



DEPARTMENT OF THE NAVY

NAVAL SEA SYSTEMS COMMAND
WASHINGTON, D.C. 20362-5101

IN REPLY REFER TO

NAVSEAINST 8815.1C

Ser ~~OPR PMS422~~

TAD/N82

28 Oct 92

NAVSEA INSTRUCTION 8815.1C

From: Commander, Naval Sea Systems Command

Subj: STANDARD MISSILE MAINTENANCE SUPPORT PROCEDURES AND
GUIDELINES

- Ref:
- (a) WD 31175 Vol. 1 Addendum 1, Processing Requirements for STANDARD Missile (AUR)
 - (b) WD 31175 Vol. 2 Addendum 1, Processing Requirements for VLS STANDARD Missile/Canister MK 13 (AUR)
 - (c) OPNAVINST 8023.2 Series, Department of Navy Explosives Safety
 - (d) NAVSEA SW800-EA-ORD-010, Service Life Data for SMS Explosive Assemblies and Components
 - (e) OPNAVINST 5102.1C, Mishap Investigation and Reporting
 - (f) OD 31460 STANDARD Missile Round Major Parts Interchangeability Data
 - (g) OP 4461, On-station Movement of Ammunition and Explosive by Truck and Railcar
 - (h) NAVSEAINST 5220.2A, Standard Operating Procedures (SOPs), Depot Maintenance Work Requirements (DMWRS) and Standard Operating Procedure Requirements (SOPRS); Information Concerning
 - (i) OP 5, Ammunitions and Explosive Ashore Safety Regulations for Handling, Storing, Renovation, and Shipping
 - (j) MD 55638, Stockpile-to-Target Sequence for SM-2 Blocks III, IIIA, and IIIB
 - (k) NAVSEAINST 8020.9A, Non-Nuclear Ordnance and Explosives Handling Qualification and Certification Program
 - (l) MD 56287, VLS Naval Activity Certification Requirements Shorebased Operations
 - (m) MD 4790.100, NAVSEA Shore Activity Maintenance Data System for STANDARD Missile
 - (n) MD 56338, ILM Processing Requirements and Restrictions
 - (o) TW394-EO-MM0-010, Dockside Technical Manual
 - (p) NAVSEA OLSS-S0439-167-D-0-0, Operational Logistics Support Summary For The MK 13 MOD 0 VLS Canister and the RIM-66H-1 at WPNSTAs

- Encl:
- (1) STANDARD Missile Maintenance Support Requirements
 - (2) VLS STANDARD Missile Maintenance Support Requirements
 - (3) Foreign Military Sales Maintenance Support Requirements
 - (4) Glossary of Acronyms and Abbreviations



1. Purpose. This instruction provides revised procedures and guidelines for STANDARD Missile (SM-1, SM-2) Extended Range (ER), Medium Range (MR), and AEGIS Vertical Launching System (VLS) Missile Maintenance Support. The additions of SM-2 Blocks (BLKs) II, III (A and B), IV, and VLS configurations have necessitated this revision, which also deletes TERRIER BT, TARTAR, and SM-1 BLK IV missiles and associated equipment no longer in the Fleet inventory. The maintenance support requirements for Surface Launch TOMAHAWK and Vertical Launched ASROC (VLA) Missile addressed in NAVSEAINST 8815.1B are now covered for TOMAHAWK in TOMAHAWK CRUISE Missile Manual SW810-AG-MMI-010/RGM-109 and for VLA in the following Integrated Logistic Support Plans (ILSPs); NAVSEA ILSP-S1504-A-P-I (PMS416) for VLA Missile and NAVSEA ISLP-S1504-167-A-P-I (PMS422-3) for VLA Canister. This is a major revision to the current instruction.
2. Cancellation. This instruction cancels NAVSEAINST 8815.1B of 30 November 1988 and supersedes WD 31175 Vol. 1 Rev 9. WD 31175 Vol. 1 Addendum 1 [reference (a)] and WD 31175 Vol. 2 Addendum 1 [reference (b)] apply to the All-Up-Round (AUR) contractor activities and are not superseded.
3. Scope. This instruction applies to the maintenance support of complete missile rounds and is complemented by specific missile maintenance support requirements; see enclosures (1) through (3).
4. Goal. The goal of Guided Missile Maintenance Support is to provide quality missiles to the Fleet with minimum impact on ship schedules and operations through efficient use of available resources.
5. Explosive Safety. All Navy explosive safety policies, requirements, and procedures for the siting, storage, handling, and transportation of U.S. and Foreign Military Sales (FMS) titled munitions will be per OPNAVINST 8023.2 Series (Department of the Navy Explosives Safety) [reference (c)].
6. Missile Distribution. Fleet requirements are determined by the Commander in Chief, U.S. Atlantic and Pacific Fleets and are incorporated in the Surface Missile Systems (SMSs) Loadout and Offload Quarterly Projections Guide. Ship offload and onload is authorized at the following shore activities: Weapons Stations (WPNSTAs), Naval Magazine Lualualei, and Naval Magazine Subic Bay. Commander, Naval Sea Systems Command or the Fleet Commander may waive this policy under exceptional circumstances.

7. Maintenance Policy. SM maintenance, at any level, will be accomplished only by designated personnel using approved COMNAVSEASYSKOM procedures. Familiarization with the various publications and documents applicable to a particular missile and its associated systems and equipment is essential for personnel charged with implementing this instruction.

a. Levels of Maintenance. SM maintenance will be performed at the Organizational, Intermediate, and Depot levels.

(1) Organizational Level Maintenance. Except for training rounds, maintenance of SM rounds aboard combatants is limited to visual examination and minor external cleaning and corrosion prevention procedures. Corrective maintenance (launcher shoe replacement, harness repair, etc.) is permitted on Training Surface Air Missiles (TSAMs) and Guided Missile Training Rounds (GMTRs). Approved shipboard maintenance procedures are issued to those ships concerned in applicable technical manuals and Maintenance Requirements Cards (MRCs). Missile maintenance will not be performed by ships carrying missiles for transshipment purposes (ammunitions ships and other auxiliaries).

(2) Intermediate Level Maintenance. Intermediate Level Maintenance (ILM) operations are performed at the WPNSTAs and consist of missile assembly and disassembly, VLS canister ENCAN/DECAN, tests, inspections, and replacement. Approved procedures are published in applicable technical manuals and Surface Missile Processing Descriptions (SMPDs).

(3) Depot Level Maintenance. Depot Level Maintenance (DLM) is performed at Designated Overhaul Points (DOP) to support intermediate level maintenance. Operations consist of maintenance actions requiring more extensive facilities and technical skill levels than are normally available at lower maintenance levels.

(a) Organic DOPs. Organic DOPs operate under SEATASKs through the NAVSEA STANDARD Missile/VLS Program Office. Procedures are issued through Government controlled Technical Repair Standards, Maintenance Plans, and Engineering Repair Instructions.

(b) Contractor DOPs. Contractor DOPs are governed by Cost Plus Fixed Fee Level of Effort contracts through NAVSEA and the Navy Regional Contract Center, Long Beach. Operational requirements are provided through maintenance plans controlled by the In-Service Engineering Agent. Repair documentation is

contractor controlled per the applicable DLM contracts and consistent with production procedures.

b. Production Planning and Control. The WPNSTA Production Planning and Control (PP&C) function is the controlling authority for all work performed to affect missile ILM. Missile/booster/component planning work authorization documents provide for ILM processing. Work authorization documents will contain, as a minimum, the following information:

- (1) Job order number for types of units being processed.
- (2) Specific configuration to be reworked or assembled and tested to meet end-product requirement.
- (3) Specific work to be accomplished on each configuration based on review of Production Planning Requirements (PPRs) data base, missile logs, Ordnance Alteration (ORDALT) requirements, saltwater procedures, corrosion procedures, misfire procedures, warranty status, etc.
- (4) Specific work to be accomplished on each missile for defects noted, but not covered by missile receipt inspection.
- (5) Identification of documentation, other than SMPDs, that must be used to process the missile. Additional documentation includes Detailed Inspection Procedures (DIPs), Equipment/System and safety technical manuals (OPs), Special Processing Instructions (SPIs), ORDALTs, TRSS, and Standard Operating Procedures (SOPs).
- (6) Specific Packaging, Handling, Storage, and Transportation (PHS&T) desired; i.e., cradles, container, A or B arm loading, etc.

c. Ammunition Distribution and Control. The WPNSTA Ammunition, Distribution, and Control (AD&C) organization is the controlling activity for receipt, storage, and issue of all 8T COG material. It reports all inventory activity to the Conventional Ammunition Inventory Management System (CAIMS) via the Ordnance Management System (OMS).

8. Field Service. Naval Surface Warfare Center Division, Port Hueneme (NSWC DIV PORHUE) is the In-Service Engineering Agent (ISEA) for STANDARD Missile rounds covered by this instruction. NSWC DIV PORHUE technical services personnel representatives (NSWC DIV PORHUE REPs) are assigned to the WPNSTAs performing missile ILM on a permanent basis. Naval Surface Warfare Center

Division, Indian Head (NSWC DIV Indian Head), MD provides technical service personnel to the WPNSTAs on an as required basis on issues involving propulsion units and associated components. Both activities' field service personnel are ISEA representatives and have the authority and responsibility for the following duties:

- a. Provide disposition of missile round including Guidance Control and Airframe (GC&A) components, warhead components, rocket motors, and boosters with discrepancies not specifically defined by ILM repair or inspection criteria.
- b. Provide support to NAVSEA and program ISEAs or agencies in SMS matters relating to WPNSTA processing.
- c. Provide authorization and/or instructions for performance of special processing or test of missiles, rocket motors, boosters, and test equipment, including use of additional equipment or special tools during missile processing.
- d. Provide technical repair and calibration assistance to WPNSTA Guided Missile Test Systems maintenance personnel and maintain liaison on test set modification and maintenance spares. Conduct verification and witness demonstrations of test procedures updates. Act as liaison between test equipment contractor and WPNSTA personnel. Update disk packs as required and assist in analysis of maintenance and trends.
- e. Act as technical advisor and/or test coordinator during missile special projects.
- f. Act as consultant to WPNSTA Material Review Boards (MRBs).

A Naval Warfare Assessment Center (NWAC), Corona CA maintenance data coordinator is also assigned to the WPNSTAs. The maintenance data coordinator will collect and electronically transmit maintenance, test, shipping, and receipt data to NWAC daily. The coordinator also provides support and training in preparation of NAVSEA maintenance data collection forms.

9. STANDARD Missile Maintenance Evaluation (SMME). The missile community conducts evaluations every 12 to 18 months of the SM and VLS ILM processing facilities. The SM Maintenance Evaluation (SMME) team is composed of the following activities:

NAVSEA PMS 422-23 Chairperson
NSWC DIV PORHUE 4R40

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NSWC DIV PORHUE 4R30
NSWC DIV PORHUE 4R20
NSWC DIV INDIAN HEAD 6220
NWAC QA 40
NPHSTC, WPNSTA EARLE 50112

The purpose of the SMME is to periodically monitor the performance of SM maintenance, movement, and storage at the ILM activities and to ensure adherence to all governing documents (NAVSEA, ISEA, and local). Satisfactory evaluations are considered a revalidation of the activity to perform missile maintenance.

10. Key Missile Dates. The service life of various explosive/propulsion/electronic components and the period since last test or certification effect missile issue criteria and determine the latest date a missile may be fired. This key missile date is known as the Maintenance Due Date (MDD).

a. Explosive Component Service Life. The explosive component service life determines the expiration firing date of the subject component. The expiration firing dates are calculated from the manufacture date and are contained in documentation for specific missiles being processed. This information is contained in NAVSEA SW800-EA-ORD-010, Service Life Data for SMS Explosive Assemblies and Components [reference(d)].

b. Maintenance Due Date. The MDD is the earliest date of either the missile test/certification date or a limiting component age life. The MDD is to be entered on applicable missile log and documentation used for item tracking.

11. Fleet Return of Material. Situations other than expirations may necessitate offload or exchange of missiles earlier than originally scheduled.

a. Damage. Should a Commanding Officer consider the MDD violated by reason of damage, subjection to environmental extremes, or other causes, the Commanding Officer will report the circumstances to and request disposition instructions from Missile Round ISEA, NSWC DIV PORHUE 4R00 with information to NAVSEA PMS422, Type and Operational Commanders and the appropriate Fleet Logistics Agent in accordance with reference (e).

b. Defective Explosive Material/Missiles. NAVSEA carries out surveillance programs on explosive materials and missile rounds and subassemblies. Through these and other programs, it may be determined that certain missiles may have defective

components. In such instances, ships will be given instructions for disposition or corrective action.

c. Duds and Misfires. Applicable MRCs and technical manuals provide for dud and misfire rail launched missiles to be returned to the ship's magazine under certain circumstances. These documents also provide dud and misfire instructions for VLS missiles. In such cases, the Commanding Officer will request disposition instructions from the appropriate Fleet Logistics Agent. Round and explosive material will be offloaded only to activities or ships equipped to handle and store these items. Defective explosive material will not be returned via auxiliary ships other than ammunition ships. Nothing herein is to be construed as precluding a Commanding Officer from disposing of dangerous material as deemed necessary in accordance with existing directives and reference (e).

12. Issue Criteria. To be Ready-For-Issue (RFI), a missile must meet the following standards:

a. Configuration. Missile types will be configured as specified in the governing directive, OD 31460 [reference (f)].

b. Configuration Prioritization for Loadout. Latest configuration missiles available will be issued to combatants and, if available, will also be placed on auxiliary ships. Specific guidance will be forwarded by NAVSEA PMS422 to maintain current prioritization as improvements to missiles are incorporated.

c. Process and Inspection. Missiles will be prepared in accordance with applicable maintenance documentation.

d. Expiration Date. The MDD must meet the following criteria:

(1) Missiles scheduled to be fired - The MDD will be later than date of scheduled firing.

(2) Combatant Loads - The MDD will be later than completion of next scheduled deployment.

(3) AE/AOE, AOR, NAVMAG, and EX-CONUS - The MDD will be 15 months (minimum) from date of issue. Missiles specifically issued for further transfer to designated combatant must meet the MDD criteria for the combatant or scheduled firing.

Activities preparing missiles for issue will ensure that combatants are loaded out with missiles whose MDD will not have

an adverse effect on the ship's schedule or next scheduled deployment. This requirement is waived if specific rounds are scheduled to be fired before the MDD is reached.

13. Shipboard Retention. Missiles may be retained onboard and fired up to the MDD. Under certain circumstances, it may be appropriate to retain missiles onboard beyond the MDD. For example, a delay in commencing a regular overhaul may postpone a scheduled offload beyond the MDD for some or all missiles aboard. Appropriate action would depend on many factors: length of postponement, number of missiles involved, total shipload, ship's assignment during the period, availability of replacement missiles, and current surveillance results. In such situations, the Commanding Officer will report to the Operational Commanders and the appropriate Fleet Logistics Agent. The information addressees will advise NSWC DIV PORHUE as appropriate.

a. MDD Extension Authority. Naval Surface Warfare Center Division, Port Hueneme is assigned STANDARD Missile Maintenance Due Date (MDD) extension authority by COMNAVSEASYS COM as the designated technical authority within Department of the Navy (DON) for establishing and implementing procedures which relate to the Naval Explosive Safety Program; [see reference (c)]. NSWC DIV PORHUE will ensure that applicable NAVSEASYS COM guidelines are met before issuance of an MDD extension. MDD extension requests that may impact personnel safety and are recommended for approval by NSWC DIV PORHUE will be deferred to NAVSEA PMS422 for final disposition. Applicable procedures outlined in references (c) and (e) will apply.

b. Service Life Maintenance Due Date Expiration Extension.

(1) If a ship's deployment does not extend the MDD more than 90 days, MDD will automatically be extended to cover the deployment period.

(2) If a ship's deployment does extend the MDD more than 90 days, an extension must be requested from NSWC DIV PORHUE 4R00. When requesting an extension, provide: NALC, serial number (S/N), from and to dates. When appropriate, NSWC DIV PORHUE 4R00 will approve extension of the MDD or defer recommended approval to NAVSEA PMS422 for final disposition.

c. Reversion to Original Date. The MDD of a missile, granted an extension, will revert to the original date upon offload at an activity with ILM capability.

14. WPNSTA Handling and Storage.

a. On-Station Handling. On-station handling and movement of missile rounds, missile components, and containerized or canistered missile rounds by truck or railcar will be in accordance with reference (g). Deviations to OP 4461 requirements must have Weapons Station Earle, Code 5011 concurrence and will be covered by locally prepared instructions and appropriate documents as directed by reference (h). Handling equipment will be maintained per applicable Ordnance Requirement (OR-99 Series).

b. On-Station Storage. WPNSTA storage of SM components, both explosive and non-explosive, will meet the criteria specified in OP 5 [reference (i)]. Storage environments are described by reference (j).

c. Temporary Non-Environmentally Controlled Storage. The loadout or offload of missiles and canistered missile rounds including rocket motors frequently requires temporary stowage or storage in non-environmentally controlled areas at dockside, to and from magazines. Missile rounds, canistered missile rounds, rocket motors, and boosters can be reasonably placed in such stowage and storage provided temperature and humidity conditions are not extreme, and cover against weather is provided. Until such time as a missile or rocket motor or both can be placed in an environmentally controlled space (afloat or ashore), the limitations identified in specific enclosures will apply to prevent operational degradation due to physical stress.

d. Magazine Inspection. Magazines will meet the criteria specified in OP 5, Volume I, Section 9. Reports of inspection will also be made in accordance with OP 5, Volume I, Section 9. A team member knowledgeable in missile processing will be included.

e. Training. Personnel involved with the on-site handling and movement of missiles, warheads, explosive components, rocket motors, and boosters will be certified in accordance with reference (k). Naval Packaging, Handling, Stowage and Transportability Center/Earle (NPHSTC/Earle) will provide initial training and every 3 years thereafter to supervisory personnel for handling, storing, and transporting of missiles, rocket motors, and boosters. Personnel engaged in VLS dockside handling (onload and offload) operations must have completed training as defined in reference (l). Training is provided by NSWC DIV PORHUE, Code 4R30, at the NSWC DIV PORHUE Intermediate Level Maintenance school. Locally prepared written operator instructions and appropriate planning documents used by on-station personnel such

as SOPs, Depot Maintenance Work Requirements (DMWRs), and SOPRs will be written per reference (h).

15. Weapons Station Workload Financial Report. Weapons Stations are required to report financial expenditures on a monthly basis to NAVSEA PMS422-23, NSWC DIV PORHUE, Code 4R41 and NWAC, Code QA43. This report is to be submitted no later than 14 days after the reporting period in letter format for each funding document being charged reporting the total dollar expended during the month and for the fiscal year on the following:

a. Missile Processing. Report the dollars expended on Intermediate Level Maintenance (ILM), Missile Reissue Inspection (MRI) and Missile Sentencing Inspection (MSI) missile processing.

b. VLS Encan and Decan. Report the dollars expended on VLS encanistering and decanistering.

c. Non-Quantity Related Expenditures. Report the dollars expended on the following:

- (1) Test equipment maintenance
- (2) Test equipment material
- (3) Training
- (4) Travel
- (5) Preventative maintenance of handling equipment
- (6) Production support
- (7) Prep/pack
- (8) Magazine inspection
- (9) Wetdown processing
- (10) ORDALT
- (11) Miscellaneous (explain)

d. Containers. Report the dollars expended on the following containers:

- (1) MK 199/MK 721/MK 722
- (2) MK 200
- (3) MK 372
- (4) MK 205
- (5) MK 211
- (6) MK 578

e. Handling Equipment. Report the dollars expended and units reworked for MK 20 cradles, MK 79 and MK 81 handling bands, MK 6 and MK 30 dollies (Fleet and station use).

f. Boosters. Report the dollars expended and units reworked for MK 70 and MK 12 boosters.

g. MK 13 and MK 21 Canisters. Report the dollars expended, units inspected and units reworked.

h. VLS Packaging, Handling, Storage and Transportation (PHS&T). Report the dollars expended, units inspected and units reworked.

i. Operation and Maintenance, Navy (OM&N) Funding Document Status. Report the dollars expended during the month and fiscal year and the funding limit for each OM&N funding document.

j. Weapons Procurement, Navy (WPN). Report dollars expended and missiles produced (by missile type) from inception to report date for each WPN funding document including the funding limit for each document.

16. Action. Commands and activities concerned with missile operations will ensure that their procedures and guidelines agree with this instruction. NAVSEA PMS422 will be advised of any local or particular circumstances that conflict with these procedures and guidelines.

17. Reports and forms

a. Reports

(1) The SMS Loadout and Offload Quarterly Projections Guide is exempt from reports control by SECNAVINST 5214.2B, paragraph G.10 and requires no report symbol.

(2) The Shore Activity Maintenance Data System (SAMDS), SMS (Surface Missile Systems) Rounds and Sub-Assemblies, form NAVSEA 4790/5(2A), and the SAMDS, STANDARD Missile Configuration Summary, form NAVSEA 4790/5(2B1), are exempt from reports control by SECNAVINST 5214.2B, paragraph G.10 and require no report symbols.

(3) The STANDARD Missile Weapons Station Workload Financial Report is exempt from reports control by SECNAVINST 5214.2B, paragraph G.10 and requires no report symbol.

(4) Each reporting requirement contained in this instruction expires three years from the date of this instruction.

b. Forms

(1) DD 250, Material Inspection and Receiving Report, DD 1149, Requisition and Invoice/Shipping Document, DD 1348-1, DoD Single Line item Release/Receipt Document, and DD 1575, Suspended Tag - Materiel, may be requisitioned per NPFC P-2002D.

(2) NAVSEA 4790/5(2A), Shore Activity Maintenance Data System, SMS-Rounds and Sub-assemblies, NAVSEA 4790/5(2B1), Shore Activity Maintenance Data System (SAMDS), Standard Missile Configuration Summary, and NAVWPNSTASB 8821/145, Standard Missile Round and Section Test Log, are stocked by Naval Warfare Assessment Center (NWAC), Corona, Code QA 40, Corona, CA 91720-5000.

Distribution: (See next page)


D. M. Altwegg
Deputy Commander for
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28J Service Group and Squadron
28J1 Combat Logistics Group, Squadron and Support Squadron LANT
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29A Guided Missile Cruiser (CG) (CGN)
29A1 Guided Missile Cruiser LANT (CG) (CGN)
29A2 Guided Missile Cruiser PAC (CG) (CGN)
29AA Guided Missile Frigate (FFG7) Class
29AA1 Guided Missile Frigate LANT (FFG)
29AA2 Guided Missile Frigate PAC (FFG)
29BB Guided Missile Destroyer (DDG) 993 CLASS
29F Guided Missile Destroyer (DDG)
29F1 Guided Missile Destroyer LANT (DDG)
29F2 Guided Missile Destroyer PAC (DDG)
32C Ammunition Ship (AE)
32C1 Ammunition Ship LANT (AE)
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32H Fast Combat Support Ship (AOE)
32H1 Fast Combat Support Ship LANT (AOE)
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32Q Replenishment Oiler (AOR)
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C80H NAVAIRWARCENWPNDIV DET White Sands

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STANDARD MISSILE
MAINTENANCE SUPPORT REQUIREMENTS

1. General. This enclosure details STANDARD Missile (SM) maintenance support requirements. The SM Medium Range (MR) RIM-66 Series and Extended Range (ER) RIM-67 Series are surface launched, solid rocket-propelled, supersonic, radar guided missiles. The ER missile employs a solid-propellant sustainer plus a solid-propellant booster. The MR missile is propelled by a Dual-Thrust Rocket Motor (DTRM). The SM is a Force/Activity Designator (FAD) II or III program item.
2. Training of Personnel Engaged in SM (ER/MR) Operations. Certification sheets as specified in NAVSEAINST 8020.9A will be maintained for each person (civilian and military) engaged in SM maintenance operations. Personnel engaged in propulsion unit processing operations, missile assembly, disassembly, handling and test must have completed ILM training as defined in NAVSEANOTE 8810 (Missile Propulsion Maintenance Certification Program and STANDARD Missile Intermediate Level Maintenance). Propulsion unit training is provided by NSWC DIV Indian Head at the Missile Propulsion Maintenance School (MPMS). SM assembly, disassembly, and handling training is provided by NSWC DIV PORHUE, Code 4R30, Port Hueneme, CA at the NSWC DIV PORHUE Intermediate Level Maintenance School. Test equipment maintenance and operator training is under the cognizance of NSWC DIV PORHUE, Code 4R20 for the Guided Missile Test Sets (GMTS) AN/DSM-75, MK 612 MOD 0 and MOD 4, and Telemetry Test Set (TLMTS) MK 557 and MK 678. NPHSTC, WPNSTA Earle provides training for use of SM on-station handling and storage equipment. It is mandatory for all personnel involved with missiles (i.e., loaders, assemblers, test operators, handlers, storage, and inspectors) to attend Missile Awareness Sessions on Missile Corrosion Susceptibility on an annual basis as a minimum requirement. The Missile Awareness Sessions are the responsibility of the individual ILM and load/offload activities.
3. Missile/Booster Onloads/Offloads. The unloading or offloading of missiles and boosters in inclement weather is an undesirable condition, and must be held to a minimum. Unloading or offloading in inclement weather will be performed only when ship's deployment is in jeopardy or such operations are considered mission essential.
4. Production Planning and Control. The WPNSTA Production Planning and Control (PP&C) organization is the controlling authority for all work performed to effect missile maintenance. The PP&C will ensure that:

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a. SM work authorization instructions will, as a minimum, abide with requirements set forth in the General Instructions.

b. Warranted items usage conform with requirements established herein (see paragraph 8).

c. Components still under warranty are noted on the work authorization instructions.

d. Minimum allowable age life for training missile Telemeter Configured (TLM) or Warhead Compatible Telemetry (WCT) must be 30 days after known firing date of subject missile or meet ship deployment criteria.

5. Key Missile Dates. The service life of various explosive/propulsion/electronic components and the period since last test certification has an effect on missile criteria and determines the latest date a missile may be fired. This date is the MDD and is the governing date.

a. Explosive Component Service Life. The explosive component service life determines the expiration firing date of subject component. The expiration firing date is calculated from the component manufacturing date and the service life that is contained in SW800-EA-ORD-010 and the front-matter section of the propulsion series SMPDs.

b. Propulsion Unit Certification Expiration Date (PUCED). After completing, issuing, and testing requirements of applicable SMPDs, the PUCED is valid for 48 months for all propulsion units. Normal handling, transportation, and storage does not void the certification.

(1) Propulsion units shipped from NSWC DIV Indian Head and vendors (i.e., Aerojet, ARC, Thiokol, etc.) must meet issue inspection requirements to establish PUCED. To indicate that a propulsion unit must be certified, the following action will be taken:

(2) NSWC DIV Indian Head will annotate propulsion unit shipping documents DD Form 1348-1 and condition code tags and labels for SMS as follows: THIS UNIT MUST BE DOWNGRADED TO CONDITION CODE (CC) "D" UPON RECEIPT. WPNSTA Ammunition Distribution & Control (AD&C) will receipt all Boosters MK 12 and MK 70 received from manufacturers in CC "D".

c. Maintenance Due Date. Missile round functional tests are conducted in accordance with applicable SMPDs at WPNSTA with ILM capability. Upon successful completion of test, the missile is certified. Certification is valid for the earliest of the following time periods; (a) 48 months; (b) 6 months prior to expiration of warranty on guidance section, but not less than 2 years; or (c) explosive component expiration date. Normal handling, transportation, and storage will not void the MDD.

6. Field Service. NSWC DIV PORHUE technical services personnel are assigned to a WPNSTA performing missile ILM on a permanent basis. These personnel are able to provide on-the-job instructions and assistance as required. Propulsion technical representatives from NSWC DIV Indian Head make scheduled visits to all WPNSTAs. Additional field technical service support can be obtained from NSWC DIV PORHUE, NSWC DIV Indian Head, and NPHSTC, WPNSTA Earle upon request. A NWAC data coordinator is assigned to each WPNSTA processing SMS. These personnel will, on a daily basis, enter all missile and section receipts, issues, and processing information into the NWAC data base.

7. Data Collection. All processing and testing of SM items will be recorded as follows:

a. Shore Activity Maintenance Data System (SAMDS) for SMS. Processing of SMS, missile sections, and components will be in accordance with reference (m). Detailed missile, missile section, and missile component maintenance actions will be reported on form NAVSEA 4790/5(2A). Missile configurations will be reported on Configuration Summary Form (CSF) form NAVSEA 4790/5(2B1). Receipt and transfer actions for these items may be reported by copies of DD Form 250, DD Form 1348-1, or other data means instead of SAMDS forms. Whenever a missile section or component is rejected, the form NAVSEA 4790/5(2A), which details the failure, will be forwarded with the item. Daily SM, missile section, and component receipts, as well as shipping and maintenance data, will be transmitted to NWAC by the on-site NWAC data coordinator.

b. Functional Test Results. Results of all performance or troubleshooting tests conducted at the all-up-round or section level are recorded in accordance with MD 56269, Software Maintenance Procedures for GMTS MK 612 MOD 0 and MOD 4. GMTS AN/DSM-75 and MK 612 test records, with SM round and section test log, will be forwarded to NWAC, Code QA 40. A Telemetric Data Transmitting Test Set (TLMTS) MK 557 MOD 3/MK 678 MOD 1 storage disk with Telemetric Data Transmitting Set Test Log (TDTSTL) will be forwarded to NWAC, Code MS 12. Storage media and SM round and

section test log will be forwarded weekly to the appropriate NWAC code. Test records will be forwarded to NSWC DIV PORHUE, Code 4R00.

c. Functional Test (Backup Disk) Data. WPNSTA will retain a backup copy of recorded media submitted to NWAC for a minimum period of 4 weeks so that, if data is missing or obscured, another disk transfer may be obtained.

d. Functional Test (Hard Copy) Backup Data. If functional test data are lost (due to head crash or other disk recording failures), a hard copy of all the functional test printouts will be forwarded to NWAC, Code QA 40. Forward the SM Round and Section Test Log and the TDTSTL to NWAC, Code MS 12.

8. Warranty Program. Missile components manufactured under designated contracts are subject to a contractor warranty program and will be so identified. Serialized components under warranty will be identified in the NWAC SMS Maintenance Data System (MDS) warranty data base. Warranted items include both functional and nonfunctional components. Functional components (missile sections) are those whose serviceability is determined by functional test. Nonfunctional components (dorsal fins, control surfaces, FWD and AFT dorsal covers, etc.) are those whose serviceability is determined by visual inspection. Normally missile or section level tests will be conducted within 1 month of the warranty expiration for functional components.

a. Warranty Status Records. NWAC, Code QA 40 provides the WPNSTA, WPNSTA Contractor Representative-in-Charge, NAVSEA TECH REPS, NSWC DIV PORHUE, Code 4R00, Defense Plant Representative Office (DPRO), Defense Contract Management Region (DCMR), and the AUR contractors with a SMS MDS on-line warranty data base. When a section's warranty is terminated (paragraph 8b.), section data will be removed from the data base. Data base is compiled by NWAC from DD Form 250s, DD Form 1348s, WPNSTA SAMDS, test data, and Test Equipment (TE) logs. The data base lists section and component warranty start and expiration date, and provides the following information:

- (1) Serial Number (S/N) and location of missiles configured with warranty sections as well as S/N of sections.
- (2) S/N and location of uninstalled warranty sections.
- (3) S/N and location of installed and uninstalled warranty sections where warranty is due to expire within 90 days.

b. Warranty Termination. The warranty period for an item is terminated by the earliest of the following instances:

(1) Expiration date specified in SMS MDS warranty data base.

(2) For missile sections that were accepted by the Navy at round level, the first successful Fleet-return round level test (RLT) following warranty start date specified in the SMS MDS warranty data base.

NOTE

For warranty purposes Fleet-return missiles are defined as missiles which have been issued (shipped) from the original ILM processing activity to a ship or another shore activity.

(3) Missile sections that were section level tested for Navy acceptance are not warranty voided by round level test (RLT) after missile buildup. The warranty will be voided after successful Fleet return RLT.

(4) Navy caused damage to a section or component; i.e., missile drop, Dud or Misfire, rejection due to corrosion or contamination damage, etc.

(5) For nonfunctional items (dorsal fins, FWD and AFT dorsal covers, etc.), the expiration date stamped on the item.

(6) Sections selected for surveillance testing or other Navy authorized special testing.

c. Warranty Assessment Board. The Warranty Assessment Board is comprised of representatives from the following activities: missiles hardware manufacturers; Administrative Contracting Officers (ACO); NAVSEA TECH REP; NSWC DIV PORHUE 4R00; and NWAC Corona. The board will review and evaluate all missile hardware placed in CC "L" by the WPNSTA or AUR activities and direct their return for in-warranty or Depot Level Maintenance Facility (DLMF) repair.

d. Section Level Failure. Any section identified in the SMS MDS warranty data base that does not comply with section level inspection requirements will be rejected and identified as CC "L" and identified in the weekly rejected warranty item report.

e. Dud and Misfire. SM returned from the Fleet designated as Dud or Misfire will be processed in accordance with SMPD procedures, or special engineering procedures provided by NSWC DIV PORHUE, Code 4R00. If the missile contains sections covered by the warranty program, NSWC DIV PORHUE, Code 4R00 will determine whether the event was missile or ship system caused based on failure diagnosis and provide the information to the Warranty Assessment Board for repair decision.

f. Warranty Repaired Sections. Sections repaired by the contractor under warranty, and returned to the WPNSTA, must be assembled into a round and subjected to round level test within 90 days after receipt at the WPNSTA, or the warranty is void. A successful RLT voids the warranty. If unable to assemble into a round and test, a SLT should be performed within the 90 day period to validate the contractor repair action. A successful section level test (SLT) voids the warranty.

g. Section Shipment. The Government is responsible for ship-ment of components being returned under the Warranty Program. Defective sections returned to the contractor for warranty repair will be identified by marking the "Contract or Purchase Order" block of the (DD Form 1575) MIL-STD-129 tag with "WARRANTY REPAIR" vice the DLMF contract number. In addition, stencil (1-inch letters) "WARRANTY REPAIR" directly above the shipping container contents information and on opposite ends of the container. A copy of the failed test data printout will accompany the section. Navy damaged items will be identified as "Navy Damaged" and appropriately tagged for DLMF repair rather than warranty repair. WPNSTA will ship all items identified as warranty rejects within 30 days of failure to the appropriate manufacturer.

h. Rejected Warranty Item Report. Each WPNSTA and AUR activity will submit, on the last day of the work week, a report of all rejected items whose warranty has not expired. The report will be formatted in accordance with Figure 1 and will be distributed to the following activities:

NAVSEA TECH REP/Pomona, CA
NAVSEA PMS422-2
NSWC DIV PORHUE 4R00
NWAC, Code QA 40

9. Test Equipment. SM shore based test equipment will be operated and maintained per the following documents. If test equipment malfunction precludes missile or section test capability for 24 hours or longer, immediate notification will be

provided to NAVSEA PMS422 and NSWC DIV PORHUE, Code 4R00. GMTS MK 612, GMTS AN/DSM 75, TLM MK 557, and TLM MK 678 test equipment certification is performed by NWAC Corona.

Test Set	Operating Documentation	Maintenance Documentation
GMTS MK 612 MOD 0	MD 50692	MD 55977
GMTS MK 612 MOD 4	MD 56053	TBS
GMTS AN/DSM 75	MD 55114	MD 55115
TLM MK 557 Test Set	MD 55481	MD 55481
TLM MK 678 Test Set	6N Series SMPD	MD 56090
Alinco Circuit Tester (Model 101-5CFG)	9R and 9P Series SMPDs	100 Series SMPDs, Vendor Manual
Igniter Circuit Tester (Model 101-5RZ-0 or Model 101-5HJ-NAV)	9T and 9Q Series SMPDs	100 Series SMPDs, Vendor Manual

10. Missile and Section Functional Testing. Functional tests conducted by the WPNSTA includes the testing of rocket motor and booster igniter systems, telemetry testing performed by the TLM 557 and TLM MK 678 test sets, and missile and missile selection tests performed by the GMTS AN/DSM-75 and GMTS MK 612.

a. Procedures/System Disks. NSWC DIV PORHUE, Code 4R00 will issue and control procedures and system disks used for missile and missile section testing in accordance with the following documentation. Only those tests listed in these documents are authorized for use at the WPNSTA:

<u>Test Set</u>	<u>Document</u>
GMTS MK 612 MOD 0	MD 55086
GMTS MK 612 MOD 4	MD 56145
GMTS AN/DSM 75	MD 55085

b. Test Policy. Functional testing will be conducted on all missiles that have been assemble in whole or in part from spare sections or components (e.g. cables, etc.), had any electrical connections broken and remated (with the exception of TM Radiation Checks and MIT), or whose remaining certification period is insufficient to meet issue criteria.

c. Test Data Analysis. Upon completion of testing, test data will be reviewed by qualified WPNSTA test personnel.

(1) If test results are satisfactory, the test is coded as a "GO" on the appropriate SAMDS form and the complete data

package shall be presented to the Missile Department Head/Division Officer or designated acceptance authority for missile certification.

(2) If the test data indicates a test failure, then an analysis will be made to identify the cause(s) of the failure. If the data indicates a missile component failure, the test will be coded as a "NO-GO" on the SAMDS form NAVSEA 4790/5(2A). Conversely if the data indicate a nonmissile related cause, i.e. test set failure or personnel error, the test is classified as a "NO-TEST" and the appropriate code for these test results will be entered into the SAMDS form.

d. Missile Test Failure. If test results indicate a "NO-GO" test then the following steps shall be performed:

(1) The suspect section or component is removed and scheduled for section level testing to verify the failure. In the event that there is more than one suspected section or component, a selection must be made as to the most likely item. The missile is then reassembled with the appropriate spare component and retested. Should the second test yield similar results the second most likely component should be replaced. The NSWC DIV PORHUE Rep may be consulted at this time to obtain technical assistance. Replacement of multiple section or component parts at the same time is not recommended.

(2) If after replacement of the second selection or component a third "NO-GO" test results with indications that the original cause of failure has not been corrected, the NSWC DIV PORHUE Rep must be contacted for technical assistance.

e. Multiple Test Runs. A Trouble Report, will be filed with NSWC DIV PORHUE, Code 4R23 identifying any missile round or section that has failed functional testing 5 times. The Trouble Report will include background information on corrective action taken and request technical assistance.

f. Temperature Stabilization. Round and section level functional tests are conducted within an ambient temperature range of 65° to 95°F. Rounds and sections stored in an environment outside this range and moved into the test area must be allowed to reach stability at the new ambient temperature.

(1) Table 1 provides guidelines for establishing the amount of time required by the round or section to reach thermal stability.

(2) By selecting a temperature in the first column which approximates the temperature at which the hardware to be test was stored and then reading across to the column which is closest to the temperature of the test environment, the time required for the hardware in question to reach thermal stability is obtained.

Table 1.

Missile Exposed Temperature (°F)	Stabilization Time (Hrs)		
	Building Controlled Ambient 70°F	Building Controlled Ambient 80°F	Building Controlled Ambient 90°F
120	3.5	5.0	8.0
100	1.0	2.0	3.0
80	---	---	---
60	4.0	2.0	1.0
40	9.0	5.0	3.5
20	11.0	7.0	5.0
0	13.0	9.0	6.5
-20	13.5	9.5	7.0
-40	14.0	10.0	7.5

g. Section Level Test. In general all sections suspected of causing a round to a fail functional test will be retested at the section level to verify the discrepancy. However if a missile round fails the same or related test codes with a replacement section installed, testing of the removed section is optional.

NOTE

NSWC DIV PORHUE, Code 4R12 must be notified whenever a section fails a section level test if (a) the section was repaired under warranty, or (b) the section previously failed the same test codes but was categorized as an "no failure repeatable" (NFR) after testing at the DLMF.

11. Missile Reissue Inspection. Missile Reissue Inspection (MRI) permits the reissue of a missile that has been aboard a

combatant without retesting. The MRI does not change the missile MDD and will only be performed on missiles with sufficient MDD remaining to meet reissue criteria. MRI missiles meeting all requirements specified in "Missile Receipt/MRI/Interior Contamination Inspection/MSI" SMPD as appropriate to missile type will be reclassified as CC "A" (RFI). All MRI processing operations will only be performed in missile processing buildings at a WPNSTA with ILM capability, or other shore activity authorized by NAVSEA PMS422.

a. Remedial Operations. Limited missile remedial operations are permitted on MRI process missiles. The separation or interruption of any missile electrical connection, however brief, voids the MRI and requires complete recertification of the missile. If required to establish validity for reissue, remedial processing operations may be accomplished (per applicable SMPDs) on MRI process missiles as follows:

(1) (ER) and (MR) Missiles

- (a) Control surface replacement
- (b) FWD and AFT dorsal cover replacement
- (c) Touchup paint
- (d) Cleaning (overall including radome).

(2) (ER) Missile

- (a) Dorsal fin number three replacement (except if DTLM configured).
- (b) Missile-to-booster connector shorting strap replacement.

(3) (MR) Missile

- (a) All dorsal fins may be replaced (except for DTLM configured dorsals).
- (b) Dummy antenna tip repair.

12. Missile Sentencing Inspection. MSI permits the reissue of a missile or booster offloaded from a noncombatant in a WPNSTA sealed shipping container.

a. Missiles scheduled for MSI processing and in sealed containers will be subjected to PART III of the SMPD for missile receipt inspection. "Sealed container" is defined as a container sealed by a WPNSTA missile processing activity subsequent to missile certification and the integrity of the seals (and container) have since remained intact. The sealed containerized missiles that satisfy all Part III requirements of receipt inspection SMPD will be reclassified as CC "A" (RFI). Missiles scheduled for MSI process but not in sealed containers will be subjected to appropriate MRI (see paragraph 11) processes contained in Part I of receipt inspection SMPDs and other SMPDs as directed. Processes applicable to MRI will be identified for each affected SMPD. Missiles that satisfy MRI revalidation criteria in Part I of receipt inspection SMPD will be validated as reissuable RFI. Missiles that fail to satisfy Part I of receipt inspection SMPD criteria will be sentenced to rework and retest.

13. Corrosion Detection and Control. Corrosion damage to missiles and boosters occurs frequently, and commonly results in major component loss with attendant shortages of assets. A major contributor to corrosion damage to missiles is salt water exposure from sea spray on guided missile launchers and accidental wetdown while in magazines. All known or suspected wetdown offloads will be inducted into ILM processing at the earliest possible date. Wetdowns fall into two categories, known and suspected, and are defined as follows:

a. Known Wetdown. Fleet returns reported by the returning activity as having been wetdown will be processed per SMPD, "Missile, Moisture/Damage/Wetdown Servicing Procedures," or "Booster Salt Water or Salt Residue, Clean-up" SMPD for the appropriate missile or booster type.

b. Suspect Wetdown. A missile offload will be designated as a suspected wetdown if internal contamination is found in any missile during sampling inspection or normal WPNSTA processing (rework or MSI). The following procedures apply:

(1) Missiles and boosters not recertified as RFI remaining from that offload (or ship magazine if the offload is from a double-ender) will be processed in accordance with Part II of applicable missile SMPDs, "Missile Receipt/Interior Contamination Inspection/MSI" or "Booster Salt Water or Salt Residue Cleaning," and all MRI notes will be disregarded.

(2) Missiles and boosters from that offload certified RFI and not processed in accordance with Part II of the SMPDs in

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paragraph 13b(1) will be restricted from issue pending NSWC DIV PORHUE, Code 4R00, or NSWC DIV Indian Head, Code 6220 (boosters) disposition instructions.

(3) WPNSTA will provide a listing to NSWC DIV PORHUE, Code 4R00 (missiles), or NSWC DIV Indian Head, Code 6220 (boosters), from the suspect lot that have been issued to the Fleet and were not processed as in paragraph 13b(1) and (2).

14. Sampling of STANDARD Missiles. A sample of Fleet return SM-1 and SM-2 ER/MR will be inspected to identify those exposed to moisture and saltwater contamination and damage incurred during handling. Sample will be 15 percent of lot, but not less than two items. Samples selected will be inducted into production processing within 10 working days after receipt at the WPNSTA, or as directed by NAVSEA. Selected samples will be inspected per SMPD "Missile, Moisture Damage/Wetdown Servicing Procedure" as appropriate to missile type.

a. Missiles exhibiting no evidence of internal saltwater contamination or corrosion will be reassembled and subjected to RLT.

b. If one missile of the sample selected exhibits evidence of saltwater contamination or corrosion, the remainder of the lot (ships offload) will be classified as a suspect wetdown and inducted into production processing within 5 working days. All missiles from the lot will be inspected following Part II of SMPD "Missile Receipt/MRI/Interior Contamination Inspection/MSI" as appropriate to missile type.

(1) Combatants. Each magazine is to be considered as a separate lot.

(2) Units received from noncombatants that meet MSI criteria will not be sampled.

(3) Units received from EX-CONUS activities or combatants via cargo ships will be sampled as separate lots.

15. Fleet Return Telemetry Rounds. Fleet-return missiles configured with TLM Inserts, Telemetry Dorsal Fins (TDLM) or WCTs that are MRI candidates must be subjected to a telemetry radiation test in accordance with the applicable SMPDs before reissue. Also, all missiles configured with TLM Inserts will be subjected to a TLM battery continuity test before reissue. TLM, DTLM, or WCT Fleet-return configured missiles that qualify to be

processed under MSI do not require a radiation test prior to reissue.

16. Dud and Misfire. SM returned from the Fleet designated as Dud or Misfire will be processed under SMPD procedures, or special engineering procedures provided by NSWC DIV PORHUE, Code 4R00. If the missile contains sections covered by the warranty program, NSWC DIV PORHUE, Code 4R00 will determine whether the event was missile or ship system caused based on failure diagnosis. Should failure diagnosis determine the Dud or Misfire was missile caused, the section that caused the Dud or Misfire event will be returned to the appropriate contractor for warranty repair. Secondary section failure (another section failure resulting from the Dud or Misfire event) is a warranty repair situation only if the manufacturer of that section is the same contractor who manufactured the section causing the Dud or Misfire. If not, the section is sent to the DLMF for repair. If during failure diagnosis, a section failure is discovered and determined not to be related to the Dud or Misfire event, that section will be returned to the manufacturing contractor for warranty repair. If the Dud or Misfire event was ship system caused, damaged or expended section(s) warranty is terminated.

17. Waivers and Deviations. A waiver or deviation as used herein is a written authorization after or before the fact to accept a designated item, found to depart from specified requirements (contained in drawings, specifications, SMPDs, ORDALTs, and related documentation) but is considered suitable for use.

a. Waivers and deviations of missile drawing specifications classified other than minor will be granted in accordance with Weapons Combat Systems Guidance Paper 89-04 dated 27 March 1989. Waivers and deviations to SMPD characteristics may be granted by NSWC DIV PORHUE, Code 4R00 or NSWC DIV Indian Head, Code 6220, per NAVSEAINST 5400.52A. The WPNSTA Commanding Officer (or designated representative) may approve waivers and deviations of inspection and assembly characteristics classified as minor by the Material Review Board (MRB). The MRB will be established per OD 46574B. Waivers and deviations involving Naval Weapon Station Acceptance Program (NWSAP) hardware must have contractor approval.

b. Waivers and deviations authorizing acceptance of warranty sections and components (whether installed in a missile round or not) will remain in effect throughout the warranty period with the following exception: A waiver or deviation issued due to a test equipment anomaly (whether hardware or software caused) will

remain in effect until the approved resolution of the anomaly.

c. MD 56338 [reference (n)] provides logs for recording and filing all waiver, deviations and special processing instructions received by the WPNSTA.

d. Missile processing waivers and deviations will be issued by message, NAVGRAM, or Facsimile Transmission (FAXTRANS).

e. Requests for waivers and deviations from specified functional test requirements, program changes, etc., at the round or section level will be granted on a case-by-case basis. When required, contractor concurrence will be obtained. (Waivers and Deviations will be issued by message, NAVGRAM, or FAXTRANS).

18. Issue Criteria. To be RFI, a SM (ER/MR) must meet the general instruction criteria and the following standards:

a. SM-1 and SM-2 (ER/MR), will be configured as specified in OD 31460 as to major parts and acceptable interchangeability. Conflicts requiring corrective action are to be reported to Commander, Naval Surface Warfare Center, Port Hueneme Division, Code 4R00, Port Hueneme, California 93043-5007.

b. Missiles will be prepared, inspected, and tested per applicable SMPDs. The following series apply:

- (1) Series 1A SM-1 (MR) Unique Assembly
- (2) Series 1B SM-1 (ER) Unique Assembly
- (3) Series 1C SM-1 (MR/ER) Common Assembly
- (4) Series 2A SM-2 (MR) Unique Assembly
- (5) Series 2B SM-2 (ER) Unique Assembly
- (6) Series 2C SM-2 (MR/ER) Common Assembly
- (7) Series 6 SM-1/SM-2 Test
- (8) Series 7 SM-1/SM-2 Section Receipt/Issue, Pack, Unpack
- (9) Series 9 SM-1/SM-2 Propulsion Unit Procedures

c. Unless otherwise directed, missiles turned into an issuing activity for temporary storage will not be retested and

recertified, but handled following CINCLANTFLTINST 8101.4 or CINCPACFLTINST 8010.12.

d. Offloaded missiles and boosters or missiles and boosters received from EX-CONUS activities at WPNSTAs will be placed into CC "K" until a true condition code determination has been made by one of the following methods: Missile Sampling, Missile Sentencing Inspection, Missile Reissue Inspection, or rework and retest procedures of SMPDs relative to the RFI or Non-Ready-For-Issue (NRFI) condition.

e. Missiles and boosters handled at transshipping points (i.e., Naval Magazines) are considered RFI unless damaged or Missile MDD has expired. Missiles made NRFI are to be returned to a WPNSTA with ILM capability.

f. All transshipping points are to ensure missile and booster logs are packaged as unit(s) in suitable containers (i.e., MK 1 ammo box or fabricated wooden box) before shipment to WPNSTAs. All shipping documents must reflect missile log package(s) for signature acceptance.

19. Missile Sections and Components Processing

a. Receiving Inspection. Reinspection of material CC "A" sections or components will be limited to visual examination for verification of material identity, damage in transit, and quantity. Sections or components previously accepted will be subjected to receipt inspection per the applicable SMPD when specifically required by NSWC DIV PORHUE, Code 4R00 or other work authorizing documents. Problem areas and questionable cases may be referred to NSWC DIV PORHUE, Code 4R00 for coordination.

b. Defective Sections

(1) Physical Defects. Unless a waiver or deviation has been granted or SMPD repair procedures have not been provided, sections or components with physical defects classified as major or critical will be tagged as specified in MIL-STD-129 and shipped to the DOP for repair. Sections and components covered by a contractor warranty will be shipped to the contractor for repair or may be repaired on site by authorized contractor personnel.

(2) Functional Defects. Unless a waiver or deviation has been granted, any section that does not comply with SLT requirements will be rejected. The section will be tagged as specified in MIL-STD-129 and transferred to the DOP for repair. Sections

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covered by the warranty program will be returned to the contractor for repair. A copy of the failed data printout will accompany the section. Any special problems resulting from testing of sections received from a DOP will be referred to NSWC DIV PORHUE, Code 4R00.

c. Handling. To prevent contamination during WPNSTA processing, all unassembled items being processed, transported, or stored in uncontrolled environment areas will be sealed or covered in a manner that closes all openings in the unit through which contamination or moisture might enter. Good housekeeping practices required at WPNSTA facilities include, but are not limited to, the following requirements:

(1) Proper storage of sections and components in designated area-shelving, tables, racks that were designed for in-process storage.

(2) Proper storage of sections and components in containers when not being processed.

(3) Retention of support equipment and tools in proper racks or cribs when not in use.

(4) Floors and work benches kept clean and uncluttered.

d. Inventory Management. The Inventory Control Point (ICP) for 1H and 7H cognizant material is Navy Ships Parts Control Center (SPCC), Mechanicsburg, Pennsylvania. The ICP for 8T is COMNAVSEASYSOM, and the ICP functional manager is NSWC DIV PORHUE.

20. Missile, Rocket Motor, and Booster On-Station Handling and Movement

a. On-Station handling and movement of SMS, rocket motors, and booster by truck or railcar will be done in accordance with OP 4461. Deviations to OP 4461 requirements must have WPNSTA Earle, Code 50 concurrence and will be covered by locally prepared instructions and appropriate documents as directed by NAVSEAINST 5220.2A.

b. Approved missile, rocket motor, and booster storage containers will be used to the utmost for transporting and storing of RFI and NRFI missiles, rocket motors, and boosters. Storage cradles, MK 20, may be used only when containers are not available for on station transporting and storage of missiles, rocket motors, and boosters. Known missile and booster wetdowns only

are to be transported and stored in open cradles.

c. SM-2 (MR), RFI, and NRFI missiles will only use Container MK 372 MOD 7 for transporting and storage. SM-2 (ER) will use only containers MK 721 or MK 199 as alternate.

d. The loading or offloading of SMS or boosters or both frequently requires temporary storage or stowage in non-environmentally controlled areas either at dockside, or en route. Missiles and boosters can be placed in such storage provided temperature conditions are not extreme (below 30 or above 100° F) and enclosed by a tarpaulin or velostat (at least 0.010 inch thick) with a minimum air space of 18 inches. Until missile or booster can be placed in environmentally controlled space (afloat or ashore), the following criteria apply:

(1) Containerized missiles, rocket motors, and boosters will not exceed 80 hours of non-environmentally controlled storage. Requests for extension beyond 80 hours must be sent, before the 80 hour expiration, via message to NAVSEA PMS422. Extension requests will be considered on a case-by-case basis. Missiles, rocket motors, and boosters stored in excess of 80 hours will have daily high and low temperature and relative humidity readings recorded and NAVSEA authorization cited. This information will be reported per MD 4790.100.

(2) Non-containerized missiles, rocket motors, and boosters (cradled) will not exceed 12 hours in non-environmentally controlled storage. Extension beyond the 12 hours will be considered on a case-by-case basis by message request to NAVSEA PMS422. Missile, rocket motor, and booster logs will be annotated with the storage hours in non-environmentally controlled storage, daily high and low temperature, relative humidity readings, and cited NAVSEA authorization for extension.

(3) All missiles, rocket motors, and boosters in open stow must be completely enclosed by a tarpaulin with a minimum air space of 18 inches. Velostat with a minimum thickness of 0.010 inch may be used instead of a tarpaulin.

(4) Temperature limitations are normally stenciled on container or on propulsion unit (sustainer/DTRM/booster). Stowage 40 to 90°F is nonrestrictive. Prolonged stowage 0 to 39°F or 90 to 120°F requires conditioning to 40 to 90°F (approximately 4 days). Temperatures below 0°F and higher than 120°F are to be restricted, and disposition will be requested from NAVSEA PMS422, with a copy to NSWC DIV Indian Head.

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e. Magazines containing SMS missiles and propulsion units will be inspected monthly. The magazine will meet the criteria specified in OP 5 Volume 1. Units in MK 20 storage cradles need not be moved to perform visual inspection. Units stored in containers will not be uncanned for inspection. Each unit will be inspected to ensure condition code tags are attached and filled out as directed by MIL-STD-129. For containerized units, humidity indicators will be inspected for acceptable condition. Containerized units indicating unacceptable moisture levels will be expeditiously scheduled by PP&C for induction into ILM production for appropriate action. Containers will be stored to allow for inspection of lead seals, condition tag, and humidity indicators. Personnel performing monthly inspections will be certified per paragraph 2.

FIGURE 1

SAMPLE WARRANTY REJECTION REPORT

PRIORITY (UNCLAS)
FM (NWS) (AUR)
TO NAVSEA TECH REP/POMONA
INFO NAVSEA PMS422, NSWC DIV PORHUE 4R00, NWAC QA 40, COGNIZANT
ACO
UNCLASSIFIED/PASS TO CONTRACTOR
NWS (AUR) NOTICE OF SM-2 AEGIS, (or TARTAR, or ER) SECTION
REJECTION
CONTRACT NO. _____

Section/Component Rejection, Warranty Program

NWS NOTICE OF SM-2 AEGIS, (or TARTAR, or ER) REJECTION
(CONTRACT NO. _____)
a. G67/22301/(SM-2), NALC & Ser. no.
b. 5350 TEST OR INSP.
c. CONFIRM

-
- Item a. (1) Enter section type, NALC, serial numbers of section (SM-2 AEGIS, TARTAR, or ER) [Guidance section (G), TDD/SA (F), Steering Control Unit (S), or Autopilot Battery Unit (A)] as shown in sample.
- (2) If test rejection, enter parameter codes failed after each serial number.
- (3) Identify Government Furnished Equipment by (GFE) following the serial number of section (AUR only).
- (4) If item is accepted under waiver/deviation, enter waiver/deviation number.
- Item b. (1) Enter Julian date of section/component rejection.
- (2) Enter TEST if item failed during test; enter INSP if item failed inspection. If rejection is due to Navy damage, enter cause of damage; i.e., missile/section drop.
- Item c. Enter CONFIRM for contractor concurrence; if negative, enter technical opinion.
-

VLS STANDARD MISSILE
MAINTENANCE SUPPORT REQUIREMENTS

1. General. This enclosure details Vertical Launching System (VLS) MK 13 and MK 21 canisters and unique VLS SM maintenance support requirements. Unless specifically defined below, SM requirements contained in enclosure (1) of this instruction will apply. The VLS SM is unique in that the MK 13 and MK 21 canisters serves as a shipping container and launcher. The AEGIS Combat Weapon System includes the VLS MK 41 and uses Fire Control Systems MK 4 MOD 8 (CGs) or MK 3 MOD 6 (DDGs).

2. Training of Personnel Engaged in STANDARD VLS Operations. Certification sheets as specified in NAVSEAINST 8020.9A will be maintained for each person (civilian and military) engaged in VLS operations. Personnel engaged in canister missile install (ENCAN) and remove (DECAN) or VLS ship dockside (onload and offload) operations must have completed ILM training as defined in NAVSEANOTE 8810 (Missile Propulsion Maintenance Certification Program and STANDARD Missile Intermediate Level Maintenance) and MD 56287. ENCAN and DECAN and VLS ship dockside (onload and offload) handling training is provided by NSWC DIV PORHUE, Code 4R30, Port Hueneme, CA at the NSWC DIV PORHUE ILM school.

3. VLS Activity Certification and Inspection. Certification and inspection of VLS processing activities will take place following MD 56287. Inspections will be performed in conjunction with the SM Maintenance Evaluation.

4. Missile Onloads/Offloads. VLS onload and offload in inclement weather is undesirable and must be held to a minimum. These operations will only be performed during the time when ship's scheduled deployment is in jeopardy or such operations are considered mission essential. All onloads and offloads will be conducted in accordance with reference (o).

5. Production Planning and Control. In addition to Production Planning and Control (PP&C) requirements contained in enclosure (1), the following apply:

a. Ensure canisters are inducted into production and receipt inspection is completed within 180 days after receipt or before warranty termination whichever is the earliest. Requests for extension beyond 180 days must be sent, prior to the 90 day expiration, via message to NSWC DIV PORHUE, Code 4R00. Extension requests will be considered on a case-by-case basis.

b. Ensure that warranted items usage conforms with requirements contained herein (see paragraph 8 below).

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c. Ensure that minimum quantities of MK 13 and MK 21 canisters PHS&T, VLS canister adapters, and plenum cell covers as identified in Consolidated Shorebased Allowance List (COSAL) are available. If sufficient quantities are not available, notify NSWC DIV PORHUE, Code 4R30 of the shortfall.

6. Ammunition Distribution and Control. Provide a copy of DD Form 250 or DD Form 1149 accompanying the canister shipment to PP&C.

7. Data Collection. In addition to data collection requirements contained in enclosure (1) of this instruction, the following apply:

a. Shore Activity Maintenance Data System (SAMDS). Processing of assembled VLS missiles and MK 13 and MK 21 canisters will be in accordance with reference (m). Detailed canister maintenance actions, identified in the SMPDs, will be reported on form NAVSEA 4790/5(2A), and canistered missile round configurations will be reported on form NAVSEA 4790/5(2B1). Whenever a canister or canister-missile item is rejected, the form NAVSEA 4790/5(2A) which details the reason for rejection, will be sent with the rejected item. Receipt and transfer actions for empty canisters and canistered missile rounds may be reported by DD Form 1348-1s, DD Form 250s, or other data means instead of SAMDS forms. Daily VLS related receipt shipping and maintenance data will be transmitted to NWAC by the on-site NWAC data coordinator.

b. Functional Test Results. Results of all performance or troubleshooting tests conducted on empty or canistered missile rounds using the Combined Missile Test Set (CMTS) MK 678 will be recorded on storage disks. CMTS storage disks with the SM round and section test log (Form 11 ND-FLTAC-8821/145) will be forwarded weekly to NWAC, Code QA 40. Hard copies of breakout box results of these tests will also be forwarded weekly to NWAC, Code QA 40.

8. Warranty Program. VLS MK 13 and MK 21 canisters manufactured under designated contracts are subject to a contractor warranty program. Warranted items include both functional and nonfunctional canister components. Functional components are those whose serviceability is determined by functional test (i.e., S&A rail drive motor). Nonfunctional components are those whose serviceability is determined by visual inspection (i.e., canister PHS&T).

a. Warranty Termination. The warranty period for a MK 13 and MK 21 canister is terminated by the earliest of the following instances:

(1) One or five years from the date of Navy acceptance identified on the DD Form 250 received with the canister. The time interval will be as stated in the canister procurement contract.

(2) Navy caused damage voids the warranty on the canister or PHS&T item which is damaged; i.e., damage to a forklift pocket does not void the warranty on the remaining PHS&T, canister, etc.

b. Warranty Returns. NSWC DIV PORHUE, Code 4R00 will provide direction on return of canister to the manufacturer for warranty repair. Some canisters may be repaired by the manufacturer at the WPNSTA instead of return. The Government is responsible for shipment of items being returned under the warranty program. Defective items returned to the contractor for warranty repair will be identified by marking the "Contract or Purchase Order" block of the (DD Form 1575) MIL-STD-129 tag with "WARRANTY REPAIR".

9. Test Equipment. Shore based VLS test equipment, used to test loaded and empty VLS canisters, will be operated and maintained in accordance with the following documents. If test equipment malfunction precludes VLS test capability for 48 hours, immediate notification will be provided to NAVSEA PMS422 and NSWC DIV PORHUE, Code 4R00.

<u>Test Equipment</u>	<u>Operating Documentation</u>	<u>Maintenance Documentation</u>
MMC Breakout Box	6Q Series SMPD	MD 55658
S&A Controller	6Q Series SMPD	MD 56149
Combined Missile		
Test Set MK 678 MOD 0/1	6N Series SMPD	MD 56090
Igniter Circuit Tester (Model 101-5HJ-NAV)	6Q Series SMPD	100 Series SMPD
Canister Code Plug		
Test Set MK 673 MOD 0	6Q Series SMPD	MD 56068

10. MK 13 and MK 21 Canisters (With or Without Missile Installed) Functional Testing. Functional tests conducted by the WPNSTA will be limited to tests identified in the SMPDs. SMPD directed functional tests conducted on empty canisters or canistered missile rounds being tested for issue to other activities or ships will not be performed with extraneous external measurement equipment attached unless prior approval has

external measurement equipment attached unless prior approval has been obtained from NSWC DIV PORHUE, Code 4R00.

a. Test Failure. If test results indicate a defective missile or canister may exist, the steps listed below will be performed:

(1) Verify all missile to canister and test equipment electrical connections and rerun test.

(2) If test passes retest, but no corrective action was taken, two consecutive "GO" tests will be performed prior to continued processing.

(3) If retest fails, DECAN missile and perform empty canister inspection and electrical tests.

(4) If canister passes inspection and electrical tests, the canister will be considered acceptable for use. The missile will be subjected to missile test failure procedures identified in enclosure (1).

(5) If canister fails inspection or electrical tests, repair or reject as applicable, the missile will be considered acceptable for use.

b. NO-TEST. A "NO-TEST" condition exists when it has been determined that a test equipment malfunction or personnel error has occurred. The failure will be recorded as a "NO-TEST" on form NAVSEA 4790/5(2A) along with the cause of failure.

11. Missile Reissue Inspection. MRI permits the reissue of a canistered missile round that has been aboard a Fleet unit without complete reprocessing. The MRI does not change the MDD and will only be performed on canistered missile rounds with sufficient MDD remaining to meet reissue criteria. MRI missiles must meet all requirements specified in "VLS Canister with Missile, Receipt Inspection" and "VLS Canister Test With Combined Missile Test Set (CMTS) (or Breakout Box)" SMPDs. MRI processing operations will only be performed in processing buildings at a WPNSTA with ILM capability or other shore activities authorized by NAVSEA PMS422.

12. Wetdown Processing. Known wetdown (reported by ship) canistered missile rounds will be inducted into ILM processing at the earliest possible date. NSWC DIV PORHUE will conduct a wetdown round failure analysis prior to decanisterization. The missile is to be removed from the canister per SMPD requirements and subjected wetdown processing requirements contained in

enclosure (1) of this instruction. The WPNSTA will request canister disposition instructions from NSWC DIV PORHUE, Code 4R00 (refer to paragraph 17c below).

13. Sample Inspection. Sample inspection of VLS offloads is not required. If, however, during ILM processing a Fleet return VLS missile exhibits evidence of having been exposed to moisture or saltwater contamination, NSWC DIV PORHUE, Code 4R00 will be contacted for disposition instructions regarding further ILM processing of offload.

14. Fleet Return Processing. Fleet return processing of canistered missile rounds and expended canisters will be as follows:

a. Dockside offload and handling operations and inspections will be conducted following Dockside Technical Manual TW394-EO-MMO-010.

b. ILM Processing Operations

(1) Before removing a missile from a canister, perform canistered missile round receipt inspection and electrical tests in accordance with 2D and 6Q series SMPDs.

(2) After removal of the missile from the canister, perform empty canister receipt inspection and electrical tests in accordance with 2D and 6Q series SMPDs. Upon successful completion of inspection and test, the canister will be placed in material CC "A".

(3) Ensure the AUR canister has final inspection performed to make certain no foreign objects are evident per 2D and 6Q series SMPDs.

c. Expended (fired) canisters are to be placed in material CC "F". Disposition instructions will be requested from NSWC DIV PORHUE, Code 4R00.

15. Dud and Misfire. VLS Dud or Misfires fall into two categories, "known safe" and "hazardous condition", and are defined below. NSWC DIV PORHUE, Code 4R00 and NSWC DIV Indian Head, Code 6220 will be notified before any ILM processing of canistered missile round Dud or Misfires.

a. Known Safe. Canistered missile round Dud and Misfires are classified as "known safe" if the missile rocket motor safe or enable monitor indicates safe. Known safe missiles will be handled as a normal offload and will be removed from the canister

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for analysis per NSWC DIV PORHUE, Code 4R00, NSWC DIV Indian Head, Code 6220, and SMPD requirements.

b. Hazardous Condition. Canistered missile rounds are classified as "hazardous condition" when the rocket motor safe or enable monitor indicates armed or its condition cannot be determined. When a hazardous condition missile is received or is scheduled to be received, NAVSEA PMS422, NSWC DIV PORHUE, Code 4R00, and NSWC DIV Indian Head, Code 6220 will immediately be notified. Upon notification, NSWC DIV PORHUE, Code 4R00 will interface with other concerned activities and provide offload and processing instructions in accordance with "Hazardous Condition Misfire Operations Plan For Naval Activities." This plan will be modified on-site for local conditions, facilities, and equipment at the receiving activity.

16. Issue Criteria. Before issue criteria requirements contained in enclosure (1) of this instruction, the following standard will apply:

a. Missiles and canisters will be prepared, inspected, installed, and tested in accordance with VLS SM 2D series and SM 6N and 6Q series of test SMPDs.

17. MK 13 and MK 21 Canister Processing.

a. Receiving Inspection. Unless dictated by cognizant authority, reinspection of WPNSTA assigned material CC "A" canisters and components will be limited to visual inspection for verification of material identity, transit damage, and quantity.

b. Defective Canisters and Components. VLS canisters failing Receipt Inspection will be repaired or dispositioned as follows:

(1) Direct Repair. Canisters found with defects that are ILM facility repairable, per criteria established in SMPD 2DP1G, will be repaired under applicable SMPDs.

(2) Spare and Repair Parts. Canister and PHS&T spare and repair parts are indentified and obtained per reference (p).

(3) Rejected Canisters. Canisters found with defects that are not repairable by the ILM facility are to be rejected and dispositioned per NAVSEAINST 4440.11C (Policy and Procedures for Handling Repairable Surface Missile Material) and warranty program (see paragraph 8).

c. Defect Reporting and Rejected Canister Dispositioning.
All defects discovered during receipt inspection of new production VLS canisters and PHS&T received from manufacturers, or Fleet return canisters and PHS&T transferred from VLS Intermediate Maintenance Activities (IMA), will be reported via form NAVSEA 4790/5(2A). In addition, defects discovered on new production VLS canisters and PHS&T are to be reported via a Quality Discrepancy Report (QDR). VLS canister defects are to be reported whether repaired by the ILM facility or not. Canister and PHS&T or their components will be dispositioned by NSWC DIV PORHUE, Code 4R00 via a MILSTRIP instruction.

18. Canistered Missile Rounds/Empty Canister Handling and Storage.

a. On-station handling and movement of canistered missile rounds by truck or railcar will be in accordance with OP 4461. Deviations to OP 4461 requirements must have WPNSTA Earle, Code 50 concurrence and will be covered by locally prepared instructions and appropriate documents as directed by reference (h).

b. The loading and offloading of canistered missile rounds frequently requires temporary storage in non-environmentally controlled areas either at dockside, or en route. Canistered missile rounds can be placed in such storage providing temperature and humidity conditions are not extreme (within 30 to 100°F) and reasonable protection against weather is provided. Until canistered missile rounds can be placed in environmentally controlled spaces (ashore or afloat) the following criteria apply:

(1) Canistered missile rounds will not exceed 80 hours of non-environmentally controlled storage. Requests for extension beyond 80 hours must be sent, prior to the 80 hour expiration, via message to NAVSEA PMS422. Extension requests will be considered on a case-by-case basis. Canistered missile rounds stored in excess of 80 hours will have daily high and low temperature and relative humidity readings recorded and NAVSEA authorization cited. This information will be provided to the NWAC data coordinator to enter into the NWAC data base.

(2) Canistered missile rounds in open storage must be completely enclosed by a tarpaulin with a minimum air gap of 18 inches. Velostat of a minimum thickness of 0.010 inch may be used instead of a tarpaulin.

(3) Storage of canistered missile rounds at 40 to 90°F is non-restrictive. Prolonged storage at 0 to 39°F or 90 to 120°F requires conditioning to 40 to 90°F (approximately 4 days).

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Canistered missiles exposed to temperatures below 0°F and above 120°F will be restricted, and disposition will be requested via message from NAVSEA PMS422. NSWC DIV Indian Head will be informed on disposition request message.

c. Open storage of empty MK 13 and MK 21 canisters (excluding fired canisters) PHS&T, adapters, plenum, and cell covers will not exceed 80 hours. Items in open storage must be completely enclosed by a tarpaulin or velostat (minimum thickness 0.010 inch) with a minimum air gap of 18 inches between the item and the tarpaulin or velostat. Requests for extension of open storage beyond 80 hours will be via message to NSWC DIV PORHUE, Code 4R00. Extension requests will be considered on a case-by-case basis.

d. Canisters and canistered missile rounds will not be stored or transported without PHS&T installed.

e. Empty canisters may be stacked a maximum of four high during storage. Canistered missile rounds may be stacked a maximum of three high during storage.

f. Magazines containing canistered missile rounds will be inspected monthly. Magazines will meet the criteria specified in OP 5 Volume 1. Canisters will be inspected to ensure material condition code tags are attached and filled out as directed by MIL-STD-129, lead wire seals canister are intact on CC "A" missiles, and humidity indicator reads less than 40 percent relative humidity. Canisters indicating unacceptable moisture levels or broken lead wire seals will be expeditiously scheduled by PP&C for induction into ILM processing for appropriate action. Canisters will be stored to allow for inspection for material condition code tags, humidity indicators, and lead wire seals. Personnel performing monthly inspections will be certified under paragraph 2 requirements. Monthly magazine reports will be held in file for a minimum of 2 years.

g. No partially assembled missile will be stored in MK 21 canisters.

h. No partially assembled missiles will be stored in MK 13 canisters without written waiver from NSWC PORHUE, Code 4R10.

FOREIGN MILITARY SALES
MAINTENANCE SUPPORT REQUIREMENTS

1. General. This enclosure provides the guidelines and detailed procedures for processing of Foreign Military Sales (FMS) SM sections and components by a WPNSTA under the Naval Weapon Station Acceptance Program (NWSAP) and Fleet-return programs. All SM rounds, sections, and components designated for FMS will be processed by the WPNSTA in accordance with the same requirements as U.S. Navy assets and as specified in this document. The warranty program provisions do not apply to the FMS Fleet-return program. The requirements herein supplement the processing requirements for U.S. Navy assets. See paragraph 4 of this enclosure for FMS definitions.

2. General FMS Hardware Processing. WPNSTA processing of FMS SMs and sections and components will be as follows unless otherwise directed by NAVSEA PMS422. Except as defined below, all FMS material will be processed to the same requirements as U.S. Navy material.

a. FMS missiles, sections, and components are not covered under the provisions of the warranty program.

b. WPNSTA work on FMS assets will be performed only when country funding for the specific task is locally available. No cost will be incurred by the U.S. Navy during the performance of FMS work by the WPNSTA. Absolute and complete accounting of all expenditures incurred (i.e., labor, material, and administrative) by country and case will be accomplished by the WPNSTA.

c. All WPNSTA processing of FMS missiles, sections and components will be directed and specified by a detailed funding document from NAVSEA PMS422.

d. Unless otherwise specified by the funding document, FMS missiles will be assembled from sections and components that have been accepted for FMS use by the U.S. Navy and have passed a physical and functional inspection at the WPNSTA prior to assembly.

e. All FMS items will be inspected on receipt for proper marking and identification (FMS material, case identifier, requisition number, and nomenclature). Improper or missing markings will be corrected immediately.

f. All FMS material processed by or stored at a WPNSTA will be identified with the FMS case identifier and will be segregated from U.S. and other country assets. Identification with tags,

decals and stenciling, and the physical segregation of components will be used to ensure that intermixing of U.S. Navy, country, and case missiles and components does not occur. The application of decals and tags will be as specified in the applicable SMPDs.

g. Missile Assembly and Test Requirements.

(1) FMS and U.S. Navy sections and components will not be intermixed on a missile round (unless officially directed by NAVSEA PMS422). When use of U.S. Navy sections and components are authorized on an FMS missile, the WPNSTA will provide (via message) the following information to NAVSEA PMS422 with information copy to NSWC DIV PORHUE, Codes 4R03 and 4R41, and NWAC, Codes QA 42 and QA 43. All substituted U.S. Navy sections will have the letter "F" applied following the section serial number (S/N).

- (a) S/Ns of FMS hardware being replaced
- (b) S/Ns of substituted U.S. Navy hardware
- (c) FMS Case

(2) Sections and components from two different FMS countries will not be intermixed on a missile round.

(3) Sections and components from two FMS cases for the same country will not be intermixed, unless directed by NAVSEA PMS422.

(4) All missiles will be functionally tested using round level test procedures applicable to the FMS configuration.

(5) In the event of a missile section or component functional test failure, or any other reason for rejection, the WPNSTA will request disposition instructions from NAVSEA PMS422.

h. All FMS material will be identified by S/N (XXXXXXF) and/or a decal as "FMS Material." Application and placement of decals will be as specified in the applicable SMPD.

i. All FMS missile configurations will conform to OD 31460 identified FMS deliverable configurations or as defined in the funding document.

j. Shipments of FMS hardware arriving collect on delivery (COD) will not be accepted by a WPNSTA.

k. Section and Component Returns From FMS Country. NAVSEA PMS422 will be contacted for disposition instructions whenever FMS missile sections or components such as rocket motors, warheads, etc. are received at a WPNSTA for repair or other maintenance actions.

l. Data and Reports. Besides the WPNSTA processing reports required for U.S. Navy missiles and components, the following additional reports and distribution will be made for FMS material processed:

(1) Provide copies of the form NAVSEA 4790/5(2A/2B1) for each FMS round and component to the NSWC DIV PORHUE REP and the on-site NWAC data coordinator within 2 days of processing for transmittal to NSWC DIV PORHUE, Code 4R03 and NWAC, Code QA 40.

(2) Provide notification by message to NAVSEA PMS422-23 and NSWC DIV PORHUE, Code 4R03 within 5 working days of any FMS unit test failure (NWSAP and Fleet-return missile or component). Provide case, missile or component, and S/N for each failed unit.

(3) Report arrival of all FMS materials by case number and country to NAVSEA PMS422-23 and NSWC DIV PORHUE, Code 4R03 within 15 days of receipt.

(4) Copies of all shipping documents pertaining to FMS hardware will be provided to NAVSEA PMS422-23 and the Navy International Logistics Control Officer (NAVILCO), with copy to NSWC DIV PORHUE, Code 4R03 within 10 days of shipment.

3. FMS Hardware Processing Contacts. Table 3-1 provides a list of organizations and codes that can be contacted on problems relating to processing FMS SMS.

Table 3-1. FMS Contacts

Organization/Code	Communication Numbers	Function
NAVSEA PMS422-23	A/V 332-0651	FMS Coordinator
NSWC DIV PORHUE 4R03	A/V 551-7750	FMS Coordinator
NSWC DIV Indian Head 622ON	A/V 364-4346	FMS Coordinator

4. Definitions. The following definitions apply to FMS processing:

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a. Fleet-Returned Missiles. Missiles offloaded from an FMS ship or transferred from an FMS country.

b. NWSAP. Items shipped to the WPNSTA for final acceptance by the Government for FMS use after having received conditional acceptance at the contractor's plant.

c. FMS Program (SM-1 and SM-2 Only). Items procured for shipment to a foreign government or which are the property of a foreign government.

d. FMS Case Identifier. A unique identifier assigned to an FMS case for the purpose of identification, accounting, and data processing of each procurement of hardware or services from the U.S. Navy. The case identifier consists of the country code, implementing agency code, and the case designator (i.e., AT-P-APR; JA-P-LEE; KS-P-MBV). The case identifier is referenced on the NAVSEA funding documents that authorize WPNSTA processing of NWSAP and Fleet-Return SMS, loadout, and PHS&T.

e. Country. Used when referring to an FMS country.

GLOSSARY OF ACRONYMS AND ABBREVIATIONS

A

ACO Administrative Contracting Officers
AD&C Ammunition, Distribution, and Control
AFT After
AUR All-Up-Round

B

BLK Block

C

CAIMS Conventional Ammunition Inventory Management System
CC Condition Code
CFS Configuration Summary Form
CMTS Combined Missile Test Set
CONUS Continental United States
COSBAL Consolidated Shorebased Allowance List

D

DCMR Defense Contract Management Region
DIP Detailed Inspection Procedure
DLM Depot Level Maintenance
DLMF Depot Level Maintenance Facility
DMWR Depot Maintenance Work Requirements
DOP Designated Overhaul Point
DPRO Defense Plant Representative Office

E

EOI Equipment Operating Instruction
ER Extended Range

F

FWD Forward
FMS Foreign Military Sales

G

GC&A Guidance Control and Airframe
GMTS Guided Missile Test Set

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (Continued)

I

IAW	In Accordance With
ILM	Intermediate Level Maintenance
IMA	Intermediate Maintenance Activities
ISEA	In-Service Engineering Agent

M

MD	Missile Document
MDD	Missile Due Date
MDS	Maintenance Data System
MPMS	Missile Propulsion Maintenance School
MR	Medium Range
MRB	Material Review Board
MRC	Maintenance Requirement Cards
MRI	Missile Reissue Inspection
MSI	Missile Sentencing Inspection

N

NAVILCO	Navy International Logistics Control Office
NAVSEA	Naval Sea Systems Command
WPNSTA	Weapon Station
NFR	No Failure Repeatable
NSWC DIV PORHUE	Naval Surface Warfare Center Division, Port Hueneme
NSWC DIV PORHUE REP	Naval Surface Warfare Center Division, Port Hueneme Representative
NSWC DIV Indian HEAD	Naval Surface Warfare Center Division, Indian Head
NWAC	Naval Weapon Assessment Center
NPHSTC/Earle	Naval Packaging, Handling, Stowage and Transportability Center, NAVWPNSTA Earle, NJ
NWSAP	Naval Weapon Station Acceptance Program

O

OD	Ordnance Data
OMS	Ordnance Management System
OLSS	Operational Logistics Support Summary
OP	Ordnance Publication
ORDALT	Ordnance Alteration
OR	Ordnance Requirements

GLOSSARY OF ACRONYMS AND ABBREVIATIONS (Continued)

P

PHS&T Packaging, Handling, Storage, and
 Transporation
PP&C Production Planning and Control
PUCED Propulsion Unit Certification Expiration Date
PPR Production Planning Requirement

Q

QDR Quality Discrepancy Report

R

RFI Ready-For-Issue
RFT Round Functional Test
RIM Surface Launched Intercept Missile
RLT Round Level Test

S

SAMDS Shore Activity Maintenance Data System
SLT Section Level Test
SM STANDARD Missile
SMME STANDARD Missile Maintenance Evaluation
SMPD Surface Missile Processing Description
SMS Surface Missile Systems
S/N Serial Number
SOP Standard Operating Procedure
SOPR Standard Operating Procedure Requirements
SPCC Ships Parts Control Center
SPI Special Processing Instruction

T

TDLM Telemetry Dorsal Fins
TDTSTL Telemetric Data Transmitting Set Test Log
TE Test Equipment
TLM Telemeter
TLMTS Telemetric Data Transmitting Test Set
TRS Technical Maintenance Overhaul and Repair
 Standards

V

VLS Vertical Launching System

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GLOSSARY OF ACRONYMS AND ABBREVIATIONS (Continued)

W

WCT	Warhead Compatible Telemeter
WD	Weapons Document