



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND

WASHINGTON, D.C. 20362

IN REPLY REFER TO

NAVSEAINST 4720.15A

OPR 56

7 December 1987

NAVSEA INSTRUCTION 4720.15A

From: Commander, Naval Sea Systems Command

Subj: MACHINERY ALTERATIONS (MACHALTS) ON HM&E EQUIPMENT AND SYSTEMS

Ref: (a) DOD-STD 2140 (SH) of 20 Oct 82
(b) NAVSEAINST 4130.10 of 20 Sept 78

1. Purpose. To revise procedures for implementation of Machinery Alterations (MACHALTs) used to alter HM&E equipments and systems.

2. Cancellation. NAVSEAINST 4720.15 of 23 March 1983.

3. Background. One goal of the SHIPALT Improvement Program is to reduce the number of SHIPALTs by increasing discipline and control of SHIPALT initiation and development. The Machinery Alteration Program permits changes to HM&E equipments and systems where the changes are contained within the boundaries of the individual equipments or systems and have limited system ramifications. The MACHALT program enables changes to be accomplished in a more expeditious manner and eliminates them from the formal SHIPALT process. MACHALTs are most effective for multi-class alterations. One MACHALT can replace several SHIPALTs. *

4. Policy

a. A planned change, modification, or alteration (of limited complexity) to HM&E equipment in service (shipboard or shore activities) shall be considered as a Machinery Alteration (MACHALT) when it has been determined by the MACHALT Configuration Control Board (CCB) 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) Is a modification made within the equipment boundary or is a direct replacement of the original equipment design.

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

(4) Will be accomplished individually and not conjunctively with a SHIPALT or other MACHALT.

- A) (5) The fix has been successfully tried. The purpose of this is to prove the technical adequacy of the fix and is separate from the MACHALT prototype and MACHALT verification installation.
- b. A MACHALT installation instruction be developed in accordance with reference (a) for each Machinery Alteration.
- c. A MACHALT package, to include contents described in reference (a), be procured for each Machinery Alteration.
- d. The precedence of MACHALT development reflect CNO and Fleet priorities with safety, Senior Navy Steering Board actions, DART equipments, and HM&E Conference action items receiving priority within each given group.
- * e. The NAVSEA MACHALT Configuration Control Board (CCB), established in conformance with reference (b), is empowered to approve MACHALTs. SEA 56, SEA 91, SEA 92 and SEA 93 representatives compose the MACHALT CCB.
- * f. Scheduled installation of MACHALT kits shall be entered into FPMIS as a data point not restricted to ship overhaul schedule. MACHALT kit delivery date, installation plan, and installation status shall be entered.
- g. MACHALT kits shall not be released for incorporation in the prime equipment until all logistic support products related to the specific change are available to support the new configuration.
- * h. MACHALT kits required to modify prime equipments located at Navy Training Commands be generated through the MACHALT Kit procurement process. Impact of MACHALT installation on existing formal training be identified in the proposed preliminary ECP.
- i. Standard distribution for all MACHALT Program documents shall be the applicable Engineering and Platform Directorate. MACHALT Program documents that modify equipment similar to that under the cognizance of SEA 08 or which modify equipment and systems of propulsion plants in nuclear power ships will be distributed to SEA 08.
- j. SEA 08 concurrence shall be obtained for all applicable MACHALTs as required.
- k. Unplanned changes to HM&E equipment and systems to correct emergent deficiencies during repair, overhaul, and operations require NAVSEA Headquarters approval. Documentation provided by the maintenance activity will be used to develop the applicable ECP.

5. Procedures

a. Preparation

(1) HM&E deficiencies which can be resolved by installation of a MACHALT shall be initiated by submittal of the proposed modification to the Naval Ship Systems Engineering Station (NAVSSSES) or the NAVSEA 56 Life Cycle Manager (LCM). The preliminary ECP will be sponsored to the MACHALT CCB for review and prioritization by the NAVSEA 56 LCM. (A)

(2) Approved ECP *

(a) NAVSSSES will develop the formal ECP. NAVSSSES will procure MACHALT prototype kit(s) consisting of production quality hardware and preliminary logistics support products. The prototype effort may be waived only by the authority of the MACHALT CCB. Submittal of the formal ECP by NAVSSSES is contingent on successful installation of the prototype kit(s) and will occur in a period not to exceed 180 days following the CNO approval of the preliminary ECP. The prototype and subsequent installations shall be based on ship checks detailing variations of hardware needed to satisfactorily accomplish the MACHALT once final approval by MACHALT CCB is granted. (A)

(b) CCB Action to approve the formal ECP shall be accomplished within 30 days after submittal. Sponsorship of the formal ECP for CCB action will be by the SEA 56 LCM. After the ECP is approved, the MACHALT CCB secretariat will assign a MACHALT name and number. *

(3) SEA 56 will program and budget for procurement of kits required for MACHALT accomplishment. Upon receipt of the CCB directive, NAVSSSES will prepare a MACHALT installation instruction in accordance with reference (a).

(4) NAVSSSES will provide the preliminary MACHALT installation instruction and draft logistics support products to the Life Cycle Manager (LCM) for review. Preliminary copies of the MACHALT installation instruction shall also be submitted for review to other appropriate NAVSEA directorates, shore activities and including applicable planning yards.

(5) NAVSSSES will develop a MACHALT Management Plan which will schedule and track procurement of material, logistic support products and installation of each production quality MACHALT Kit.

(6) NAVSSSES will input data into FMPMIS to include the installation plan, dates and cost by hull. The MACHALT CCB secretariat will forward the implementing directive to appropriate NAVSEA directorates and other shore activities. SEA 56 will update the kit procurement programming which was initiated after approval of the ECP Proposal. (A)

b. MACHALT Installation Verification

(1) NAVSSSES will schedule and direct installation of the MACHALT verification kit. The verification effort will ensure accuracy of the MACHALT instruction procedures; form, fit and function of the kit hardware; completeness of the draft logistic support products and availability of supporting tools and test and checkout equipment.

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(2) NAVSSES will certify validation of the MACHALT Instruction through the installation verification process.

c. Installation

(1) NAVSSES

(a) Procure each MACHALT Kit.

(b) Direct or task installation of MACHALT Kits.

(c) Interface with each TYCOM to schedule installation of each MACHALT.

* (d) Promulgate installation schedule via FMPMIS and any change or reschedule of installation timeframes.

A) (e) Stage MACHALT kit prior to release.

A) (f) Release the MACHALT kit for installation after ensuring that all logistic support for the new configuration is available; direct shipment of the kit to the hull/activity scheduled for MACHALT installation.

(g) Update FMPMIS after installation of each MACHALT kit.

* (h) Ensure hull or activity submits form OPNAV 4790/CK after installation of each MACHALT kit.

(i) Notify planning yards of changes to Ships Selected Records and provide preliminary information to the ship.

A) (j) Ensure technical review of production contract(s) is made and an acceptable quality assurance program is in place at contractor facility or invoked into procurement contract(s).

6. Responsibilities

a. Ship Design and Engineering Directorate (SEA 05). SEA 05 is responsible for life cycle management of all MACHALTs applicable to the items under its cognizance. SEA 56 is designated as the SEA 05 agent for administration of the MACHALT Program. Specific responsibilities are as follows:

(1) Provide policy and procedures and implementation of MACHALT Program (SEA 56).

A) (2) Sponsorship of all PECP's and formal ECP's (SEA 56 LCM).

- (3) Approval of ECP's (MACHALT CCB).
 - (4) Program and budget for MACHALT Program (SEA 56).
 - (5) Approve MACHALT instruction and pertinent logistics (SEA 56 LCM).
- b. Platform Directorate (SEA 91, 92, and 93). Provide membership on MACHALT CCB for review and approval of all MACHALTs. *
- c. In-Service Engineering Activity (NAVSSSES).
- (1) NAVSSSES shall perform as the technical and management agent for the MACHALT Program.
 - (a) Develop and maintain configuration status accounting for all ECP proposals and ECP's.
 - (b) Provide MACHALT Program Manager support.
 - (c) Develop and maintain the MACHALT Instruction.
 - (d) Develop changes to logistic products required to support MACHALT installation. This will include but not be limited to new or revised equipment and system technical manuals, Preventive Maintenance System (PMS) procedures, Allowance Parts Lists (APL) and Allowance Equipment Lists (AEL). *
 - (e) Procure MACHALT kits.
 - (f) Schedule MACHALT installations.
 - (g) Provide technical oversight for MACHALT installation.
 - (h) Direct installation verification effort and certify validation of MACHALT installation instruction through the verification process.
 - (i) Liaison with appropriate government and private sector personnel to accomplish MACHALTs on ships in overhaul. (A)
 - (j) Input and update FMPMIS for each MACHALT installation with installation plan and status. Update FMPMIS after each MACHALT installation is completed. *
 - (k) Assist hull or activity to submit form OPNAV 4790/CK after installation of each MACHALT kit is complete.
- d. Naval Sea Support Centers Atlantic and Pacific (NAVSEACEN)
- (1) Report HM&E deficiencies which could be resolved by MACHALT.
 - (2) Support MACHALT Program as tasked.

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e. Ships Part Control Center (SPCC). SPCC shall provide logistic support for the MACHALT Program in accordance with the NAVSEA, NAVSUP, or SPCC Program Support Agreement.

7. Exception. As delineated in the NAVSEA Organizational Manual, the Deputy Commander for Nuclear Propulsion, SEA 08, is responsible for all technical matters pertaining to nuclear propulsion of U.S. naval ships and craft, including all aspects of integration of the nuclear plant into ship systems. Nothing in this instruction detracts in any way from these responsibilities. Accordingly, SEA 08 will be consulted in all matters relating to the nuclear propulsion plant and associated nuclear support facility. The procedures in this instruction are not applicable to equipment and systems under the cognizance of SEA 08.



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