configuration Data Manager
CDMD-OA	Configuration Data Manager Database-Open Architecture
CFFC	Commander, U.S. Fleet Forces Command
CHENG	Chief Engineer
CHET	Combatant Homeport Engineering Team
CIWS	Close In Weapons System
CLSSA	Cooperative Logistics Supply Support Arrangements
CM	Configuration Management
CMWDS	Counter Measure Wash Down System
CN	Change Notice
CNO	Chief of Naval Operations
CO	Commanding Officer
COH	Complex Overhaul
COMNAVSEASYSCOM	Commander Naval Sea Systems Command
COMPACFLT	Commander U.S. Pacific Fleet
COP	Configuration Overhaul Planning
CORN	Change Order Request Notification
COSAL	Coordinated Shipboard Allowance List
COSIS	Care of Supplies in Storage
CPM	Centrally Provided Material
CPS	Collective Protection System
CRMS	Contingency Retention Munitions Stock
CRS	Contingency Retention Stock
CSIS	Central Secondary Item Stratification

CSOSS	Combat Systems Operational Sequencing System
CSTOM	Combat System Technical Operations Manual
DAASC	Defense Automatic Addressing System Center
DBR	Data Base Reconciliation
DDGOS	Deep Diving, General Overhaul Specifications
DDP	Demand Development Period
DC4ILO	Data Companion for Integrated Logistic Overall/Data Base Reconciliation
DEPRA	Defense Program for Redistribution of Assets
DFS	Departure From Specification
DIIP	Defense Inactive Item Program
DIOR	Director for Information Operations and Reports
DIRSSP	Director, Strategic Systems Programs
DLA	Defense Logistics Agency
DLAI	DLA Instruction
DLAR	DLA Regulation
DLMS	Defense Logistics Management System
DLMSO	Defense Logistics Management Standards Office
DLIS	Defense Logistics Information Service (Now FLIS)
DLSS	Defense Logistics Standard System
DMSMS	Diminishing Manufacturing Sources and Material Shortages
DMP	Depot Modernization Period
DPMA	Docking Phased Maintenance Availability
DoDAAD	Department of Defense Activity Address Directory
DoDSASP	DoD Small Arms Serialization Program
DPIA	Docking Planned Incremental Availability
DPPG	Defense Packaging Policy Group
DRMO	Defense Reutilization and Marketing Office
DRMS	Defense Reutilization and Marketing Service
DSS-SOC	Deep Submarine System-Scope of Certification
DSRA	Docking Selected Restricted Availability
DSAA	Defense Security Assistance Agency
DTR	Defense Transportation Regulation
DUSD(L)	Deputy Under Secretary of Defense for Logistics
EA	Equipment Alteration
EC	Engineering Change
ECI	Engineering Change Instruction
ECP	Engineering Change Proposal
EDFP	Engineering Data For Provisioning
EDI	Electronic Data Interchange
EDSRA	Extended Docking Selected Restricted Availability
EHET	Expeditionary Homeport Engineering Team
EIC	Equipment Identification Code
EMC	Electromagnetic Compatibility
EMI	Electromagnetic Interference
EMO	Electronics Material Officer
EMP	Electromagnetic Pulse
EOA	End of Availability
EOH	Engineered Overhaul
EOI	End Of Installation
EOP	Engineering Operational Procedure
EOQ	Economic Order Quantity
EOSS	Engineering Operational Sequencing System
EPA	Environmental Protection Agency
ERMS	Economic Retention Munitions Stock
ERO	Engineering Refueling Overhaul
ERS	Economic Retention Stock
ERT	Engineering Review Team
ESD	Electrostatic Discharge
ESRA	Extended Selected Restricted Availability

EW	Electronic Warfare
FAA	Federal Aviation Administration
FAD	Force/Activity Designator
FC	Field Change
FCB	Field Change Bulletin
FCO	Field Coordinating Office
FDNF	Forward Deployed Naval Forces
FLIS	Federal Logistics Information System
FLSIP	Fleet Logistics Support Improvement Program
FLTMPS	Fleet Management and Planning System
FMP	Fleet Modernization Program
FMPMIS	FMP Management Information System
FMS	Foreign Military Sales
FOA	Fitting Out Availability
FOCP	Fiber Optic Cable Plant
FSC	Federal Supply Classification
FSCAP	Flight Safety Critical Aircraft Part
FSCG	Federal Supply Classification Group
GAITS	Global Alteration Installation Team Scheduling (Now NDE-NM)
GBL	Government Bill of Landing
GIDEP	Government Industry Data Exchange Program
GFE	Government Furnished Equipment
GFM	Government Furnished Material
GPETE	General Purpose Electronic Test Equipment
GSA	General Services Administration
GSO	General Specifications for Overhaul
HCPM	Headquarters Centrally Provided Material
HAZCOM	Hazardous Communication
HAZMAT	Hazardous/Toxic Material
HM&E	Hull, Mechanical, & Electrical
HME&O	Hull, Mechanical, Electrical, and Ordnance (equipment)
HMP	Hull Modernization Plan
HSC	Hardware Systems Command
HW	Hazardous Waste
IA	Installing Activity
IA	Information Assurance
IC	Interior Communications
ICE	Inventory Control Effectiveness
ICP	Inventory Control Point
ICS	Interim Contractor Support
IDIQ	Indefinite Delivery/Indefinite Quantity
IFF	Identification Friend or Foe
ILS	Integrated Logistics Support
IMA	Intermediate Maintenance Activity
IMC	Item Management Code
IMF	Intermediate Maintenance Facility
IMI	Intermediate Modulation Interference
IMM	Integrated Materiel Manager
INCO	Installation and Checkout
IR	Installation Report
I&S	Interchangeable and Substitutable
ISC	Installation Status Code
ISEA	In-Service Engineering Agent
ISRA	Incremental Selected Restricted Availability
ISS	Interim Supply Support
ITP	Index of Technical Publications
JASMMM	Joint Aviation Supply and Maintenance Material Management
JCF	Justification Cost Form
JCN	Job Control Number

JETDS	Joint Electronics Type Designation
JFMM	Joint Fleet Maintenance Manual
JPIWG	Joint Physical Inventory Working Group
JSACG	Joint Small Arms Coordinating Group
LAN	Local Area Network
LANTFLTILO	Atlantic Fleet Integrated Logistics Overhaul
LAR	Liaison Action Record
LCM	Life Cycle Manager
LMA	Lead Maintenance Activity
LMARS	Logistics Metric Analysis Reporting System
LOGDESMAP	Logistics Data Element Standardization and Management Program (DoD) Procedures
LOR	Level of Repair
LOT	Life-of-Type
LRU	Lowest (or Line) Replaceable Unit
LSC	Logistics Support Center
LSIS	Local Secondary Item Stratification
LSSC	Logistic Support Status Code
LTA	Local Techical Authority
LUIT	Local-Level Unique Item Tracking
MAM	Maintenance Assistance Module
MAPAD	Military Assistance Program Address Directory
MCA	Materiel Control Activity
MIA	Missing In Action
MIL-SPEC	Military Specification
MILSBILLS	Military Standard Billing System
MILSCAP	Military Standard Contract Administration Procedures
MILSTAMP	Military Standard Transportation and Movement Procedures
MILSTRAP	Military Standard Transaction Reporting and Accounting Procedures
MILSTRIP	Military Standard Requisitioning and Issue Procedures
MIP	Maintenance Index Page
MME	Military Mission Essentiality
MMP	Maintenance and Modernization Period
MOA	Memorandum of Agreement
MPMP	Maintenance Program Master Plan
MRC	Maintenance Requirement Card
MRO	Materiel Release Order
MSC	Maintenance Support Center
MSD	Material Support Date
MSDS	Material Safety Data Sheet
MSMO	Multi Ship Multi Option
MSR	Master Ship Repair
MSRA	Master Ship Repair Agreement
MTP	Master Test Plan
MTT	Modernization Training Team
NATO	North Atlantic Treaty Organization
NAVAIR	Naval Air Systems Command
NAVICP	Naval Inventory Control Point
NAVOSH	Naval Occupational Safety and Health
NAVSEA	Naval Sea Systems Command
NC	Not Carried
NDE	Navy Data Environment
NDE-ML	Navy Data Environment-Master List
NDE-NM	Navy Data Environment-Navy Modernization
NDI	Non-developmental Item
NDT	Non-Destructive Testing
NHA	Next Higher Assembly
NICN	Navy Identification Control Number
NIIN	National Item Identification Number
NIMSR	Non-consumable Item Materiel Support Requests

NIS	Not In Stock
NLT	No Later Than
NMP	Navy Modernization Process
NNFE	Naval Netwar FORCEnet Enterprise
NPC	Non-Permanent Change
NPES	Non-Propulsion Electronic System
NRFI	Not Ready For Issue
NSA	Naval Supervising Activity
NSLC	Naval Sea Logistics Center
NSN	National Stock Number
NSRF	Naval Ship Repair Facility
NSTS	NAVSEA Technical Specification
NSV	Noise, Shock, and Vibration
NTCSS	Naval Tactical Command Support System
NTIRA	Navy Tool for Interoperability Risk Assessment
NUCALT	Nuclear Alteration
NUIT	National-level Unique Item Tracking
OASD (C4I)	Office of the Assistant Secretary of Defense for Command, Control, Communications, and Intelligence
OBRP	On Board Repair Part
OEM	Original Equipment Manufacturer
OL	Operating Level
OMN	Operation and Maintenance, Navy
OPNAV	Office of the Chief of Naval Operations
ORDALT	Ordnance Alteration
OSD	Office of the Secretary of Defense
OSHA	Occupational Safety and Health Administration
OSI	Operating Space Item
OSIC	On Site Installation Coordinator
OSR	On Site Representative
OST	Order and Shipping Time
OSTL	Order and Shipping Time Level
PAL	Preliminary Allowance List
PARM	Participating Acquisition Resource Manager
PBM	Planning Board for Maintenance
PCA	Physical Configuration Audit
PCB	Poly Chlorinated Biphenyl
PCMS	Passive Counter Measure System
PEO	Program Executive Officer
PIA	Planned Incremental Availability
PICA	Primary Inventory Control Activity
PICO	Pre-Installation Checkout
PLT	Production Lead Time
PLT	Procurement Lead Time
PM	Program/ Project Manager
PMA	Phased Maintenance Availability
PMRP	Precious Metals Recovery Program
PMS	Planned Maintenance System
P/N	Part Number
POA&M	Plan of Actions and Milestones
POD	Port of Debarkation
POE	Port of Embarkation
POL	Petroleum, Oils, and Lubricants
POM	Program Objective Memorandum
PPE	Personal Protective Equipment
PPL	Provisioning Parts List
PR/DS	Potential Reutilization and/or Disposal Stock
PRAV	Pierside Restricted Availability
PRT	Prototype

PSA	Post Shakedown Availability
PSAR	Preliminary SHIPALT Record
PSD	Program Support Data
PTD	Provisioning Technical Documentation
PY	Planning Yard
QA	Quality Assurance
QMS	Quality Management System
QR	Quality Review
QRA	Quick Reaction Alterations
QRC	Quick Reaction Capability
QRS	Quick Reaction Spares
QTY	Quantity
RADHAZ	Radiation Hazard
RAV	Restricted Availability
RBS	Readiness-Based Sparing
RCOH	Refueling Complex Overhaul
RCS	RADAR Cross Section
RDD	Required Delivery Date
RDT&E	Research, Development; Test, and Evaluation
REFDES	Reference Designation
RF	Radio Frequency
RFI	Radio Frequency Interference
RFID	Radio Frequency Identification Device
RIC	Record Identification Code
RIC	Repairable Identification Code
RIN	Record Identification Number
RMAIS	Regional Maintenance Automated Information System
RMC	Regional Maintenance Center
RMMCO	Regional Maintenance and Modernization Coordination Office
RMV	Removal
ROH	Refueling Overhaul
RORO	Roll On – Roll Off
RRMS	Requirement Related Munitions Stock
RSC	Reason for Stockage Category
SAR	Ship Alteration Record
SAS	Submarine Acquisition Support
SC	Ship Change
SCAT	Sub-Category Code
SCD	Ship Change Document
SCIB	Ship Characteristics Improvement Board
SCL	Standard Components List
SCLSIS	Ship Configuration and Logistic Support Information System
SCN	Shipbuilding and Conversion, Navy
SCN	Specification Change Notice
SCO	Service Craft Overhaul
SCPL	System Configuration Provisioning List
SECDEF	Secretary of Defense
SECNAV	Secretary of the Navy
SEOC MOD	Submarine Engineered Operating Cycle Modernization
SF	Ships Force
SFI	Strike Force Interoperability
SDR	Supply Discrepancy Report
SHAPEC	Ship Availability Planning and Engineering Center
SHF	Ship History File
SHIPALT	Ship Alteration, formal approved permanent change
SIB	Ship Information Book
SICA	Secondary Inventory Control Activity
SID	SHIPALT/Ship Change Installation Drawing
SIGSEC	Signal Security (electromagnetic/ RF)

SMART	Submarine Modernization and Alteration Requirements Tool
SMCA	Single Manager for Conventional Ammunition
SMMO	Ship Material Maintenance Officer
SM&R	Source, Maintenance, and Recoverability (code)
SNAP	Shipboard Non-tactical ADP Program
SOA	Start of Availability
SOEAPL	Summary of Effective APLs/AELs
SOVT	System Operation Verification Test
SOM	SUPSHIP Operations Manual
SPALT	Strategic Systems Program Alteration
SPAWAR	Space and Naval Warfare Systems Command
SPM	Ship Program Manager
SPR	Special Program Requirement
SPTE	Special Purpose Test Equipment
SRA	Selected Restricted Availability
SRD	Selected Record Drawing
SRF	Ship Repair Facility
SRF	Stock Record File
SSBN	Ship, Submersible, Ballistic, Nuclear (submarine)
SSCEPM	Surface Ship and Carrier Entitled Process for Modernization
SSCR	Shipboard Systems Certification Requirements
SSGN	Submersible, Ship, Guided, Nuclear (nuclear powered cruise missile submarine)
SSIR	Supply System Inventory Report
SSM	Ship's System Manual
SSR	Ship Selected Record
SSRD	Ship Selected Record Drawing
SSU	Standalone System Update
STO	System Test Officer
STSC	Submarine Technical Support Center
SU	Software Update
SUBMEPP	Submarine Maintenance, Engineering, Planning, and Procurement
SUBSAFE	Submarine Safety
SUPSHIP	Supervisor of Shipbuilding, Conversion, and Repair
SWD	Software Delivery
SWT	Standard Work Template
SYSCOM	Systems Command
TAMS	TYCOM Alteration Management System
TAV	Total Asset Visibility
TAV	Technical Availability
TCD	Target Completion Date
TCN	Transportation Control Number
TCMOD	Trident Command & Control System Modification
TDC	TYCOM Discretionary Change
TDP	Technical Data Package
TEC	Temporary Engineering Change
TEMPALT	Temporary Alteration
TGI	Task Group Instruction
TLD	Thermal Luminescent Device
TM	Technical Manual
TMR	Total Munitions Requirements
TP	Test Plan
TRF	Trident Refit Facility
TUM	Tag-out User's Manual
TYCOM	Type Commander
TYCOMALT	Type Commander Alteration
TZ	Type Zero
UC5IMP	Undersea Command & Control, Communications, Computers, & Combat Systems Installation Master Plan
UI	Unit of Issue

UII	Unique Item Identifier
UID	Unique Identification
UIT	Unique Item Tracking
UITC	Unique Item Tracking Committee
ULSS	Users Logistics Support Summary
UMMIPS	Uniform Materiel Movement and Issue Priority System
UND	Urgency of Need Designator
U-NNPI	Unclassified Naval Nuclear Propulsion Information
USCG	United States Coast Guard
USSOCOM	United States Special Operations Command
USW	Undersea Warfare
VR	Voyage Repair
WAF	Work Authorization Form
WHS	Washington Headquarters Services
WIM	Work Integration Manager
WSF	Weapon Systems File

APPENDIX H - DEFINITIONS

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. NDE-NM has activities broken into types. The list of Accomplishing Activity Types is:

ISEA
SHIP
SHIPYARD
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 Helpdesk.

2. Alteration. 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. A certification that all requirements necessary for successful alteration installation, operation and support have been met. Requirements include such items as SAR, SIDs, installation funding, removal and system restoration funding (TEMPALTs only), etc. The SPM is the technical approval authority for all Title K, K-P, D and F alterations, Surface Ship NPCs and equipment alterations that may affect ship's power, weight or air conditioning requirements and all Alteration and Improvement (A&I) items. 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 CFFC 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 (C4I) and Combat System alterations and alterations impacting interoperability must be authorized in accordance with the D-30 process, by the CFFC, 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 Appendix C to this specification. This report provides detailed information foruse in process improvement design, AIT performance measurement, alteration/SC deficiency tracking, etc.

6. Alteration Equivalent to a Repair (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 Ship Program Manager (SPM); providing such replacement does not

cause a change to the existing system design and does not effect 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 require 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 effect a change to the system or equipment normally associated with the military characteristics of the ship.

a. Only the SYSCOM, PEO or SPM exercising technical control over the article, or the authority to whom such technical control has been delegated by that command, shall designate an alteration as a Alteration Equivalent to Repair (AER) and approve it for accomplishment.

b. 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). A unit (military, government activity or contractor) under the direction of an AIT Manager or designated agent (ISEA, military or government civilian) of the AIT Manager that is trained and equipped to accomplish specific alterations/SCs on specified ships.

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 in accordance with legacy FMP/NMP policy and procedures. The AIT Manager will coordinate with the NSA to ensure satisfactory completion of the ship alteration/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, SIDs and an approved Integrated Logistics Support (ILS) Certification.

13. Alteration, Permanent. Any logistically supported alteration, which is intended to remain on board the ship for more than 1 year or more than 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 time-frame. 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 in accordance with 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. Integrated Logistics Support (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 prepared or developed by an AIT, 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, in accordance with the D-30 process. These alterations/SCs should be technically approved by the Ship Program Manager (SPM) and coordinated with the Naval Supervising Activities (NSAs), in accordance with 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. Emergent Change (NMP only). Emergent Ship Changes are those items that require immediate installation (30 days or less) and/or reprioritization of tasking and reallocation of resources to support accelerated development and installation. The emergent change process is only applicable to the following Ship Change criteria:

- Proposed emergent change is funded in the year of execution or offset has been identified and already approved
- Modernization changes to resolve identified safety items
- Need for mission critical capability
- Need to correct critical software, firmware or other deficiencies that degrade designed capability

22. Equipment Alteration. Any modification, other than a 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 6 types of Equipment Alterations:

a. Machinery Alteration (MACHALT). A planned change, modification or alteration of any in-service Hull, Mechanical or Electrical (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) Can be accomplished without changing an interface external to the equipment or system.

(2) Are modifications made within the equipment boundary or are a direct replacement of the original equipment system.

(3) Can be accomplished without the ship being in an industrial activity.

(4) Will be accomplished individually and not conjunctive with a 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 a 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 a field change or alteration. Field Changes 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 Integrated Logistics Support (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 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).

23. 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 and Commander, Space and Naval Warfare Systems Command 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.

24. 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 or aircraft carrier.

25. Industrial Activity (IA). An IA is an activity capable of performing all aspects of work on ships. These activities generally include Naval Bases, Naval Ship Repair Facilities (NSRFs), Fleet Maintenance Activities, Trident Refit Facilities (TRFs), public (Naval) shipyards, and private shipyards, which hold Agreements for Boat Repair (ABR) or Master Ship Repair Agreements (MSRAs) in accordance with the Naval Sea Systems Command (NAVSEA) Supervisor of Shipbuilding, Conversion and Repair (SUPSHIP), USN Operations Manual.

26. Initiator (NMP only). Any authorized user of NDE. Provides the initial data input in an SCD or Legacy Alteration Change Request (LACR).

27. Integrated Logistics Support (ILS) Certification.

a. Legacy FMP - The ILS Certification specified in Section 8-1.3.2 and Section 8 Exhibit II of the Fleet Modernization Program (FMP) Manual in which the Ship Program Manager (SPM) identifies all ILS elements that are required for a specific alteration ILS Certification may be general (applicable to K, F and A&I alterations).

b. NMP - There are two types of ILS Certifications for Ship Changes (SCs), Final ILS Certification and Interim ILS Certification. A Final ILS Certification (formerly known as a Class ILS Certification) is SPM granted when all required ILS products will be in final form at SOA/ SOI and delivered by EOA/EOI/PCD. An Interim ILS Certification (formerly known as a Hull ILS Certification) can be approved by the SPM in situations when all required ILS products will not be available in final form by EOA/EOI/PCD for a specific hull, but will be available in preliminary form; (e.g., red-lined TMs, facsimile MIP/MRC, initial training, Preliminary Allowance Lists, etc.,) sufficient to support SC installation and ship operations.

28. Integrated Logistics Support Products. Configuration and logistics items that impact a ship as a result of the installation of a ship change. 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.

29. Maintenance Program Master Plan (MPMP). The MPMP provides a general overview of the Program Executive Office (PEO's) 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.

30. Maintenance Support Center (MSC). CVN Shipforce workcenter in which ILS products get checked-in and tracked inside and outside CNO availabilities.

31. Method of Install (MOI). A required field for properly scheduling of alterations/SCs In NDE-NM. The list of MOI is as follows:

TBD-To Be Determined

IND-Industrial
AT-AIT Industrial
AP-AIT Pierside
MO-Mail Out

Proper use is as follows:
- TBD is the system default setting and needs to be changed to reflect the actual method of installation.
- 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.
- AT is to be used when an installation is being executed by an Alteration Installation Team (AIT) during a CNO availability
- AP is to be used when an installation is being executed by an AIT during a TYCOM controlled availability (WOO, CMAV etc.)
- 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.

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.

32 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.

33. Naval Supervising Activity (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. NSAs shall notify the applicable program office and NAVSEA 04 of any AIT work suspension/cancellation.

34. Non-Permanent Change (NPC) (NMP 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.

35. Quality Management System. 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) Standard Item 009-04. (See Appendix D)

36. Quick Reaction Alteration (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 Fleet Modernization Program (FMP) process. Quick reaction alterations necessitate rapid Ship Alteration (SHIPALT) development and close coordination between Operations Navy (OPNAV) Resource Sponsors and the Hardware System Command (HSCs).

37. Red Lines or Red Lined Installation Drawings. Planning Yard (PY)-approved SIDs that have been revised manually (preferably in red ink) by the AIT to reflect all approved deviations and variances of the completed installation.

38. Regional Maintenance and Modernization Coordination Office (RMMCO). A Regional Maintenance Center-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.navy.mil provides the AIT OSIC/AIT Lead with a means to initiate the check-in procedures required for the installation of a alteration/SC aboard ship. It also provides a means to measure performance of these installations.

39. Scheduled/Non-Scheduled Chief of Naval Operations (CNO) Availabilities. CNO Scheduled availability is a depot level maintenance window that is scheduled by CNO in accordance with the Maintenance Program Master Plan (MPMP) for the ship.

a. CNO Scheduled Maintenance Availabilities greater than 6 months in duration are:

Overhaul. Availability scheduled for accomplishment of industrial maintenance and modernization. Types of Availabilities include:

Regular Overhaul
Complex Overhaul (COH)
Engineered Overhaul (EOH)
Refueling Overhaul (ROH)
Refueling Complex Overhaul (RCOH)
Engineered Refueling Overhaul (ERO)

Other Availabilities. Availability scheduled primarily for industrial maintenance and installation of major, high priority alterations/SCs. Types of these include:

Depot Modernization Period (DMP)
Planned Incremental Availability (PIA)
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:

Selected Restricted Availability (SRA)
Docking SRA (DSRA)
Phased Maintenance Availability (PMA)
Docking Phased Maintenance Availability (DPMA)
Service Craft Overhaul (SCO)

Extended SRA (ESRA)
Extended Docking SRA (EDSRA)
Incremental SRA (ISRA)
Extended Refit Period

c. Non-CNO Scheduled Availability. Availability that is not scheduled by 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.

40. 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 Integrated Logistics Support (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.

41. Ship Availability Execution Yard.

42. Ship Change (NMP only). A Ship Change is a modernization action documented by a Ship Change Document. There are only two types of Ship Changes in the NMP: Program changes and Fleet changes.

- 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.
- 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

43. Ship Program Manager (SPM). The Naval Sea Systems Command (NAVSEA) organization responsible for management of ships' acquisition, overhauls, or repairs.

44. 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.

45. Sustainment Change (NMP only). Sustainment consists of all efforts required to correct or maintain a system's design capability, maintainability or repairability through internal equipment modifications that do not impact shipboard distributed systems. There are two types of sustainment:

- 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.
- 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:
    - System repair action that resolves a reliability issue
    - Corrective maintenance (repair) that results in a requirement to back fit all systems

46. Trouble Report. The trouble report is the vehicle for reporting significant problems to NAVSEA and other activities involved in work performed on Naval ships, 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 equivalent process when preparing trouble reports.

47. 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 CINCLANTFLT/CINCPACFLT 4790.3 (Series).

48. 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 CINCLANTFLT/CINCPACFLT 4790.3 (Series) (Joint Fleet Maintenance Manual) Volume IV, Part I, Chapter 21.