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**CONSOLIDATED HAZARDOUS
MATERIAL REUTILIZATION AND
INVENTORY
MANAGEMENT PROGRAM
(CHRIMP)
MANUAL**

NAVSUP Publication-722



NAVAL SUPPLY SYSTEMS COMMAND

APPROVED FOR PUBLIC RELEASE

NAVSUP P-722, CHRIMP Manual

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Naval Supply Systems Command
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1. This publication is issued for the information and guidance of all interested personnel.
2. This publication is a complete revision of the former Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) Manual and, as a new publication, is issued without page change reference.
3. CHRIMP Manual provides detailed guidance to receiving naval activities on Consolidated Hazardous Material Management both afloat and ashore. The publication provides a brief background discussion of the Navy Hazardous Material Control and Management (HMC&M) Program, implementation guidance, system description of the Hazardous Inventory Control System (HICS) and Hazardous Substance Management System (HSMS), CHRIMP implementation roles and responsibilities, and ship-to-shore interface.
4. This is a dynamic document that, although based on lessons learned, will continue to change frequently as activities progress from the implementation phase to operation and maintenance of Hazardous Material Minimization Centers (HAZMINCENS).
5. Questions and comments concerning this publication should be provided to NAVSUP Code 4C3 at 717-605-1990, or fax 717-605-3815.

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NOTICE TO HOLDERS OF THE CHRIMP MANUAL:

1. This "update package" contains NAVSUP P-722, a complete revision to the CHRIMP Manual, Revision 1 Change 1.
2. NAVSUP P-722 replaces the CHRIMP Manual in its entirety.
3. Discard the CHRIMP Manual, Revision 1 Change 1 and replace with NAVSUP P-722.
4. Update your "change record" page accordingly.

RECORD OF CHANGES

Change Number	Date of Change	Date Entered	Entered by Whom

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CHAPTER 1

INTRODUCTION

1.1 BACKGROUND

As a result of increased attention and focus on environmental issues, various Executive Orders, and Regulations, DOD directives have required Navy activities to comply with applicable Federal, State, and Local environmental pollution control policies. The Navy is also faced with increasing restrictions when considering international environmental protection. Sovereign immunity, with respect to environmental protection issues, once enjoyed by the Services, is virtually nonexistent.

The Navy Hazardous Material Control and Management (HMC&M) Program was established in 1989 by the Chief of Naval Operations (CNO). This program defines uniform policy, guidance and requirements for the life-cycle control and management of Hazardous Material (HM) acquired and used by the Navy. This program also directs that control be established to reduce the amount of HM used and the amount of Hazardous Waste (HW) generated.

The Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) has proven to be a successful method to achieve life-cycle control and management of HM and HW. Through the application of sound material management practices, this program has significantly reduced the amount of HM procured, stocked, distributed to work centers, and disposed of as waste.

The increased HM control to support CHRIMP required development of software tailored to the management and material tracking processes of the program. The Hazardous Inventory Control System (HICS) software was originally developed to support the Naval Air Weapons Station (NAWS) Point Mugu CHRIMP operation and is currently utilized by Fleet units and some shore activities. The Hazardous Substance Management System (HSMS) software was developed in response to a Defense Environmental Security Corporate Information Management System (DESCIM) requirement for DOD to provide material tracking and

environmental reporting ashore. HSMS eliminated redundant information management systems and provided for improved business practices. Basic capabilities of HICS appear in Appendix IV and HSMS capabilities appear in Appendix XI.

1.2 PURPOSE AND ORGANIZATION

The purpose of this manual is to provide the chain of command, afloat and ashore, with a document to assist in the development and implementation of local HM management programs. The publication contains information based on experience and lessons learned by Hazardous Material Minimization Centers (HAZMINCENS) ashore and prototype ships, as well as information provided by Headquarters, Fleet, and Type Commander (TYCOM) staff. The publication also reflects lessons learned from CHRIMP, HICS and HSMS implementation teams.

This publication is organized into four chapters.

- Chapter 1: Introduction.
- Chapter 2: Hazardous Material Management Afloat. This chapter provides information designed to assist commanding officers and supply officers in establishing and operating CHRIMP afloat.
- Chapter 3: Hazardous Material Management Ashore. This chapter provides information designed to assist commanding officers and officers in charge in establishing and operating CHRIMP ashore.
- Chapter 4: Ship-to-Shore HAZMAT Interface.

1.3 APPLICABILITY

Centralized HM management, as described in this publication, is mandated for commanders and commanding officers of shore facilities by references 1-1 through 1-3. This publication also provides a standard approach for control and management of HM that is applicable to ships and other activities implementing CHRIMP. The concept, with modifications as necessary, also has application to U.S. Marine Corps activities, the Military Sealift Command (MSC), and the

U.S. Coast Guard. Processes and procedures described in this publication may be modified to apply to the particular requirements of individual commands and activities.

1.4 REFERENCES AND APPENDIXES

- References appear at the end of each chapter.
- Lists, Tables, additional guidance and recommendations are provided in the appendixes as listed after the Table of Contents.
- The HICS USERS' MANUAL is provided separately to users of HICS software.
- The HSMS USERS' MANUAL is provided separately to users of HSMS software.

1.5 CHRIMP MANUAL PUBLICATION CHANGES

Users who identify a requirement for a modification to this publication are requested to submit the proposed modification to Commander, Naval Supply Systems Command (NAVSUP), SUP 4C3. Modifications to the guide shall be issued in the following manner:

- Changes which are necessary for immediate incorporation into the publication and which cannot wait for the development of the next change shall be issued as Advanced Changes (A/Cs) by NAVSUP. Message or letter depending upon the urgency may issue them.
- Periodically when a large number of modifications to the publication are necessary, a change to the manual shall be issued by NAVSUP. These changes shall incorporate previously issued advanced changes.
- Whenever possible, changes to this publication shall be accomplished by page replacement rather than by pen and ink changes.

**CHAPTER 1
REFERENCES**

- 1-1 OPNAVINST 5090.1(series), Environmental and Natural Resources Program Manual.
- 1-2 CNO ltr 5090, SERN451C/7U530402 of 8 Jan 98, "Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) at Navy Shore Activities" (NOTAL).
- 1-3 CNO 011810Z May 95, Subj: Navy-wide Implementation of CHRIMP.

CHAPTER 2
HAZARDOUS MATERIAL MANAGEMENT AFLOAT

2.1. INTRODUCTION

This chapter provides information and ready reference relative to life-cycle management of HM and is intended to be a ready reference for personnel responsible for implementation and operation of afloat programs. This publication supplements and is compatible with procedures found in reference 2-1 for the control and management of HM. The majority of this information has been gathered from ships implementing CHRIMP following Navy's decision to incorporate this program in all ships. Some information may not be applicable to each ship and may be tailored to comply with Fleet and TYCOM direction as well as space and resource constraints of individual commands.

2.2. HMC&M AND HMAP OBJECTIVES

One of the main objectives of the HMC&M Program is to reduce the amount of HM aboard ship and the amount of used and excess HM off loaded resulting in HW. This objective was established not only to protect personnel and the environment, but also to minimize costs through control of acquisition, storage, and use of HM.

The NAVSUP-sponsored Hazardous Material Afloat Program (HMAP) is a subset of the HMC&M Program. The objective of HMAP is to provide assistance to forces afloat in their efforts to implement HMC&M Program policies.

2.3. CHRIMP PHILOSOPHY

2.3.1 Concept. The CHRIMP concept of reutilization and inventory management is relevant to all ships as a process to achieve HMC&M and HMAP objectives. Consolidation of HM is desired, but may not be achievable or necessary, on small ships (submarines and surface ships smaller than frigates) because of space limitations or the small amount of HM carried. The degree of consolidation on each class of ship is subject to TYCOM direction. Radioactive, medical and ordnance materials are managed under separate programs.

2.3.2 Understanding How HM Was Managed before CHRIMP.

Supply management of shipboard HM was accomplished the same as nonhazardous consumable material. On larger ships, the Supply Department maintained having appropriate storerooms, bulk quantities of HM. HM issued by the Supply Department, or requisitioned for Direct Turn Over (DTO), was stowed in departmental storerooms and various work center locations. On smaller ships, HM was typically obtained as DTO material and stowed in departmental storerooms and work centers.

Once the HM was turned over to a work center there was no inventory visibility of that material. This decentralized management contributed directly to large quantities of HM onboard ship, ultimately resulting in costly disposal of shelf life expired, damaged, or excess material.

2.3.3 CHRIMP Afloat. Implementation of CHRIMP provides processes that will help management reduce the quantity of HM ordered, stocked, and used. Achievement of this objective depends on ship-wide acceptance of CHRIMP, reinforced by the significant increase in safety and decrease in costs associated with HM management. On larger ships where facilities permit, HM currently stowed in departmental storerooms and work centers can be collected and consolidated in a HAZMINCEN storage location and issued when requested. On smaller ships, HM may not necessarily be consolidated, but inventory and storeroom management can be transferred to the HAZMINCEN. The HAZMINCEN can then maintain total inventory and issue control of all HM. Inventory managers should consider that life-cycle costs of HM might include disposal charges that far outweigh any financial advantages gained by bulk or quantity purchases.

Implementing CHRIMP will require the establishment of a HM management organization. Depending on the scope of CHRIMP, a reassignment of some departmental storerooms and personnel to this new organization may be necessary.

Since personnel in Supply ratings have inventory management skills, all afloat HAZMINCENs should operate under the guidance of the Supply Department. Operation and management of CHRIMP and the HAZMINCEN will be a graded portion of the Logistics Management Assessment (LMA). The supply officer must consult and coordinate HM management with Safety and Environmental personnel to achieve maximum benefit of CHRIMP.

2.3.4 Benefits of a Successful CHRIMP. The benefits of a successful CHRIMP include increased personnel safety, environmental protection, and potential cost savings without degradation of operational readiness.

2.3.5 Crucial Elements of CHRIMP. There are three crucial elements that must be in place in order to implement and maintain a successful CHRIMP operation. These elements are:

- Command commitment and support at all levels.
- Personnel awareness of HM management procedures.
- A comprehensive CHRIMP implementation plan.

2.3.5.1 Command Commitment and Support. Reference 2-1 succinctly states that the maintenance of safe and healthful working conditions is a chain of command responsibility. CHRIMP is a method of achieving these objectives. Implementation begins with the commanding officer and extends to the individual Sailor.

Command commitment and support must be reinforced by continuous involvement in the process. As with any management system, feedback on a periodic basis is recommended to monitor success of the program. The HICS software provides this feedback in numerous report formats. Information from these reports facilitates command assessment of CHRIMP implementation. Progress can be measured by reduction in HM procurement, amount of HM on board and a reduction in HM disposed of as either used or excess.

2.3.5.2 Personnel Awareness and Understanding. The initial step in establishing CHRIMP is to develop a command awareness program which informs all personnel of the requirements, objectives and expected benefits of a comprehensive HMC&M Program. This should include internal procedures for HAZMINCEN operation, HM tracking, and HM storage policy. Application of Total Quality Leadership (TQL) principles is one method to motivate personnel to a common purpose and commitment through emphasis on quality, customer service, and continuous process improvement.

2.3.5.3 Implementation Plan. It is essential to develop comprehensive plans and command directives to identify actions that must be taken prior to CHRIMP implementation. The commanding officers should conduct a preimplementation planning session with the executive officer, HM coordinator, department

heads, division officers, and work center supervisors. Appendix V is a recommended list of actions to implement CHRIMP. Some topics on the list may not be applicable to all ships.

2.4 CHRIMP IMPLEMENTATION AFLOAT

2.4.1 General. The following objectives are required for full CHRIMP implementation:

- Centrally control all HM as a separate and distinct category of material.
- Store all HM in containers or compartments authorized and configured specifically for HM.
- Ensure HM is available to the customer when requested.
- Issue HM in a way that will provide an audit trail for both the material and user.
- Reduce the amount of HM issued to the minimum quantity necessary to accomplish the job.
- Use HM following procedures outlined in reference 2-1 including the proper use of appropriate Personal Protective Equipment (PPE).
- Provide optimal procedures and facilities for return of used HM, empty HM containers, and contaminated HM items.
- Consolidate previously issued unused HM for either reuse or re-categorizing for alternative use.
- Properly process HM for safe disposal ashore.
- Maintain a database, which will provide management, reports to track program effectiveness.

2.4.2 Facilities. Achievement of CHRIMP objectives requires central management of HM. Ideally this would include a HAZMINCEN to store most Ready-for-Issue (RFI) HM. On small ships, where consolidated storage may not be achievable, central management of HM using the HICS software can be achieved. The HAZMINCEN should be fire and spill protected and have sufficient ventilation, shelving and containment to safely store, segregate and issue various types of authorized HM. The space should be sufficiently large and equipped to permit issue of HM and to consolidate used or unused HM, empty HM containers, and contaminated HM items. A computer and peripherals needed to run HICS software should be installed in the HAZMINCEN administrative office and not in the HM storage area. Recommended HAZMINCEN space locations and requirements are contained in Appendix II.

For larger ships, a portable trailer designated as Mobile Reuse Center (MRC) has been designed to provide proper storage and efficient issue capability, decreasing reliance on bulk HM storerooms for HAZMINCEN sites. Guidance for the operation of MRCs is provided in Appendix III.

A 486/Pentium (or more capable) PC is required in the HAZMINCEN to run HICS and the Hazardous Material Information System (HMIS) which holds the database of Material Safety Data Sheets (MSDSs) (see reference 2-2). Location of HMIS in the HAZMINCEN meets Hazardous Communication's (HAZCOM) standard regulatory requirements and is strongly recommended. Appendix IV contains a description of HICS capabilities. HAZMINCEN computer and barcode equipment are listed in Appendix X.

2.4.3 Organization, Manning, and Training. HAZMINCEN management is the responsibility of the Supply Department. Success of the program requires inventory management and technical expertise associated with Supply Department ownership but is an interdepartmental effort requiring full command support. While the HAZMINCEN Supervisor should have inventory management skills, support personnel for daily operation of the HAZMINCEN can come from any other department.

At a minimum, an SK1/AK1 (Secondary Navy Enlisted Classification (SNEC) 9595) should be assigned as the HAZMINCEN supervisor for day-to-day operation and inventory management control. Drafting of motivated, strong performers from other departments is equally essential for success of the operation.

Hours of operation for the HAZMINCEN will vary according to ship class and manpower assigned. Each ship must decide on operating hours that support their particular mission and operational status.

Training courses and videotapes available for afloat HM training are listed in Appendix VII. Shelf Life Training is available from Fleet and Industrial Supply Center (FISC) Shelf Life Coordinators. Navy Occupational, Safety and Health Environmental Training Center (NAVOSHENVTRACEN) in Norfolk, VA and San Diego hold the CHRIMP/HICS Workshop monthly. To register for workshops, contact NAVOSHENVTRACEN at DSN 565-8778 or 757-445-8778, extension 324. Afloat Training Group Middle Pacific (AFLOATRAGRUPMIDPAC) Pearl Harbor and Afloat Training Group Western Pacific (AFLOATRAGRUPWESTPAC) Yokosuka also have the capability to provide the workshop. On-site training will be provided by the NAVSUP CHRIMP/HICS Assistance Program (CHAP) Teams through the Hazardous Minimization Program Office (HMPO) East (757-443-1267) or West (619-556-5026).

2.4.4 Preparing for Start Up. During the initial phase of CHRIMP, the HAZMINCEN must systematically assume management and inventory control of departmental stocks of HM. This HM should be physically relocated to the HAZMINCEN and/or other HAZMINCEN controlled storerooms. The HM must be identified, consolidated where appropriate, and the remaining shelf life determined. The nomenclature, National Stock Number (NSN) or manufacturer's part number, unit of issue, new stowage location, and other pertinent information are then loaded into HICS (see Appendix IV for a description of HICS capabilities and the HICS Users' Manual for complete instructions). A survey of ship spaces is recommended to ensure all caches of HM are inventoried and transferred to the HAZMINCEN. Some options for initial collection of HM include:

- Work center supervisor's inventory, collect, and deliver HM to the HAZMINCEN.
- Stage HM (e.g., fantail), segregate into usable and nonusable material and deliver to the HAZMINCEN or off-load. Work centers should be scheduled individually to avoid overloading the HAZMINCEN.

- HM division personnel make sweeps of shops/divisions and collect material for HAZMINCEN stock and/or off-load.

2.4.5 HAZMINCEN Funding. All HAZMINCENs on trial ships were established as separate work centers with assigned operating budgets. HM was provided by the HAZMINCEN to all other work centers as Pre-Expended Bin (PEB) material. Usage data from HICS will enable supply officers to charge HM issues to individual work center or departmental funds if they so desire.

2.4.6 Operating Scenario. When a work center supervisor requires HM to accomplish a maintenance task, the requirement is then delivered to the HAZMINCEN. Some examples of HM request procedures are:

- Phone-in HM request in advance for immediate pickup.
- Take request directly to the HAZMINCEN for pickup.
- A short form filled out at the HAZMINCEN customer service area. (Paperless procedures are preferred with only verbal communication of customer needs to the HICS operator.)
- Request form filled out and submitted 24 hours in advance of the requirement for pickup the next day.

The HICS database will indicate if the material is held by the HAZMINCEN. If it is available, an issue document is printed and the amount of HM required to perform the particular task is issued. If the material is in Supply Department bulk storage it is issued to the HAZMINCEN, entered into HICS, and issued to the work center. If not available onboard, the HM is requisitioned through the supply system.

At the completion of the maintenance action, the unused HM or empty container is returned to the HAZMINCEN (local procedures may allow work centers to maintain a 7-day supply of HM in authorized storage lockers). A determination is made if any remaining material can be reused. If so, the HM is consolidated with like material and appropriate inventory adjustments are made in HICS. If the material cannot be reissued and has no alternative use, it is processed as excess.

Where appropriate, the containers are cleaned and stowed for future issues. Any rags or other material used to clean the containers, are disposed of by incineration or turned in to shore facilities for disposal. To assist in the control process, HICS has the capability to print a daily report of work centers that are delinquent in returning unused HM.

HM inventories are dynamic, especially those maintained in the HAZMINCEN. Interaction with the customer is necessary in order to properly establish and maintain stock levels. Initial department and division HM inventories should be taken to determine the quantity and type of material the HAZMINCEN will need to stock. A review of Planned Maintenance (PM) requirements and related HM will establish a baseline of items to be carried. Once inventory levels have been created and usage rates predicted by work centers, reorder points can be established. When the inventory level in the HAZMINCEN reaches the reorder point, resupply is obtained from Supply Department bulk storage or shore supply sources. Receipts are repackaged, as necessary, into units of issue consistent with quantities normally required by the work centers.

2.4.7 Ships Hazardous Material List (SHML). The SHML is the master HM authorized use list for surface ships. The list was developed to ensure only required HM is brought aboard ships and to prevent the introduction of unnecessary or unsafe HM.

The SHML can be found on the HMC&M compact disk-read only memory (CD-ROM) which is provided quarterly to all ships. The SHML should be referred to when requisitioning HM items. All HM items on the SHML fall into one of the following categories:

- Authorized (A) - Item is authorized for shipboard use and may be ordered.
- Prohibited (P) - Item is not authorized for shipboard use. DO NOT ORDER.
- Restricted (R) - Item may be authorized for use under certain conditions. Check the "Allowed Onboard" data field before ordering.
- Obsolete (O) - Item is obsolete. DO NOT ORDER.
- Not Yet Listed (N) - Item has not yet been screened for safe use on ships. If ship determines no authorized item will meet the requirement in place of the item, submit a SHML Feedback Report (SFR) and order.

Efforts are on going to identify the most hazardous items on the SHML, revise the specifications, reduce quantities carried, and replace with less toxic or less hazardous material.

2.4.8 SHML Feedback Reports (SFRs). The main purpose of the SFR is to provide a means for the Fleet to submit HM items for addition to the SHML. It also acts as an authorization document when ordering HM that is not SHML authorized. Requisition of "Not Yet Listed" items, stock items not found on the SHML, and open purchase items may be authorized by the commanding officer using the SFR under one of the following conditions:

- There is an urgent and immediate operational need for the item, such as unavailability of an authorized HM item in the supply system when the ship is getting underway.
- A particular HM item is needed for maintenance or repair of a new system or piece of equipment.
- The ship is requesting addition of a HM item to the SHML in place of an inferior SHML-authorized item.

SFRs must be filled out completely and accurately to allow quick and efficient screening and ensure a timely response. If the request is for a one-time, emergent requirement to meet operational needs, this must be clearly indicated in the justification section of the SFR. For all other cases, the following information should be included:

- Indication if the requested items are for aircraft repair or maintenance.
- Clear identification of the technical documentation that requires the material (Naval Sea Systems Command (NAVSEA) Technical Manual, Maintenance Improvement Program (MIP)/Maintenance Requirements Card (MRC) number, etc.).
- Detailed application for which the material is needed (including specific system or equipment).

2.4.9 HM Offload. Development of software provided during CHAP (CHRIMP/HICS Assist Program) Team implementation or assist visits. This software expands HICS to provide for automated offload documentation and will help standardize the process for all ships. Individual offloads should be coordinated with the

FISC, Public Works Center (PWC) or host activity following local procedures (see Chapter 4).

2.4.10 Lessons Learned. During implementation and operational phases of CHRIMP, ships may encounter the problems listed below. Resolution of these problems may be accomplished by increasing command support and cooperation within divisions.

- Rapid turn over of personnel assigned to the HAZMINCEN. This turnover has resulted in decreased skill level and motivation, and increased expense. The training pipeline and good management practices dictate that the HAZMINCEN supervisor remain in the billet 12-18 months and Temporary Additional Duty (TAD) personnel be assigned for at least 6 months. Assignment of capable, motivated people to the HAZMINCEN is essential for success.
- Installation of HICS without operational plans to manage the flow of material. The software is only a tool to support CHRIMP. Activities must first decide how to implement CHRIMP and develop a management plan that supports operational needs. The CHRIMP plan must be documented prior to software implementation.
- Stock levels are not being assigned. Initially, stock levels for the HAZMINCEN may have to be established without historical data or accurate ship-wide inventories. During the first few months of operation, these levels will require frequent update based on the collection of usage data.
- Lack of acceptance of CHRIMP philosophy. Resistance to change and mistrust of centralized control and management may be overcome by demonstrating exceptional response time, guaranteeing material availability, and minimizing paperwork demands on the customer.
- Initial collection of large amounts of excess, expired, or used HM. It is likely that large amounts of excess, expired, or partially used HM will be collected in the initial phase of implementation and will require off-loading. Space must be set aside to accommodate this material and advance planning with

the FISC, PWC or host activity should enable a smooth and rapid transfer of material off the ship.

- Lack of space. Lack of designated/acceptable space for establishment of a HAZMINCEN may necessitate reassignment of compartments, space modifications, or purchase of a temporary HM storage container. See Appendix II for space recommendations and Appendix III for information on MRCs.
- Personnel not sufficiently trained in CHRIMP/HICS. Formal training for all HAZMINCEN personnel is not possible and will require On-the-Job Training (OJT). See Appendix VII for videos and other training aids available to supplement onboard HAZMINCEN training programs.
- Shortage of material and addition of paperwork requirements. Availability of HM to support operational requirements, combined with a minimum amount of paperwork, is essential to establish credibility with the customer and avoid circumventing the HAZMINCEN.
- Insufficient stock loaded for deployment. If the HAZMINCEN runs out of HM during deployment or other operations, work centers may resume stockpiling HM. Prevention of this may be accomplished by establishing high and low limits as soon as possible and maintain stock levels above the low limits. The Supply Department must ensure high usage items are always available in bulk storerooms.

**CHAPTER 2
REFERENCES**

- 2-1 OPNAVINST 5100.19 (series), Navy Occupational Safety and Health (NAVOSH) Program Manual For Forces Afloat

- 2.2 HMC&M/HMIS CD-ROM Set (4 Discs)

CHAPTER 3

HAZARDOUS MATERIAL MANAGEMENT ASHORE

3.1 INTRODUCTION

Life-cycle management of HM requires a systematic approach, involving a commitment by all personnel. This publication is intended to be a ready reference for personnel responsible for implementation and operation of HM minimization programs. The information is based on experience gained from implementation of CHRIMP at Navy shore facilities. Some of this information may not apply to every shore facility. CHRIMP implementation may be tailored based on local operations, facilities and resources.

3.2 HMC&M PROGRAM OBJECTIVE

As stated in reference 3-1 "This directive requires that HM be selected, used, and managed over its life cycle so that DOD incurs the lowest cost required to protect human health and the environment." The objective of the Navy's HMC&M Program is to establish uniform policy, guidance, and requirements for the control and management of HM. This program will enhance personnel safety and environmental protection. HMC&M will also help save money through reduction of HM procurement and avoidance of HW disposal costs.

Executive Order 12856 mandates Federal facilities will comply with all Federal, state, and local laws and regulations concerned with HM and HW management. Commanders and commanding officers, as stated in reference 3-1, are also required to develop a pollution prevention plan that provides for hazardous substance minimization. These requirements have increased the scope of CHRIMP to include management and tracking of HM chemical constituents and waste streams.

In October 1991, representatives from NAVSUP, Naval Facilities Engineering Service Center (NFESC) and naval shipyards formed a Process Action Team (PAT) to develop functional requirements for a HM management software program. The software program would have to meet the HAZCOM requirements of the Occupational Safety and Health Agency (OSHA) and the chemical tracking and reporting requirements of Environmental Protection Agency (EPA).

The software program for managing, tracking and reporting HM constituents ashore is the HSMS. HSMS is a comprehensive program that incorporates data on material management, chemical composition, and process algorithms. It also has numerous other features to help meet legal reporting requirements and provide management information of HM stocked and HW generated.

3.3 CHRIMP PHILOSOPHY

3.3.1 Understanding How HM Was Managed. HM was managed in the same manner as other nonhazardous consumable material. Users submitted requisitions to the Supply Department (or Public Works Center (PWC)/Public Works Department (PWD), First Lieutenant Department) for HM to complete a task or to have on hand. Unused HM was kept at the work site sometimes without regard for proper storage or environmental impact. Often, the shelf life may have expired or the container may have become damaged, and the material would be turned in for disposal. In many cases, this scenario would occur simultaneously in work centers throughout the command.

3.3.2 Understanding How HW Is Managed. One goal of CHRIMP is to reduce HW disposal. It is inevitable that, at some point in time, a portion of HM will become HW. Situations leading to disposal as HW include partially filled containers remaining at the end of a maintenance task, expired shelf life, and generation of shop wastes containing HM.

The accumulation and storage of HW is subject to the provisions of the Resource Conservation and Recovery Act (RCRA) and must be managed by knowledgeable and properly trained personnel. Provisions of Subtitle C of RCRA include, "Managing Hazardous Wastes," time frames for storage of HW, registration requirements as a HW generator, and requirements to follow state law which may be more restrictive than Federal statutes. Because of complex laws and difficulty in interpreting these laws, it is recommended that plans for storage, shipment, and disposal of HW be coordinated with the host activity Environmental Department. Guidance may also be provided by the Regional Environmental Coordinator (REC).

3.3.3 CHRIMP Objective. A primary objective of CHRIMP is to provide life cycle management of HM and to reduce HW. A proven method to accomplish this is through the establishment of a HAZMINCEN where all HM is centrally controlled and

managed. All work centers within the command and tenant activities that participate in the program, are required to turn in HM currently held and to use the HAZMINCEN for future HM needs. The HAZMINCEN fills customer requisitions by issuing the quantity of HM required to perform the job. When the work is complete, the customer will return any unused portion of HM or the empty container to the HAZMINCEN. HAZMINCEN personnel will examine the returned HM and determine if it can be used by another customer, recycled, or if it should be processed for disposal as HW.

NAVSUP is the Executive Agency for CHRIMP and HSMS implementation. NAVSUP has placed a high priority on the consolidation and regionalization of HM management. FISCs have taken the lead establishing new HAZMINCENs or partnering with bases currently operating HAZMINCENs.

The Regional Hazardous Material Management System (RHMS) has been developed to provide regional HM inventory control and visibility of end-use HM. When fully implemented RHMS will help Regional Inventory Managers at the FISC reduce the amount of HM procured, increase visibility of material available, and reduce HW disposal costs. Reference 3-2 is the RHMS Users' Manual.

A summary of business rules and FISC HAZMINCEN customer responsibilities are listed below. For a complete and more detailed list, see reference 3-2.

HAZMINCEN Responsibilities:

- Serve as the Point of Entry (POE) for all HM requirements.
- Carry at least a 2-week demand based inventory of customer HM.
- Accept custody of all usable HM.
- Reject waste or contaminated products.
- Issue reuse material free of charge.
- Conduct regional search to satisfy customer requirements with free issue material prior to issue of system stock.
- Stock all customer HM requirements including open purchase.

- Provide monthly material issue listings to receiving commands and comptrollers as required.
- Maintain facility and conduct operations following all current Federal, state and local regulations.
- Track all HM containers from "cradle to grave."

Customer Responsibilities:

- Agree to use HAZMINCEN as the POE for all HM requirements.
- Reduce work center HM inventory to 1 week or less.
- Maintain accountability of all HM and HM containers.
- Reimburse HAZMINCEN for fair share portion of labor/nonlabor cost of operation.
- Provide accounting data for purchase of "A" condition inventory.

Regional management of HM increases the opportunity for use prior to shelf life expiration or being processed for disposed as HW. Success of the program depends on full customer participation in the system. Aggressive HAZMINCENs have been able to recycle excess from Fleet units through their distribution system thus avoiding disposal costs for the Fleet and purchase costs for the participating shore activities.

3.3.4 Benefits of CHRIMP. The benefits of a successful CHRIMP include increased personnel safety, environmental protection, and potential cost savings without degradation of operational readiness.

3.3.5 Crucial Elements of a Successful CHRIMP. There are three crucial elements that must be in place in order to implement and maintain a successful CHRIMP operation. These elements are:

- Command commitment and support at all levels.
- Personnel awareness of HM management procedures.
- A comprehensive CHRIMP implementation plan.

3.3.5.1 Command Commitment and Support. As with any developing program, a commitment to effect change and strong command support are essential to success. This is especially true as resources to implement CHRIMP, in most cases, must come

from within the command and from participating tenant activities.

CHRIMP is a successful method to achieve life-cycle control of HM. Of primary importance is Reference 3-1 which succinctly states that "Navy activities shall comply with all Federal and DOD standards, directives, instructions, and regulations related to HM and HW including applicable state laws and local regulations." It further states that "The Navy shall control and reduce the amount of HM used and HW generated by up-front HM control in procurement, supply, and use through the development of acceptable local mechanisms at shore activities to identify HM in the system and to limit quantities of HM procured and stored." Implementation of this policy clearly requires commitment to formulate a compliant program suited to the specific needs of the individual command or activity. Most pertinent Federal statutory and regulatory requirements, DOD and Navy directives that describe necessary actions to plan, control and manage HM are described in reference 3-1. Appendix VIII lists other references that can assist in the development of a Pollution Prevention Awareness Program.

3.3.5.2 Personnel Awareness and Understanding. The initial step in establishing CHRIMP is to develop a command awareness program which informs all personnel of the requirements, objectives and expected benefits of a comprehensive HMC&M Program. This should include internal procedures for HAZMINCEN operation, HM tracking, and HM storage policies. Application of TQL principles is one method to motivate personnel to a common purpose and commitment through emphasis on quality, customer service, and continuous process improvement. Personnel with specific responsibilities in HMC&M will overlap and should be included and consulted from the start. The supply, automated data processing (ADP), financial, safety, industrial hygiene, fire department, and environmental personnel on the base can provide valuable expertise and help avoid development of procedure, or modifications to facilities, that do not meet regulations.

3.3.5.3 Implementation Plan. Subsequent paragraphs provide information relative to the implementation planning process as it applies to facilities, financial considerations, staffing requirements, personnel training, Navy Occupational Safety and Health (NAVOSH) requirements, accounting procedures, inventory control, and scheduling. FISCs have developed a strategy and staff for regional management of HM and commands

establishing HMC&M Programs and CHRIMP should consider obtaining assistance and support from the Director of Regional Hazardous Material Management. Paragraph 3.3.3 discusses the HAZMINCEN responsibilities and services provided by the FISC.

NAVSUP has established HMPOs on the East and West Coast to support implementation of CHRIMP utilizing either HSMS or HICS as the management software. These teams are located in Norfolk, Virginia, and San Diego, California, and are the points of contact for all issues regarding the management of HM or the availability of HM assistance and training.

Appendix V contains a check-off list of actions, which should be considered prior to and during CHRIMP implementation. Some topics on this list may not apply to each command.

3.4 CHRIMP IMPLEMENTATION ASHORE

3.4.1 Single or Multiple Facilities. The purpose of CHRIMP is to manage HM throughout its life cycle by establishing one or more HAZMINCENs on a base for the centralized storage, distribution, and reutilization of HM. The decision to establish one central facility or multiple centers depends on command organization, geographic layout and existing facilities. Experience has shown centralized HM management results in better control of HM and a greater control established, one location should be the main HAZMINCEN and the others should be satellites. Additionally, the requirements for Emergency Planning and Community Right-to-Know Act (EPCRA) reporting are based on the activity's "fence line" and corresponding EPA number. As per OPNAVINST 5090.1b, dated 1 November 1994, all Navy shore activities in the customs territory of the United States and in Guam must comply with EPCRA. The instruction specifies that the fence line owner is responsible for reporting for all tenants within their fence line. That fence line is defined as the Class I property lines. The fence line owner is the individual responsible for EPCRA reporting, consequently the HAZMINCEN database at that activity must capture all HM within that fence line in order to generate meaningful EPCRA reports. This is prerequisite for HSMS, which provides for regulatory reporting in addition to supporting CHRIMP and is highly recommended for HICS for the same reasons.

3.4.1.1 Facility Space Requirements. Facilities required for a HAZMINCEN will vary depending on the amount and

variety of HM as well as the number of daily issues and receipts.

The process of determining space requirements should begin with an evaluation of the HM inventory, a review of procurement records and a survey of HM users to identify projected quarterly requirements. Early trials have resulted in substantially smaller inventories after consolidation than the sum of the inventories throughout the command prior to consolidation. These sources are:

- The yearly inventory of HM required by reference 3-3. This instruction directs activities to conduct a comprehensive chemical inventory for each workplace and produce a master HM inventory and Authorized Use List (AUL).
- A review of requisitions, open purchase documents, credit card and SERVMART transactions for the past year to obtain current information on HM procured.
- A survey of all HM users to identify projected quarterly requirements.

Comparison of these three data sources can provide information on material for further analysis that will likely result in elimination of items from the storage plan. As an example, material listed on the AUL, but not shown as being procured during the preceding year, may no longer be required for use. While this material may have to be processed as excess, it will not require space in the HAZMINCEN storage plan.

HM reported as being used in amounts less than purchased quantities may indicate the Unit of Issue (U/I) is larger than necessary to satisfy the maintenance requirement. Management may consider requisitioning less, or a smaller U/I, when reordering material being stocked in the HAZMINCEN to support the overall objective of reduced HM inventories.

Final inventory requirements should be calculated and categorized (i.e. flammable, corrosive, etc.) to determine the storage needs and space required for each category. HM handlers must consider material compatibility and spill containment requirements when developing storage plans. Assistance in determination of space requirements, layout, and

regulatory compliance may be obtained from Fitting Out Supply Support Assistance Center (FOSSAC) Logistics Engineering Department 757-444-4370, DSN 564-4370.

A list of equipment and supplies that may be required to support a HAZMINCEN is included at Appendix X.

3.4.1.2 Facility Safety Requirements. The HAZMINCEN must be constructed to meet Federal, state and local fire codes and safety standards. Specifically, the facility must comply with References 3-4, 3-5 and 3-6.

Significant hazards to be considered include fire, acute and chronic systemic effects of breathing airborne toxins, dermatitis through skin contact, asphyxiation and burns of the skin and eyes. Materials normally thought to be safe can become hazardous under certain use or storage conditions. Incompatible materials can react violently if mixed.

Mixing incompatible wastes can produce heat, pressure, fire, explosion, violent reaction, toxic vapors and other by-products. Some area of the HAZMINCEN should be set aside and configured for storing very hazardous toxic material such as flammable aerosols, acids and corrosives. Storage aids for hazardous liquids must be constructed to provide appropriate methods of containment to avoid dispersion of the hazardous liquid as a result of spills or deterioration of the container. Guidelines for containment are provided by the National Fire Protection Association's (NFPA) Flammable and Combustible Liquids Code Handbook. This handbook states that secondary containment shall have sufficient capacity to contain 10 percent of the volume of containers stored or the volume of the largest container, whichever is greater. This special area will normally be constructed with special double containment walls to make the room explosion proof, equipped with explosion proof lighting fixtures, and air-conditioned or outfitted with large explosion proof refrigerators. An emergency shower and eyewash station may also be required in the facility.

3.4.1.3 Financial Impact. The commitment to centralized life-cycle management of HM requires financial resources in order to implement the CHRIMP concept. Costs associated with refurbishment and outfitting facilities, purchasing equipment, and recurring operating expenses can be recouped through savings realized from reduced HM inventories as well as from disposal cost avoidance.

Other sources, which may be available to augment local funds, include:

- The Other Procurement Navy (OPN) fund is commonly used to purchase capital investment equipment. This fund may be used to pay for equipment and it can be spent within a period of 3 years once allotted.
- The Navy Environmental Compliance Account (NECA) consists of N-04 sponsored line items in the Operations and Maintenance, Navy (O&MN), OPN, and Research, Development, Test and Evaluation (RDT&E) appropriations. NECA funds are also available from the Navy portion of the Defense Environmental Restoration Account (DERA). NECA funds can be used for compliance projects, including remedial and corrective actions to ensure facilities, ships, and equipment meet environmental requirements. Reference 3-3, Chapter 3 describes this fund source.
- The Productivity Enhancing Capital Investment Fund may be used for capital equipment which will result in long-term cost savings. An example of such cost-saving equipment is a Solvent Still that can reduce operating expenses as well as disposal costs.
- The Productivity Investment Fund can be used for long-range projects with cost greater than \$150,000 and is complemented by the Component Sponsored Investment Fund.
- The Fast Paycheck Capital Investment Fund can be used for costs between \$3,000 and \$150,000. Projects selected for financing must be expected to return costs within 2 years.

3.4.1.4 Personnel Staffing. Staffing levels required to operate a HAZMINCEN depend on the size of the operation, type and quantity of material being managed, number of customers, funding limitations, physical location and design of the facilities, as well as the availability of personnel to be assigned on a permanent or temporary basis. There is no standard HAZMINCEN staffing plan. However, recommendations for

personnel requirements may be provided by the FISC Regional Hazardous Material Management staff or the HMPO.

3.4.1.5 Personnel Qualifications. In addition to strong organizational and personnel skills, it is essential that the HAZMINCEN manager have significant expertise in material control, distribution and storage, and financial management. The manager must be able to interface with command safety, industrial hygiene, and environmental department personnel. Other members of the HAZMINCEN organization should be skilled in inventory management, computer use, warehousing, and Materials Handling Equipment (MHE) operation. These requirements have been recognized by the Chief, Naval Education and Training (CNET). A course leading to assignment of the new SNEC 9595, HMC&M Technician, has been established under cognizance of the NAVOSHENVTRACEN. While experience in the identification, handling and use of HM is desirable, those qualifications may not be readily available and may have to be obtained by attending formal training and/or from OJT.

3.4.1.6 Personnel Training. There are numerous courses offered by Safety, Health and Environmental Protection organizations, which are available to assist in training HAZMINCEN personnel. At a minimum, HAZMINCEN managers and supervisors should attend either the NAVOSHENVTRACEN Hazardous Material and Waste Control course (S-354) or the OSHA Training Institute's Hazardous Materials Course (201). Staff personnel should receive OJT or attend courses available from the NAVOSHENVTRACEN, 757-445-8778, DSN 565-8778, and the Naval Facilities Engineering Services Center (NFESC), 757-982-3477.

There may also be training courses available from local and state government agencies involved in HM and HW management. Most agencies publish pamphlets on regulations, services and available training. A directory of Environmental Agencies and Points of Contact is contained in Appendix XII.

Reference 3-3 provides additional information regarding Occupational Safety and Health Training requirement courses available to shore activities. As an example, audiovisual products are available from the Naval Education and Training Support Centers, Atlantic and Pacific. Their telephone numbers are 804-444-4011/1468, DSN 564-4011/1468 and 619-532-1360, DSN 522-1360 respectively. Training aids may also be obtained on loan from the Industrial Hygiene or Occupational Health

departments of the following Navy Environmental and Preventative Medicine Units (NEPMUs):

NEPMU-2 Norfolk, VA	757-444-7671	DSN 564-7671
NEPMU-5 San Diego, CA	619-556-7070	DSN 526-7070
NEPMU-6 Pearl Harbor, HI	808-471-9505	DSN 430-9505
NEPMU-7 Naples, IT	039-81-724-4468	DSN 625-4468
Navy Environmental Health Center	757-363-5402	DSN 864-4657
Navy Safety Center	757-444-3520	DSN 564-3520

3.4.1.7 Navy Occupational Safety and Health (NAVOSH) Requirements. Local NAVOSH organizations should be involved in the planning process by providing technical advice and assistance on matters of safety and health. They should also participate in all decision making related to the identification and control of HM. NAVOSH staffs can assist with specific requirements for personnel protection and emergency response plans as indicated below.

- PPE. Per reference 3-7, PPE for eyes, face, head and extremities must be provided for all personnel working where environmental, chemical or radiological hazards or mechanical irritants are encountered and may be capable of causing injury or impairment in the function of any part of the body through absorption, inhalation or physical contact.
- Emergency Response Plan. An emergency response plan must be developed and implemented by all HAZMINCENS following reference 3-8. This plan will address, as a minimum, the following areas:
 - Preemergency planning and coordination with outside parties.
 - Personnel roles, lines of authorization, and communication.
 - Emergency recognition and prevention.
 - Safe distances and places of refuge.
 - Site security and control.
 - Evacuation routes and procedures.
 - Decontamination procedures.
 - Emergency medical treatment and first aid.
 - Emergency altering and response procedures.

- Critique of response and follow-up.
- PPE and emergency equipment.

3.4.1.8 Accounting Procedures. It may be necessary to design and institute a centralized financial accounting system to support CHRIMP. This can be accomplished by determining total command funds historically spent to procure HM. Each department, shop or work center budget would then be reduced proportionately and a consolidated budget established for the HAZMINCEN.

An itemized list indicating HM issued should be sent to work centers monthly. This will permit management review and appropriate adjustments in HM procurement at the user level. Financial accounting should, to the extent possible, be limited to the HAZMINCEN and not passed down to the users. This concept presents a simple and uncomplicated interface between the HAZMINCEN and the user that is highly efficient, involves minimal paperwork and creates an extremely user friendly, customer service environment.

Tenant activities with separate funding sources should receive a monthly invoice with an itemized list of HM issued. Once approved by the tenant activity, the invoice can then be presented to the comptroller for transfer of funds. The itemized statements should include items that have been issued free of charge as a result of reutilization efforts by the HAZMINCEN.

3.4.1.9 Inventory Control Procedures. A key aspect of centralized management of HM is a control system that provides on-line visibility of inventory levels and provides the capability to process material requisitions, receipts and issues. This system should also be capable of tracking material in use as well as generating necessary internal and external reports. There are currently two approved software packages that will support CHRIMP. HICS was developed as a tool to account for HM "from cradle-to-grave." This program has been endorsed by CNO N4 and NAVSUP (SUP 4C3) as the system for managing HM inventories onboard ship and at some Navy shore stations.

Responsibility for the HICS system has been assumed by the Naval Inventory Control Point (NAVICP), Mechanicsburg, PA. Assistance with technical problems may be obtained by

contacting the HICS support office at 1-800-237-8349, FAX DSN 430-3480/717-605-3480.

HSMS was developed by the Defense Environmental Security Corporate Information Management Program Management Office (DESCIM PMO). It is an automated chemical tracking system designed to provide "cradle-to-grave" tracking not only of HM material used at a facility, but also the chemical constituents of those materials. Much of the driving force behind the system's development was the need for a system that EPCRA would report in order to comply with Executive Order (E.O.) 12856. The system also provides naval activities with a tool that can be used to analyze the flow of HM through their activity, and then develop sound pollution prevention initiatives to reduce the amount of HM procured and used and reduce the amount that becomes waste.

While HSMS is the software of choice for shore activities, program managers are aware that HICS may be the most appropriate system for some activities, either as an interim system until HSMS is implemented or for very small activities. A description of HICS capabilities is in Appendix IV. HICS users' manuals are provided to authorized users. HICS training is available from NAVOSHENVTRACEN Norfolk and San Diego.

HSMS development and training are provided by NCTAMSLANT. HSMS training is scheduled for activities in conjunction with implementation of the HSMS software. A user help desk has been established at the Management System Support Division (MSSD), Code 1254, at the Portsmouth Naval Shipyard, 207-438-2813, DSN 684-2813, FAX 207-438-2060, or e-mail ed_c1250@ports.navy.mil.

A description of HSMS capabilities is included at Appendix XI and a recommended list of equipment to operate the system is included at Appendix X. Users manuals are provided to authorized users.

3.4.1.10 Scheduling the Start Up. A plan should be developed to establish a phased schedule for the orderly transfer of HM currently held by work centers or activities to the control of the HAZMINCEN. This plan must include an orientation and training schedule for each customer to ensure their understanding and support of the program. The initial transfer of material and program operation is limited to a small number of work centers. It is extremely important that this cause minimal disruption to the normal work schedule.

Once this initial effort is operating effectively, additional work centers and tenant activities can be scheduled. As a part of the agreement with the work centers, a Memorandum of Understanding (MOU) should be executed for both parties to ensure complete agreement and understanding of each parties responsibilities. A sample MOU is included as Appendix VI and can be adapted to unique circumstances and arrangements.

The AUL is an important reference document for the scheduling process since it contains the identification, quantity and location of HM stored throughout the activity. It not uncommon for some of the HM collected to immediately become HW. Some material may not be identifiable, some may have expired shelf life that cannot be extended, and some may be damaged or contaminated. An estimate should be made of the material falling into this category and arrangements made with the appropriate PWC or Defense Reutilization Marketing Office (DRMO) for its proper disposal.

3.4.2 Operating the HAZMINCEN. The following paragraphs describe a typical HAZMINCEN operating scenario and are provided for guidance only. Specific operations may vary from base to base, depending on individual circumstances and whether HICS or HSMS is installed. Figures 3-1 and 3-2 (the NAWS Point Mugu CHRIMP Operation) are provided as an illustration.

3.4.2.1 Material Issue. When a customer submits a requirement, HAZMINCEN personnel must decide whether to deliver the material or prepare it for customer pick up. Responsiveness to the initial request is key to a successful program. HAZMINCEN personnel enter the appropriate information into the HICS/HSMS System to identify the transaction and determine if the material requested is in stock. Each request is reviewed to ensure the material is contained in the requester's AUL, that no prior issues of the same material are unaccounted for, and no unusual quantities of material are being ordered (a normal issue will be that amount required to accomplish a specific maintenance action or, up to, a 1-week supply). If previously issued material is unaccounted for, the customer will be contacted and requested to turn-in the missing material or container. Confirmation of the use or location of the missing material and/or container should be established prior to issue of additional material. If the material is not authorized and a suitable substitute cannot be provided, HAZMINCEN personnel will initiate a request through the Safety, Industrial Hygiene, and Environmental Departments

to obtain appropriate authorization from the commanding officer to procure material. If the material is authorized and in stock, HICS/HSMS will generate a delivery order with appropriate bar code labels and adjust the on-hand inventory quantities. Material classified as cost avoidance, i.e., material turned in by a customer, will be issued first. If the material requested is not available from HAZMINCEN stock, the customer will be advised and an order will be placed by HAZMINCEN personnel. HAZMINCEN personnel will obtain the material, deliver or issue the ordered quantity to the customer, and add the remainder of the standard unit of issue to the HAZMINCEN inventory. Periodically, the HICS/HSMS system is used to create reports of outstanding HM or containers. These reports are used to remind customers to account for all HM.

Prior to issuing or delivering item(s), the material is packaged and the bar code label is affixed to facilitate tracking of the material. In compliance with reference 3-3, an MSDS is printed from HMIS or reproduced from hard copy files and provided to the user. HICS/HSMS generates a receipt document, adjusts inventory levels, and calculates applicable charges to the customer.

3.4.2.2 Material Control. At the completion of the maintenance task, or end of the workweek, customers will arrange for the return of any unused portion of material and its container to the HAZMINCEN. Local procedures may allow work centers to maintain a week's supply of HM in authorized storage lockers. If the returned material can be used again, it will be repackaged as necessary and returned to storage. This transaction will be entered into HICS/HSMS to adjust the inventory level. If the material or container cannot be used again, it will be processed for disposal as HW through appropriate channels. If a maintenance task cannot be completed during the day the material is issued, and authorized storage facilities exist at the work center, the HM can be retained on site until the work is completed.

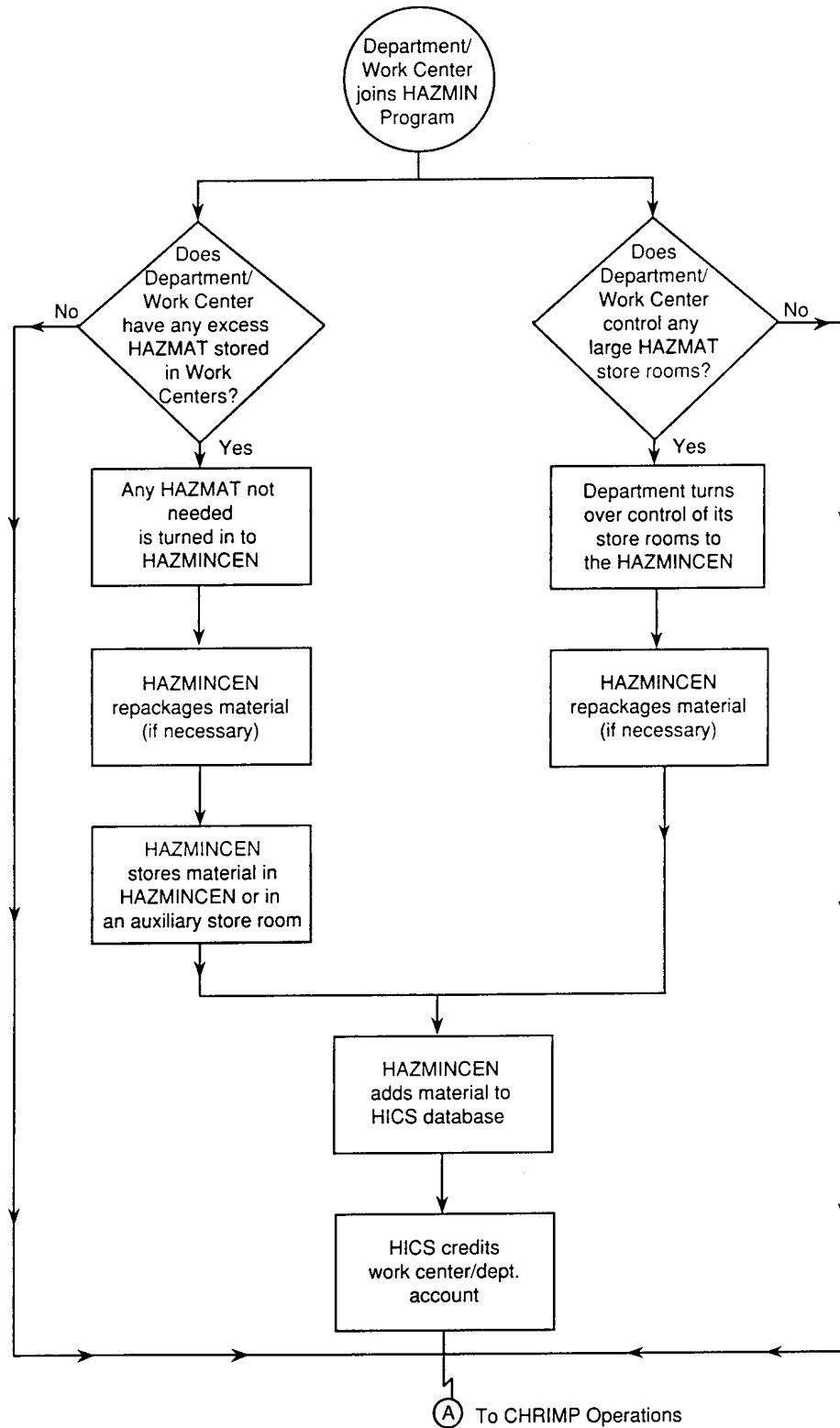


Figure 3-1. HAZMINCEN Flow Chart

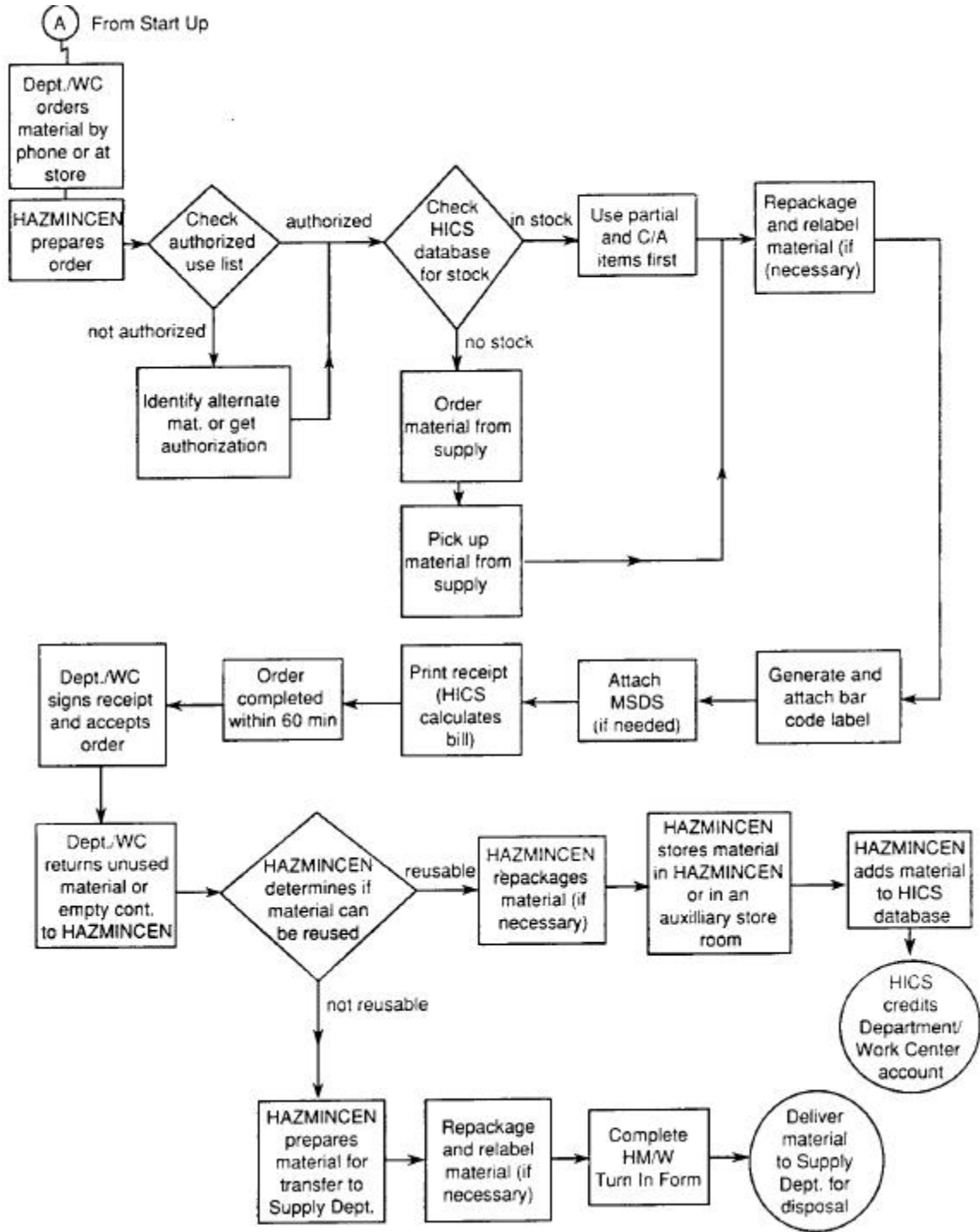


Figure 3-2. HAZMINCEN Flow Chart

3.4.2.3 Accounting. The HAZMINCEN provides each customer with a monthly statement indicating quantity issued, cost avoidance or retail stock, and amount the customer will be billed. Once discrepancies are resolved, the statement is forwarded to the comptroller for processing.

3.4.2.4 Inventory Management. Inventory levels are dynamic and interaction among the HAZMINCEN and customers is necessary so that levels can be properly established and maintained. Once inventory levels have been created and usage rates predicted, reorder points are established. When the inventory level reaches the reorder point, appropriate requisition/procurement action is initiated for replenishment. When the material is received by HAZMINCEN, it is repackaged, as necessary, into units of issue consistent with quantities normally requested. Reorder points must be reevaluated as additional usage data is gathered since it is likely centralized control will result in decreasing demand.

3.4.2.5 Shelf Life Management. Most HM is marked with a manufacturer's date, lot number, retest date and the shelf life expiration date. After a period of time, some HM will deteriorate, break down or lose potency. Some HM received by the HAZMINCEN may be close to or beyond the expiration or retest date, and if not extended or used, may become HW. The HAZMINCEN must establish an effective shelf life management program as outlined in Reference 3-9 and appropriate local directives. These documents contain policy and procedures applicable to material management, procurement and utilization; all of which are designed to eliminate generation of HW. In cases where problems are encountered, NAVSUP 4C3 (717-605-1990) may be contacted for assistance.

HAZMINCEN managers are often able to find alternate uses for expired shelf life material including paint recycling, motor/lube oil recycling, and solvent reclamation. Certain recycling efforts, usually those involving materials regulated under the RCRA, may require local or state government approval and permits.

CHAPTER 3

REFERENCES

- 3-1 OPNAVINST 5090.1 (series), *Environmental and Natural Resources Program Manual*
- 3-2 *Regional Hazardous material Management System (RHMMMS) - A User Manual for the Regional Inventory Manager - DIN: PD-7-2-001#9, 29 December 1995*
- 3-3 OPNAVINST 5100.23 (series), *Navy Occupational Safety and Health (NAVOSH) Program Manual*
- 3-4 MIL-H-1032, *NAVFAC Design Manual*
- 3-5 NFPA *UNIFORM FIRE CODE*, Articles 79 & 89
- 3-6 ICBO *UNIFORM BUILDING CODE*, Chapter 9
- 3-7 29 CFR 1910.132, "General Requirements for Personal Protective Equipment"
- 3-8 29 CFR 1910.120, "Hazardous Waste Operations and Emergency Response"
- 3-9 DODINST 4140.27M, *Shelf-Life Item Management Manual*
- 3-10 DOD Manual 4160.21M, *Defense Reutilization and Marketing Manual*

CHAPTER 4

SHIP-TO-SHORE HAZMAT INTERFACE

4.1 INTRODUCTION

This chapter provides general guidance for ships and shore activities to establish a coordinated effort in the preparation, offload, and removal of excess and used HM from ships. This guidance has been developed using procedures and instructions already in place at several naval bases. This information is consistent with Navy policy on HM offloads as stated in References 4-1 through 4-4. This chapter provides information on established Navy policy and aims to communicate how several Fleet activities are successfully accomplishing the task of used/excess HM management. It recommends standardizing only those critical procedures necessary to offload used/excess HM from Navy ships in a safe and efficient manner while leaving local shore commands the flexibility necessary to meet the more stringent local government requirements if any.

A coordinated effort between the off-loading ship and shore-based establishment should take place in the preparation, offload, and disposition of HM. Most of the problems surrounding the offload of HM arise from the difficulties inherent in proper identification and management of used/excess material that could potentially be classified as HW by Federal or state standards. A thorough tracking of HMs from initial requisition, through use, to final disposal is necessary to accurately identify what type and condition of HM is being offloaded. HICS software provides this type of "cradle-to-grave" capability, tracking HM by user, and providing disposition documentation and labeling to expedite proper HM offload.

4.2 SHORE-BASED HM COORDINATOR

4.2.1 Shore-Based HM Offload Team (HOT). The shore-based HOT is composed of the FISC and PWC with supporting roles by the cognizant shore activities. The team ensures full compliance with used or excess HM offload, handling, containerization, labeling, transportation and disposal

requirements. HOT members must have HM and safety training required by current Federal, state, and local regulations.

In all major Navy homeports, the FISC or PWC shall function as the initial point of contact (POC) for coordinating an offload of used/excess HM from the Fleet. The FISC will provide and/or coordinate all technical and administrative support necessary for the successful transfer of shipboard HM to the receiving shore facility in a safe and environmentally sound manner. In Navy ports without direct FISC or PWC support, the receiving shore activity will function as the POC and assume responsibility for the transfer of used/excess HM.

The FISC should operate a full-service HM reutilization facility that includes a representative on the HOT. The HOT will include support from the cognizant shore activity, depending on local regulations and Inter-Service Support Agreements (ISSAs), location of the HM reutilization facility, location of the disposal facility, the size and scope of HM offloads, and manpower and transportation requirements. The team concept may be established as a cascade of responsible parties to ensure adequate, timely, but cost-effective service to the Fleet. For standardization, the FISC shall assume the coordinating role for Fleet HM offloads.

The purpose of the HOT is to provide the fleet technical and administrative support for HM disposition so that ships will not be unnecessarily burdened during offload. In conjunction with the ship's HM POC (see Section 4.3.1), the HOT will manage the HM offload, including shelf life extensions, turn-in to store, and turn-in to disposal. The FISC POC is responsible for arranging necessary support services at appropriate times, given reasonable notice of the support requirements of a particular vessel.

Ships returning or entering port should include HM offload information in the Logistic Request (LOGREQ). Using the information from a ship's LOGREQ for offload of HM, the FISC POC should provide an arrival information package detailing off-load/on-load procedures, hours of operation and POCs with phone numbers. In some instances it may be necessary to transport the HOT onboard ship prior to its arrival in port to assist shipboard personnel in identifying and preparing HM for offload. Sending HOT personnel out to ship prearrival should be reserved for urgent/fast re-deployment situations or

when the amounts of HM to be offloaded warrant such help (e.g., offloads exceeding 5 pallets or 25 line items).

4.2.2 Technical Requirements of the HOT

- Comply with local/state HM regulations and requirements for handling of used/excess HM. The cognizant Engineering Field Department/Activity (EFD/A) shall provide assistance to the HOT to meet regulatory requirements.
- Comply with transportation requirements for used/excess HM.
- Comply with off-load container requirements. Providing approved containers prior to shipment of offloaded excess/used HM shall be the responsibility of the HOT. The HOT aids in the inspection of containers and packing of HM by providing help in marking, labeling, and manifesting. Guidance for the proper selection of storage containers for used/excess HM is provided in references 4-1 and 4-4.
- Comply with DoD/EPA/state/local HM marking and labeling requirements.
- Comply with HM safety and handling requirements.
- Identify HM consolidation and/or repackaging requirements.
- Determine shelf life status and management of HM. The FISC Shelf Life Management Regional Coordinator should be consulted for assistance and training in determining shelf life extension criteria.

4.3 SHIPBOARD HM POINT OF CONTACT (POC)

4.3.1 Proper HM Offload Management. Each Navy ship shall establish a POC to coordinate the ship's HM offload. This should normally be the HM coordinator or HAZMINCEN supervisor. Utilizing proper CHRIMP management techniques and HICS data system, the POC will:

- Ensure HM is tracked from its initial requisition to its eventual offload.
- Ensure used HM is provided in suitable containers, properly labeled and secured, and with a completed DD Form 1348-1 and MSDS. Any additional requirements resulting from Federal, state or local regulations or from FISC/PWC/PWD/DRMO facilities will normally be the responsibility of the receiving shore establishment.
- Ensure used HM is provided with a Used Hazardous Material Identification Label (NSN 0107-LF-016-9100). This label (Figure 4-1) will indicate the specific processes in which the HM was used (e.g., washing of aircraft wheels, electroplating lag bolts using cyanide process, degreasing vehicle axle, used hydraulic oil from Number 3 elevator sump, etc.), as well as any known impurities (from a Navy Oil Analysis Program (NOAP) report or other analyses) and special stowage requirements (flammable, corrosive, reactive, etc.). Process information can be recorded and tracked with HICS.

<p style="text-align: center;">USED</p> <p>SHIP _____ WORK CENTER _____</p> <p>NAME OF MATERIAL _____</p> <p>PROCESS IN WHICH MATERIAL USED _____</p> <p>_____</p> <p>ANY KNOWN IMPURITIES _____</p> <p>SPECIAL STOWAGE REQUIREMENTS _____</p> <p>HAZMINCEN OFFICER SIGNATURE _____</p> <p>DATE _____</p> <p style="text-align: center;">HAZARDOUS MATERIAL</p>

FIGURE 4-1. Used Hazardous Material Identification Label

4.3.2 Provide Notice to Shore Establishment. Prior to the ship's arrival into port, the HM POC, via LOGREQ, shall notify the local ashore HOT POC of the ship's estimated arrival and any HM off-load requirements.

Reasonable notice shall include:

- A basic description of the HM designated for offload (e.g., used/excess HM, acids, ignitable, reactive, etc.).
- Estimated quantity per category (number of pallets of each type).

For subsequent requirements of HM offload during inport periods, the ship HM POC must follow requirements communicated by the HOT POC or listed in the Port Guide. Most shore activities have standard offload times and equipment availability.

4.3.3 Identification of HM. HM intended for offload should be identified to the greatest extent possible by shipboard personnel. Incomplete or inadequate identification of used HM (and/or failure to identify the process in which the HM was used) will increase costs to the Fleet by necessitating expensive analyses and forcing the use of conservative assumptions (e.g., unnecessary management/disposal as HW) by the servicing activity. Whenever possible, the HOT may assist with identifying and segregating HM prior to arrival.

For turn-in of excess or unused HM, either the original manufacturer's label or a new label with the following information is required:

- The HM nomenclature (plus stock number if available).
- Manufacturer's name and address.
- Nature of the hazard presented by the material (including the target organ affected by the material).

For used HM, the following information is required on all containers:

- Label information (either the original or new label with HM nomenclature, manufacturer's name and address, and the nature of the hazard).
- Ship's name and hull number.
- Work center generating the material (ship's HAZMINCEN).
- HM nomenclature.
- Process in which the material was used.
- Any impurities in the material (if none are known, indicate NONE).
- Special stowage requirements (flammable, caustic, reactive).
- Signature (ship's HAZMINCEN officer).

An MSDS is required to accompany used HM. If an HMIS MSDS is not available, a manufacturer's MSDS must be inserted in a plastic envelope and adhered to the respective container. In situations where compatible materials are inadvertently mixed, the used HM shall be accompanied by the MSDSs of each material in the mixture.

If tracking of HM is lost and identity is unclear, each container shall be labeled "unknown." An MSDS need not accompany this material. Information, such as whether the material is flammable or combustible (the most common type of HM aboard ship), reactive, toxic, or corrosive, should be supplied in the "Special Stowage Requirements" section of the Used HM Label to allow proper stowage at the receiving shore activity. Special notice should be given to the receiving shore activity of the presence of such containers at the earliest opportunity due to prolonged laboratory analysis requirements. The disposal cost of such material is substantially higher than "known" wastes. Although shore activities are responsible to perform testing on waste streams, ships are accountable for analysis costs if, because of improper ship HM management, testing costs become excessive.

4.3.4 Segregation of HM. Shipboard personnel must have adequate knowledge to properly identify and segregate incompatible HM, avoiding dangerous conditions onboard ship or ashore. As a minimum, shipboard personnel will ensure that different HM is not mixed together and that incompatible HM is stored on separate pallets for offloading. Compatibility groups and guidance provided in references 4-1 and 4-4, should be used to guide segregation of HM for offloading.

4.3.5 Containerization and Packaging of HM. Shipboard personnel will be responsible for adequate containerization and packaging of all HM onboard regardless of intent to off-load such material. Shipboard personnel shall package the off-load HM nonleaking containers in good condition, and position each container ready for safe shipment (i.e., on unbroken pallets, in nonrusted drums, in an upright and secured position, properly segregated, etc.). Suitable containers and over-packed containers are identified in references 4-1 and 4-5.

4.3.6 Used/Excess HM Turn-in Documentation. Shipboard personnel shall be responsible for preparing a DD Form 1348-1 for turn-in of used/excess HM and for ensuring availability of all MSDSs where appropriate. If any additional requirements (e.g., waste profile sheets) are placed on the shore activity by Federal, state or local laws and regulations, it is the responsibility of the HOT or receiving shore activity to ensure these requirements are met using information supplied by the ship on the DD Form 1348-1 and container labels. The information to be provided on the DD Form 1348-1 will be per reference 4-1 and receiving activity requirements.

4.3.7 Off-load of Used/Excess HM

- The ship's HM POC will ensure the safe off-load of the HM from the ship.
- HOT team members should be used to assist shipboard personnel in ensuring a safe and efficient off-load of HM.
- The ship's HM POC will ensure custody transfer of off-loaded HM by accepting a signed DD 1348-1 from the HOT as the receiving activity.

4.3.8 Ultimate Responsibility for Off-loaded HM.

The receiving shore activity assumes generator status and liability for afloat HM being off-loaded.

CHAPTER 4

REFERENCES

- 4-1 OPNAVINST 5100.19 (series), *Navy Occupational Safety and Health (NAVOSH) Program Manual for Forces Afloat.*
- 4-2 OPNAVINST 5100.23 (series), *Navy Occupational Safety and Health (NAVOSH) Program Manual.*
- 4-3 OPNAVINST 5090.1 (series), *Environmental and Natural resources Manual.*
- 4-4 Hazardous Material Users Guide (HMUG).
- 4-5 Chief of Naval Operations Policy Guide for Shipboard Hazardous Material Container Disposal.

APPENDIX I

LIST OF ACRONYMS

A/C	ADVANCE CHANGE
ADP	AUTOMATED DATA PROCESSING
AFFF	AQUEOUS FILM FORMING FOAM
AMD	AIRCRAFT MAINTENANCE DEPARTMENT
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ATG	AFLOAT TRAINING GROUP
AUL	AUTHORIZED USE LIST
C/A	COST AVOIDANCE
CFR	CODE OF FEDERAL REGULATIONS
CHAP	CHRIMP/HICS ASSISTANCE PROGRAM
CHRIMP	CONSOLIDATED HAZARDOUS MATERIAL REUTILIZATION AND INVENTORY MANAGEMENT PROGRAM
CNET	CHIEF, NAVAL EDUCATION AND TRAINING
CNO	CHIEF OF NAVAL OPERATIONS
CO	COMMANDING OFFICER
COMSCINST	COMMANDER MILITARY SEALIFT COMMAND INSTRUCTION
DCA	DAMAGE CONTROL ASSISTANT
DERA	DEFENSE ENVIRONMENTAL RESTORATION ACCOUNT
DESCIM	DEFENSE ENVIRONMENTAL SECURITY CORPORATE INFORMATION MANAGEMENT
DOD	DEPARTMENT OF DEFENSE
DOS	DISK OPERATING SYSTEM
DOT	DEPARTMENT OF TRANSPORTATION
DRMO	DEFENSE REUTILIZATION MARKETING OFFICE
DSN	DEFENSE SWITCHED NETWORK (FORMERLY AUTOVON)
DTO	DIRECT TURNOVER
EFA	ENGINEERING FIELD ACTIVITY
EFD	ENGINEERING FIELD DEPARTMENT
EHM	EXTREMELY HAZARDOUS MATERIAL
EPA	ENVIRONMENTAL PROTECTION AGENCY
FISC	FLEET AND INDUSTRIAL SUPPLY CENTER
FOSSAC	FITTING OUT SUPPLY SUPPORT ASSISTANCE CENTER
GENSPECS/GSO	GENERAL SPECIFICATIONS FOR SHIPBUILDING, NAVY
HAZCOM	HAZARD COMMUNICATION
HAZMAT	HAZARDOUS MATERIAL
HAZMINCEN	HAZARDOUS MATERIAL MINIMIZATION CENTER
HICS	HAZARDOUS INVENTORY CONTROL SYSTEM
HM	HAZARDOUS MATERIAL
HMAP	HAZARDOUS MATERIAL AFLOAT PROGRAM

NAVSUP P-722, CHRIMP Manual

HMC&M	HAZARDOUS MATERIAL CONTROL AND MANAGEMENT
HMIS	HAZARDOUS MATERIAL INFORMATION SYSTEM
HMPO	HAZARDOUS MINIMIZATION PROGRAM OFFICE
HMUG	HAZARDOUS MATERIAL USERS GUIDE
HOT	HM OFFLOAD TEAM
HSMS	HAZARDOUS SUBSTANCE MANAGEMENT SYSTEM
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
HW	HAZARDOUS WASTE
IAW	IN ACCORDANCE WITH
IBM	INTERNATIONAL BUSINESS MACHINES
ICBO	INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS
ISSA	INTER SERVICE SUPPORT AGREEMENT
LMA	LOGISTICS MANAGEMENT ASSESSMENT
LOGREQ	LOGISTICS REQUEST
MHE	MATERIALS HANDLING EQUIPMENT
MIL-H	MILITARY HANDBOOK
MOU	MEMORANDUM OF UNDERSTANDING
MSC	MILITARY SEALIFT COMMAND
MSSD	MANAGEMENT SYSTEM SUPPORT DIVISION
MRC	MOBILE REUSE CENTER
MRC-SB	MOBILE REUSE CENTER-SHIPBOARD
MSDS	MATERIAL SAFETY DATA SHEET
NAVFAC	NAVAL FACILITIES ENGINEERING COMMAND
NAVICP	NAVY INVENTORY CONTROL POINT
NAVOSH	NAVY OCCUPATIONAL SAFETY AND HEALTH
NAVOSHENVTRACEN	NAVOSH and ENVIRONMENTAL TRAINING CENTER
NAVSEA	NAVAL SEA SYSTEMS COMMAND
NAVSUP	NAVAL SUPPLY SYSTEMS COMMAND
NAWS	NAVAL AIR WEAPONS STATION
NCTAMSLANT	NAVAL COMPUTER AND TELECOMMUNICATIONS AREA MASTER STATION ATLANTIC
NEC	NAVY ENLISTED CLASSIFICATION
NECA	NAVY ENVIRONMENTAL COMPLIANCE ACCOUNT
NEPMU	NAVY ENVIRONMENTAL AND PREVENTATIVE MEDICINE UNITS
NFESC	NAVAL FACILITIES ENGINEERING SERVICES CENTER
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOAP	NAVY OIL ANALYSIS PROGRAM
NSN	NATIONAL STOCK NUMBER
NSTM	NAVAL SHIPS TECHNICAL MANUAL

NAVSUP P-722, CHRIMP Manual

NSWCCD	NAVAL SURFACE WARFARE CENTER, CARDEROCK DIVISION
O&MN	OPERATIONS AND MAINTENANCE, NAVY
OJT	ON-THE-JOB TRAINING
OPN	OTHER PROCUREMENT NAVY
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OPNAV	OFFICE OF THE CHIEF OF NAVAL OPERATIONS
PACFLT	PACIFIC FLEET
PAT	PROCESS ACTION TEAM
PC	PERSONAL COMPUTER
PKP	DRY CHEMICAL FIRE EXTINGUISHING POWDER (Potassium Bicarbonate base)
PM	PLANNED MAINTENANCE
PMS	PLANNED MAINTENANCE SYSTEM
POA&M	PLAN OF ACTION AND MILESTONES
POC	POINT OF CONTACT
POE	POINT OF ENTRY
PPE	PERSONAL PROTECTIVE EQUIPMENT
PWC	PUBLIC WORKS CENTER
PWD	PUBLIC WORKS DEPARTMENT
RCRA	RESOURCE CONSERVATION AND RECOVERY ACT
RDT&E	RESEARCH, DEVELOPMENT, TEST AND EVALUATION
REC	REGIONAL ENVIRONMENTAL COORDINATOR
RFI	READY-FOR-ISSUE
RHMMS	REGIONAL HAZARDOUS MATERIAL MANAGEMENT SYSTEM
SAE	SOCIETY OF AUTOMOTIVE ENGINEERS
SARA	SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT
S.D.	SUPPLY DEPARTMENT
SFR	SHML FEEDBACK REPORT
SHIPALT	SHIP ALTERATION
SHML	SHIP'S HAZARDOUS MATERIAL LIST
SNEC	SECONDARY NAVY ENLISTED CLASSIFICATION
TAD	TEMPORARY ADDITIONAL DUTY
TQL	TOTAL QUALITY LEADERSHIP
TQM	TOTAL QUALITY MANAGEMENT
TYCOM	TYPE COMMANDER
U/I	UNIT OF ISSUE
WC	WORK CENTER
XO	EXECUTIVE OFFICER

APPENDIX II

HAZMINCEN SPACE LOCATIONS AFLOAT

1. **Background.** Developed by Naval Surface Warfare Center, Carderock Division, Philadelphia Site, Code 631.

POC: Bruce Lundy 215-897-7640
Sanjiv Ruparelia 215-897-7701

Fitting Out and Supply Support Assistance Center (FOSSAC), Norfolk, VA, Code 634.

POC: Gene Jones 757-444-8460

2. **Guidelines**

a. Avoid using spaces not equipped for storage of flammables or offices without ventilation.

b. On ships - Computers should not be located in the same space as flammables.

c. The HAZMINCEN can consist of many spaces. Everything does not have to be in the same space. Use existing Flammable Liquid Storerooms. Provide stowage capability in S.D. Office (HAZMINCEN) to allow HAZMINCEN operator to issue Personnel Protective Equipment (PPE) with HM.

d. MRC units (see Appendix III) may be utilized as a temporary means of partially or fully meeting the requirements of Section 3 a-e as follows, for all U.S. Navy surface ships and all USNS (T-class) surface ships.

3. **HAZMINCEN Space Requirements**

a. Supply Department Office (HAZMINCEN). The main office, located within a general office. (No flammables stored within the office)

(1) Ventilation. General office requirements IAW "Heating, Ventilation and Air Conditioning Design Criteria Manual for Surface Ships" (NAVSEA 0938-LP-018-0010).

(2) Fire Protection. One portable CO2 extinguisher.

(3) Location. The office should be in close proximity to the Supply Department Issue Room.

b. Supply Department Office/Issue mostly nonflammable HM. The main office, issuing mostly nonflammable HM. (A work center with no more than 30 gallons of flammables.)

(1) Ventilation. General workshop requirements.

(2) Fire Protection. Two portable dry chemical fire extinguishers.

(3) Drains. Two-inch deck drains. Per GENSPECS/GSO Section 529, independent drainage systems shall be installed for compartments used for storage of flammable liquids or other liquids hazardous to personnel or material.

(4) Location. Flammable liquids issue rooms should not be adjacent to a vital space. The compartments should be located in a central area, which is easily accessible to the major work centers.

c. Flammable Liquids Issue Room (HAZMINCEN). More than 30 gallons of flammables are stored within the space.

(a) Ventilation. Rate of change 4. Rate sufficient to ensure one complete air change in the time indicated.

(b) Fire Protection. Two portable dry chemical fire extinguishers.

(c) Drains. Two inch IAW GENSPECS/GSO Section 529.

(d) Location. Flammable liquid storerooms should not be located adjacent to a vital space. The compartment(s) should be located in a centrally located area, easily accessible to the major work centers.

d. HM Storeroom (Used/Excess HM). Bulk storage of used/excess HM including greater than 30 gallons flammable liquids.

(a) Ventilation. Rate of change 4. Rate sufficient to ensure one complete air change in time indicated.

(b) Fire Protection. One portable dry chemical extinguisher. A Halon substitute total flooding fire-extinguishing system shall be installed IAW GENSPECS/GSO 555.

(c) Drains. Two-inch deck drain.

(d) Location. Flammable liquid storerooms should not be located adjacent to a vital space. The compartment(s) location(s) should permit easy access for offloading 55 GL drums to shore or to an UNREP station.

e. HM Equipment/Storeroom (Used/Excess HM). Consolidation of used/excess HM and compacting empty containers.

(a) Ventilation. Rate of change 4. Rate sufficient to ensure one complete air change in the time indicated.

(b) Fire Protection. One portable dry chemical extinguisher. A Halon substitute total flooding fire-extinguishing system shall be installed IAW GENSPECS/GSO 555.

(c) Deck Drains. Two-inch deck drains IAW GENSPECS/GSO 529.

(d) Location. Flammable liquid storerooms should not be located adjacent to a vital space. The compartment should be located near or within the used/excess hazardous stowage area. Fifty-five gallon drums must be easily transported to the stowage area.

4. **Standardized HAZMINCEN Locations by Ship Class**. On the following pages are permanent standardized HAZMINCEN space locations for each ship class that will be implemented by SHIPALT. Also identified are interim locations that should be used by all ships until the SHIPALT is installed.

HAZMINCEN STANDARDIZATION
Ship Class CVN 68 & CVN 74/75

Recommended Permanent Location

S.D. Office (HAZMINCEN)

Directly (aft and inboard) across passageway from 1-156-4-A (Formerly Supply Department Storeroom, Aircraft Tires)

S.D. Office/Issue Room (HAZMINCEN)

No issue of flammables from S.D. office (HAZMINCEN)

Flammable Liquids Issue Room (HAZMINCEN)

1-156-4-A (Formerly Supply Department Storeroom, Aircraft Tires)

1-128-5-K (Formerly Aviation Paint Mixing and Issue Room No. 1)

Used/Excess HAZMAT Equipment/Store Room

1-156-4-A

HAZMAT Storeroom (Used/Excess HM)

1-156-4-A

Interim Locations

Conversion completed for CVN 74 and new construction CVN 75. CVN 68 class utilizing Mobile Reuse Center IAQ PEO VLA Guidance Package.

HAZMINCEN STANDARDIZATION
Ship Class FFG-7

Recommended Permanent Location

S.D. Office (HAZMINCEN)

Issue Laptop Computer with HICS database installed

S.D. Office/Issue Room (HAZMINCEN)

Issue Laptop Computer with HICS database installed

Flammable Liquids Issue Room (HAZMINCEN)

3-32-1-K (formerly Flammable Liquid Storeroom No. 1)

1-240-1-K (formerly Paint Mix and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

3-32-1-K (formerly Flammable Liquid Storeroom No. 1)

HAZMAT Storeroom (Used/Excess HM)

3-32-1-K (formerly Flammable Liquid Storeroom No. 1)

Interim Locations

Until such time that laptop computers can be issued, 3-59-2-A can be utilized as the HAZMINCEN Office, however, there can be no storage of flammables in the space. The existing Flammable Liquid Storerooms (3-32-1-K and 1-240-1-K) would be used for the Flammable Liquids Issue Room (HAZMINCEN), the Used/Excess HAZMAT Equipment/Store Room and the HAZMAT Storeroom (Used/Excess HM).

HAZMINCEN STANDARDIZATION
Ship Class ARS-50

Recommended Permanent Location

S.D. Office (HAZMINCEN)

SD Issue Room (2-70-0-A)

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

3-70-0-A (formerly Flammable Liquid Storeroom No. 1)

01-58-1-K (formerly Paint Mix and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

3-70-0-A (formerly Flammable Liquid Storeroom No. 1)

HAZMAT Storeroom (Used/Excess HM)

3-70-0-A (formerly Flammable Liquid Storeroom No. 1)

HAZMINCEN STANDARDIZATION
Ship Class AO-177

Recommended Permanent Location

S.D. Office (HAZMINCEN)

SD Issue Room (1-112-1-Q)

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

2-112-1-K (formerly Flammable Liquid Storeroom)

1-118-1-K (formerly Paint Mix and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

01-28-3-AA (formerly Cargo Storeroom Lube Oil)

HAZMAT Storeroom (Used/Excess HM)

01-28-3-AA (formerly Cargo Storeroom Lube Oil)

HAZMINCEN STANDARDIZATION
Ship Class MCM-1

Recommended Permanent Location

S.D. Office (HAZMINCEN)

Issue Laptop Computer with HICS database installed

S.D. Office/Issue Room (HAZMINCEN)

Issue Laptop Computer with HICS database installed

Flammable Liquids Issue Room (HAZMINCEN)

2-0-0-A (formerly Flammable Liquid Storeroom No. 1)

Used/Excess HAZMAT Equipment/Store Room

2-0-0-A (formerly Flammable Liquid Storeroom No. 1)

HAZMAT Storeroom (Used/Excess HM)

2-0-0-A (formerly Flammable Liquid Storeroom No. 1)

Interim Locations

Until such time that laptop computers can be issued, 01-77-1-Q can be utilized as the HAZMINCEN Office, however there can be no storage of flammables in the space. The existing Flammable Liquid Storeroom 2-0-0-A would be used as the Flammable Liquids Issue Room (HAZMINCEN), the Used/Excess HAZMAT Equipment/Store Room and the HAZMAT Storeroom (Used/Excess HM).

HAZMINCEN STANDARDIZATION
Ship Class MHC-51

Recommended Permanent Location

S.D. Office (HAZMINCEN)

Issue Laptop Computer with HICS database installed

S.D. Office/Issue Room (HAZMINCEN)

Issue Laptop Computer with HICS database installed

Flammable Liquids Issue Room (HAZMINCEN)

2-3-2-A (formerly Flammable Liquid Storeroom No. 1)

Used/Excess HAZMAT Equipment/Store Room

2-3-2-A (formerly Flammable Liquid Storeroom No. 1)

HAZMAT Storeroom (Used/Excess HM)

2-3-2-A (formerly Flammable Liquid Storeroom No. 1)

Interim Locations

Until such time that laptop computers can be issued, 2-26-0-A can be utilized as the HAZMINCEN Office, however there can be no storage of flammables in the space. The existing Flammable Liquid Storeroom 2-3-2-A would be used as the Flammable Liquids Issue Room (HAZMINCEN), the Used/Excess HAZMAT Equipment/Store Room and the HAZMAT Storeroom (Used/Excess HM).

HAZMINCEN STANDARDIZATION
Ship Class MCS-12

Recommended Permanent Location

S.D. Office (HAZMINCEN)

SD Issue Room (1-51-1-Q)

S.D. Office/Issue Room (HAZMINCEN)

SD Issue Room (1-51-1-Q)

Flammable Liquids Issue Room (HAZMINCEN)

5-13-0-K (formerly Flammable Liquid Storeroom No. 1)

4-35-2-Q (formerly Flammable Liquid Storeroom No. 2)

4-42-0-K (formerly Flammable Liquid Storeroom No. 3)

3-91-1-A (formerly Aviation L.O. Storeroom)

01-87-2-K (formerly Aviation Flammable Liquid Storeroom)

Used/Excess HAZMAT Equipment/Store Room

2-71-1-L (formerly Waste Collection Area)

HAZMAT Storeroom (Used/Excess HM)

2-71-1-L (formerly Waste Collection Area)

Interim

An MRC-SB has been provided to the USS Inchon for use in the applications above.

HAZMINCEN STANDARDIZATION
Ship Class CG-47

Recommended Permanent Location (SHIPALT NO. 566D)

S.D. Office (HAZMINCEN)

Supply Department Office (2-260-1-Q)

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

Flammable Liquid Storeroom No. 1 (6-464-4-K)

Flammable Liquid Storeroom No. 2 (2-524-2-K)

The Paint Issue Room (01-220-4-K)

Used/Excess HAZMAT Equipment/Store Room

The Paint Issue Room (01-220-4-K)

HAZMAT Storeroom (Used/Excess HM)

The Paint Issue Room (01-220-4-K)

Interim Locations

Same as above without recommended space shelving
modifications included in ship alteration

Note: Presently reevaluating permanent location of S.D.
Office

HAZMINCEN STANDARDIZATION
Ship Class DD-963

Recommended Permanent Location (SHIPALT No. 971D)

S.D. Office (HAZMINCEN)

1-434-0-A

S.D. Office/Issue Room (HAZMINCEN)

1-434-0-A (Up to 30 gallons of flammables)

Flammable Liquids Issue Room (HAZMINCEN)

2-426-0-K (formerly Flammable Liquids Storeroom)

2-491-1-K (formerly Flammable Liquids Storeroom)

1-457-0-K (formerly Paint Mix and Issue Room)

02-314-1-A (formerly Aviation Storeroom)

Used/Excess HAZMAT Equipment/Store Room

1-457-0-K (formerly Paint Mix and Issue Room)

HAZMAT Storeroom (Used/Excess HM)

1-457-0-K (formerly Paint Mix and Issue Room)

Interim Locations

S.D. Office (HAZMINCEN) would need to be located in the existing Supply Department offices. The existing Flammable Liquid Storerooms (2-426-0-K, 2-491-1-K, 1-457-0-K, and 02-314-1-A) would be used for the Flammable Liquids Issue Room (HAZMINCEN), the Used/Excess HAZMAT Equipment/Store Room and the HAZMAT Storeroom (Used/Excess HM).

HAZMINCEN STANDARDIZATION
Ship Class DDG-51

Recommended Permanent Location (SHIPALT No. 288K)

S.D. Office (HAZMINCEN)

4-410-1-A (formerly Bosun's Storeroom No.2)

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

3-410-0-K (formerly Flammable Liquids Storeroom)

2-397-1-A (formerly Flammable Liquid Issue Room
redesignated Paint Mixing and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

3-410-0-K (formerly Flammable Liquids Storeroom)

HAZMAT Storeroom (Used/Excess HM)

3-410-0-K (formerly Flammable Liquids Storeroom)

Interim Locations

Bosun's Storeroom No. 2 presently has no ventilation and would not be suitable as a manned space. Ship should locate the S.D. Office (HAZMINCEN) in the Supply Department offices. The existing flammable storerooms (3-410-0-K and 2-397-1-A) should be utilized for bulk stowage of HM, ready-issue of HM and stowage of used/excess HAZMAT.

HAZMINCEN STANDARDIZATION
Ship Class LHD-5

Recommended Permanent Location

S.D. Office (HAZMINCEN)

1-139-3-Q (formerly Electrical Service Shop No. 1)

S.D. Office/Issue Room (HAZMINCEN)

No issue of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

Ready-issue out of all spaces at discretion of HM
Coordinator

2-11-0-K (formerly S.D. Storeroom - Flammable Liquids)

2-13-1-K (formerly Ship Store Flammable Liquid Storeroom)

2-13-7-Q (formerly Paint Mix and Issue room)

3-121-1-K (formerly S.D. Storeroom - Aviation Flammables)

Used/Excess HAZMAT Equipment/Storeroom

5-97-01-F (Formerly portion of No. 10 Flammables Liquid
Cargo)

HAZMAT Storeroom (Used/Excess HM)

5-97-01-F (Formerly portion of No.10 Flammables Liquid
Cargo)

Interim Locations

S.D. Office (HAZMINCEN) would need to be located in the existing Supply Department offices. The existing Flammable Liquid Storerooms (2-11-0-K, 2-13-1-K, 2-13-7-Q, and 3-121-1-K) would be used for the Flammable Liquids Issue Room (HAZMINCEN), the Used/Excess HAZMAT Equipment/Storeroom and the HAZMAT Storeroom (Used/Excess HM).

An MRC-SB has been provided to the Bonhomme Richard LHD-6 for use in the applications above.

HAZMINCEN STANDARDIZATION
Ship Class LPD-17

Recommended Permanent Location

S.D. Office (HAZMINCEN)

Main Deck between frames 25 and 31 on starboard side near centerline

S.D. Office/Issue room (HAZMINCEN)

Main Deck between frames 25 and 31 on starboard side near centerline

Flammable Liquids Issue Room (HAZMINCEN)

Main Deck between frames 25 and 31 on starboard near center line (access to flammable liquids storeroom and paint mix and issue rooms through dumbwaiter)

Used/Excess HAZMAT Equipment/Storeroom

Second Deck, starboard, between frames 133 and 134

HAZMAT Storeroom (Used/Excess HM)

Second Deck, Starboard side, between frames 133 and 134

HAZMINCEN STANDARDIZATION
Ship Class LSD-49

Recommended Permanent Location (SHIPALT No. 5062K)

S.D. Office (HAZMINCEN)

01-49-3-Q (formerly Drying Room)

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

01-55-1-K (formerly Paint Mixing and Issue Room)
01-52-1-K (formerly Flammable Liquid Ready Service Storeroom)

Used/Excess HAZMAT Equipment/Store Room

01-45-1-A (formerly Supply Department Shipping and Receiving)

HAZMAT Storeroom (Used/Excess HM)

01-45-1-A (formerly Supply Department Shipping and Receiving)

Interim Locations

01-55-1-K and 01-52-1-K are the only spaces in this area designed to store flammables. Until such time that the recommended spaces are converted, these two spaces will need to serve the dual function of Flammable Liquids Issue Room (HAZMINCEN) and HAZMAT Storeroom (Used/Excess HM). The S.D. Office (HAZMINCEN) will be located in Supply Department Shipping and Receiving (01-45-1-A).

HAZMINCEN STANDARDIZATION
Ship Class LHA-1

Recommended Permanent Location (SHIPALT No.TBD)

S.D. Office (HAZMINCEN)

1-101-3-Q

S.D. Office/Issue Room (HAZMINCEN)

1-101-3-Q (Up to 30 gallons of flammables)

Flammable Liquids Issue Room (HAZMINCEN)

1-114-1-K (formerly Flammable Ready Issue Room)
2-1-1-K (formerly Flammable Liquid Storeroom)
2-1-2-K (formerly Paint Mix and Issue Room)
3-110-2-K (formerly Aviation Storeroom (Flammable
Liquid))

Used/Excess HAZMAT Equipment/Store Room

3-41-0-A (formerly portion of Lower Vehicle Well)

HAZMAT Storeroom (Used/Excess HM)

3-41-0-A (formerly portion of Lower Vehicle Well)

Interim Locations

1-101-3-Q can be utilized as the S.D. Office (HAZMINCEN), however, there can be no storage of flammables in the space. 1-114-1-K should be used as the ready-issue room for flammables. 2-1-1-K, 2-1-2-K, and 3-110-2-K should be utilized for stowage of bulk HM. 2-1-2-K and 3-110-2-K can also be utilized for ready-issue of paints and aviation HM, respectively. Until conversion can be accomplished in the lower vehicle well, all flammable used/excess HM should be stored in existing Flammable Liquid Storerooms until they can be offloaded.

An MRC-SB has been provided to the Tarawa LHA-1 for use in the applications above.

HAZMINCEN STANDARDIZATION
Ship Class LST-1179

Recommended Permanent Location (SHIPALT No. TBD)

S.D. Office (HAZMINCEN)

3-92-1-Q

S.D. Office/Issue Room (HAZMINCEN)

No issuance of flammables from office

Flammable Liquids Issue Room (HAZMINCEN)

3-FP-0-K (formerly Flammable Liquids Storeroom)

1-73-4-K (formerly Paint Mix and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

3-FP-0-Q (formerly Flammable Liquids Storeroom)

HAZMAT Storeroom (Used/Excess HM)

3-FP-0-Q (formerly Flammable Liquids Storeroom)

Interim Locations

Same as above without recommended space shelving
modifications included in ship alteration

HAZMINCEN STANDARDIZATION
Ship Class AGF-11

Recommended Permanent Location **(SHIPALT TBA)**

S.D. Office (HAZMINCEN)

3-68-0-Q (formerly caged area)

S.D. Office/Issue Room (HAZMINCEN)

3-68-0-Q (Up to 30 gallons of flammables)

Flammable Liquids Issue Room (HAZMINCEN)

5-25-0-K (formerly Flammable Liquids Storeroom)

1-32-1-K (formerly Paint Mix and Issue Room)

Used/Excess HAZMAT Equipment/Store Room

3-68-0-Q (formerly caged area)

HAZMAT Storeroom (Used/Excess HM)

3-68-0-Q (formerly caged area)

Interim Locations

The existing Flammable Liquid Storerooms (5-25-0-K and 1-32-1-K) should be used for the Flammable Liquids Issue Room (HAZMINCEN). Until conversion can be accomplished in the upper vehicle stowage, all flammable used/excess HM should be stored in existing flammable liquid issue room until they can be offloaded.

APPENDIX III

GUIDANCE FOR MOBILE REUSE CENTERS (MRC) AFLOAT

1. **Purpose.** To provide guidance on the operational use of the interim Mobile Reuse Center (MRC) (MRC-SB, MRC 1000AX, MRC 1000BX) and used/excess HM collection and control.
2. **Scope.** The direction provided in this document applies to all ships using a temporary storage container for their HAZMINCEN under the CHRIMP program.
3. **Discussion.** All MRC types were developed by the Department of Navy specifically for CHRIMP operations to serve as the central distribution control point. The MRC provides for a manned, ready issue space for ships until alterations designating permanent compartments for HAZMINCEN operations can be accomplished. Although this unit is a vast improvement over standard flammable lockers and storage trailers/vans, it was not intended to be a storeroom and as such does not conform to fixed storeroom requirements.

The MRC-SB units were developed by NAVSUP as a follow-on, fully compliant, improvement to earlier versions.

MRC Technical Support and Acquisition Guidance Point of Contact:

Ms. B. Pyett
Naval Supply Systems Command, Mechanicsburg, PA
COM 717-605-6253 or AV 430-6253

4. **Definitions**

- | | |
|--------------------|---|
| Ready Issue | High use HM (normally not to exceed a 48-hour inventory) required to resupply work center "in-use" flammable/corrosive lockers. Items that may be used by more than one work center on a recurring basis. |
| Re-use HM | Partially used, serviceable HM, sealed in its original container and returned to the HAZMINCEN for restocking and reissue. |

- In-use HM** Daily use of HM maintained in work center flammable/corrosive lockers specifically to support PMS or daily maintenance requirements.
- Recurring HM** HM that is used frequently by several work centers, i.e., occasionally but not often enough to be required in a work center flammable liquids storage locker, e.g., lubricants and grease.
- Excess Material** This material falls into two categories:
- 1) Serviceable material to include HM which is in excess of the ship's needs.
 - 2) Unserviceable HM due to quality/material deficiency staged for offload and return to manufacturer for reissue/credit.
- Excess Hazardous Material** Full, properly sealed containers of usable HM that is in excess of ship's needs.
- Used HM** Material that has been used in a shipboard process and may have some form of reutility afloat or ashore.
- Consolidation** Inclusion of similar/compatible used/excess HM or contaminated items into a single collection container to limit storage space requirements.
- Collection** The gathering of used/excess HM for reuse or disposal by receiving shore activities.

5. MRC Characteristics

a. The MRC was designed and built with characteristics that make it compatible with shipboard use. It has been electrically outfitted to comply with shipboard requirements to including an electrical load converter for 110/220/440V, explosion proof fixtures (electrical outlets, lights and HVAC systems), fume exhaust fan, a dry chemical fire suppression system, and a computer workstation.

b. Only the MRC-SB has withstood rigorous testing to assure safe operations including the NAVAIR MILSTD shock/vibration test, high and low temperature environments (135F to -35F), humidity, snow load and rain tests.

c. All MRC types are equipped with a ventilation system consisting of an explosion proof exhaust fan and dampers with a fusible links. The system prevents a build up of flammable/combustible or toxic fumes and shall remain on at all times.

d. Additionally, all MRC types may be equipped with the following:

- Work station for the HICS computer, to include ancillary bar code equipment.
- Shelving with netting to permit shelves floating to prevent falling containers.
- Individual shelf sumps.
- Secondary containment pallet (for aircraft carriers only).
- Floor sump to hold 630 gallons of spillage.
- Service window (bullet resistant glass).
- Fixed automatic dry chemical fire extinguishing system.

The MRC may be utilized as a space to satisfy the HAZMIN space requirements of Appendix II, a-e. However, if used as "a", no flammable HAZMATs may be stored.

6. Operational Use

a. The MRC is designed for one-person operation to control the issue of all ship's HM while maintaining minimal quantities of HM staged for quick turnover. The following equipment supports a one-person operation:

- (1) HICS computer.
- (2) Printer.
- (3) Bar-code printer.
- (4) Hand held bar-code scanner.
- (5) Approved locker for corrosives (optional).
- (6) Explosion proof refrigerator (optional).

7. Functional Use

a. The control center for all ship's authorized HM.

(1) Holds approximately 48 hours supply of ready issue HM.

(2) Supply consists of a combination of new and reuse material.

b. Provides a centralized customer service control point for new HM and reuse HM to include:

- (1) Container tracking via bar code.
- (2) Signed issue receipts.
- (3) Smallest quantity of issue unit.
- (4) Single point of return for all HM containers (empty/partial/expired etc.) and HM contaminated items.

c. Operator administers the function of:

- (1) Shelf life management program.
- (2) Maintenance of MSDS master file.
- (3) Maintenance of the SHML.
- (4) Control point for used/excess HM (collection/segregation/labeling /manifesting/stowage/off load).
- (5) Focal point of issues surrounding HM.

8. Fire Protection

a. Although well protected with a fire suppression system, the ship's Damage Control Assistant (DCA) shall plan for the possibility of fire in the MRC and/or waste hazardous stowage area. On aircraft carriers, this plan shall involve the Air Officer. The plan shall ensure there are clear areas of responsibility when CONFLAG stations are manned and unmanned.

b. Fire prevention inspections shall be conducted for the purpose of keeping unauthorized material out of the area, incompatible material properly segregated, fire lanes maintained and adequate access into and around this area for AFFF hose lines.

9. Prohibitions

a. Because of dangers associated with HM handling and stowage in the MRC, the following functions and tasks **shall not be** performed inside the MRC:

- (1) Downsizing re-pouring/de-canting.
- (2) Mixing.

(3) Stowage of open containers of HM (Re-use HM should be resealed before being placed back into the MRC).

(4) Stowage of materials with a flash point less than 73°F (Ref: OPNAVINST 5100.19C page B3-E Codes F2 and F3).

(5) Stowage of corrosives (unless placed in separate approved corrosive lockers lined with acid-resistant material and with independent secondary containment, separated by at least three feet from other incompatible materials). NOTE: Alkalis, inorganic acids and organic acids must be stored separately.

(6) Stowage of ammunition, weapons, explosives, explosive actuated devices, or propellants.

(7) Stowage of chemical and biological warfare materials.

(8) Stowage of pharmaceutical supplies, medical waste and infectious materials.

(9) Stowage of bulk fuels.

(10) Stowage of radioactive materials.

(11) Stowage of asbestos, mercury, lead, and Polychlorinated Biphenyl's (PCBs).

(12) Stowage of compressed gas.

(13) Stowage of HW of any kind.

(14) Stowage of oxidizers.

(15) Stowage of liquid or gaseous halocarbons (refrigerants).

(16) Stowage of HM in containers larger than 10 gallons.

b. HAZMAT or Used/excess HM **shall not be** incinerated aboard ship.

c. The following actions **shall not be** performed in the immediate vicinity of the MRC:

(1) Air drying empty HM containers, down sizing/re-pouring/de-canting or mixing within 10 feet of the MRC intake or A/C vents.

(2) Hot work within 35 feet of the MRC unless approved by DCA (Refer to Chapter C11, OPNAVINST 5100.19C for additional guidance) and coordinated with MRC supervisor.

10. Limitations

a. HM shall not be stored on top of the MRC. Light (non-hazardous) materials and/or empty containers may be stored on top if securely fastened.

b. The MRC is equipped with special bins, which provide secondary containment and nylon mesh netting to restrain stored containers. These bins shall not be replaced, nor added to, with inferior bins, which do not provide equivalent safety features.

c. For safety purposes and space constraints, only two people should be inside the MRC. Customers should not be allowed inside the MRC but should be assisted at the service window (or secondary doors if applicable).

11. Determining and Maintaining High and Low Limits

a. Initial determination of high and low limits for an item located in the MRC requires coordination between the HAZMINCEN and work center supervisors. Supervisors should provide initial consumption of HM by type and quantity used for daily or routine maintenance. The HAZMINCEN should consolidate inputs from all supported work centers to identify "high-use" candidates for inclusion into the MRC and quantities required to provide approximately 48 hours of support.

b. At least monthly, the HAZMINCEN supervisor shall review high and low limits and adjust accordingly. This can be accomplished with HICS software by processing an activity report on individual NSNs located in the MRC. To process this report go the first screen in HICS and :

(1) Highlight "Inventory Materials" and press "Enter."

(2) Highlight "Report Menu" and press "Enter."

(3) Highlight "Issue List" and press "Enter."

(4) Highlight "By NSN Number" and press "Enter."

(Write down the NSN you want to check.)

(5) Screen will ask for a Start Date (month/date/year order) and End Date; enter the time span you wish to review.

(6) Highlight "Equal To" and press "Enter."

(7) Enter the NSN to be reviewed and press "Enter."

(8) Highlight "Print" or "View" and press "Enter"

(Note: The last line of the report will provide issue totals). Performing this review will prevent the build up of unnecessary HM inside the MRC.

12. Material Segregation. Incompatible materials authorized to be maintained in the MRC or in-use lockers should be segregated following the guidance in Chapter C23,

OPNAVINST 5100.19C, Navy Occupational Safety and Health (NAVOSH) Program Manual For Forces Afloat. For questions or concerns regarding proper segregation requirements, contact your ship board safety officer/industrial hygienist for assistance.

13. Management of Used/Excess HM

a. General Requirements

(1) Good housekeeping practices must be followed in the consolidation and collection areas as described in NSTM Chapter 593 (1 September 1991). All areas shall be clean, dry, uncluttered, and free from combustible refuse to prevent container corrosion, personnel injury, fire hazards and facilitate emergency access. Inspect areas, containers and drum vaults weekly for container integrity. Containers utilized for used HM consolidation and collection should be in good condition as stated in NSTM Chapter 593. Discard containers with serious defects such as pitting, deep rust, creases, or cracks.

(2) Smoking, eating and drinking in consolidation and collection areas is prohibited.

(3) Do not permit hot work within 35 feet of used/excess HM consolidation and collection areas unless approved by DCA and coordinated with the MRC staff.

(4) Secure all containers (e.g., using nets, ropes, straps, banding, etc.) for heavy seas.

(5) Only authorized personnel should be allowed in the consolidation/ collection area.

(6) Appropriate PPE for the original product should be worn during the handling and consolidation process.

(7) Specifications for various equipment used for consolidating and staging Used/Extremely Hazardous Materials (EHM) are listed in the attachment.

b. Consolidation Requirements

(1) The consolidation of all collected used/EHM may be conducted in 55 gallon drums (or smaller containers) secured in drum vaults (see attachment). Do not place incompatible used/EHM in the same drum vault. Refer to OPNAVINST 5100.19C for compatibility requirements.

(2) Containers used for consolidation of compatible used/EHM should be labeled to provide ready identification to prevent contamination and accidental mixing of incompatible HM. Container drum vaults and overpack drums shall be labeled per OPNAVINST 5100.19C, Chapter B3. At a minimum, this label shall contain the ship's name, work center (e.g., HAZMINCEN), name of used/EHM or nomenclature, process in which the HM was used, known impurities (if any), and special stowage requirements (if any). Example of this label can be found in Appendix B3-F of OPNAVINST 5100.19C. A log of the used/EHM being consolidated (Nomenclature, NSN, quantity added) shall be maintained for liquids, empty containers and HM contaminated items. Failure to adequately or accurately track consolidated used/EHM will necessitate lab analysis to determine identify and concentration of consolidated items. Analysis of containers with unknown contents is very costly.

(3) Consolidation of used/EHM shall not occur within 10 feet of the MRC air intake vent or air conditioner unit. If personnel detect a strong odor or suspect the air quality within the MRC, they should contact the Safety Officer or Industrial Hygienist immediately.

(4) Drums and drum vaults used for consolidation of used/EHM shall be locked immediately after the consolidation process.

(5) Do not transfer used/EHM into any container that previously contained HM without first checking the compatibility of both materials. Additionally, the compatibility of the materials within the container shall be verified prior to transfer (e.g., corrosive liquids must not be collected in metal containers without plastic liners). For information on appropriate containers refer to NSTM 593 and OPNAVINST 5100.19C.

(6) Guidance for the management of routinely collected used/EHM is provided below under each major category.

c. Liquid Used/EHM. All consolidation of liquid used/EHM shall be following the policy and procedures provided in OPNAVINSTs 5090.1B and 5100.19C. Additional guidance and precautions are also provided in NSTM 593, Section 5 and Appendix A to D. HAZMINCEN personnel are encouraged to make every attempt to obtain information on the used/EHM turned-in by the work centers. This

information is essential for proper consolidation of the following examples of commonly used liquid HM.

(1) **Lubricating Oils/Hydraulic Fluids**. Used lube oils shall not be consolidated with used hydraulic fluids. Synthetic lube oils and synthetic hydraulic fluids shall also be consolidated separately from other used oils/fluids. Solvent contaminated lube oils and hydraulic fluids shall be consolidated separately from other lube oils/hydraulic fluids. The segregation of solvent contaminated lube oils/hydraulic fluids will increase the potential of recovery/recycle by the receiving shore activity.

(2) **Paints**. The segregation of the various types of surface coating products (e.g., epoxy coating, epoxy primer, solvent based enamel, washable alkyd or synthetic resin enamel, lacquer, polyurethane, and varnish) will be dependent on local HM disposal requirements. This will also apply to coating products mixed with paint thinners. Consult local receiving shore activity guidance for allowable paint waste consolidations. In general, epoxy paints and primers shall be consolidated separately from washable alkyd and synthetic resin enamel paints. Coating products mixed with paint thinners should be consolidated separately from unaltered paint products if space permits.

(3) **Solvents**. Chlorinated solvents shall be consolidated separately from nonchlorinated solvents. Also, chlorinated and nonchlorinated solvents shall not be consolidated with other used/EHM. Consult local receiving shore activity guidance for allowable solvent mixtures.

d. Empty HM containers

(1) All empty HM containers shall be consolidated with the same precautions as applied to other HM. Disposal guidance for containers, which formerly held HM, is available in "CNO Policy Guide for Shipboard Hazardous Material Container Disposal, OPNAV P-45-114-93."

(2) All HM containers must be empty prior to being crushed in an in-drum can compactor. A container is considered empty (Federal Definition) if there is no liquid in the container and there is less than 1-inch of solid residue on the bottom. To ensure that the container holds no liquids, drain it completely into the appropriate

consolidation drum located in the drum vault. Prior to air drying, use a spatula to remove residual material that cannot be removed by draining alone.

NOTE: State or local definitions may differ. Contact the host activity Environmental Department for applicable definition.

(3) When air drying, in port, contact the local Navy environmental coordinator to determine if containers can be air dried without violating any Federal, state, or local environmental regulations. Containers should be air dried on the weather deck if possible. Each ship should identify a single location removed from vent intakes and ignition sources. If air drying on the weather deck is not possible or permissible, containers can be air-dried in the hangar bay IAW paragraph 8c(1).

e. Aerosol Cans

(1) Incineration of aerosol dispensers is prohibited.

(2) Aerosol can consolidation shall be segregated in approved containers specified in NSTM 593 or OPNAVINST 5100.19C according to compatibility of the HM product. These containers of used aerosol cans are not to be used for consolidation of other empty HM containers.

f. HM Contaminated Items

g. Oxidizers and Corrosives. Used/excess oxidizers and corrosives shall not be consolidated or stored outside the MRC. These used/excess HM shall be managed IAW OPNAVINST 5100.19C.

h. Collection Requirements

(1) Following consolidation, all full drums of collected used/excess HM should be sealed and staged in a secondary containment pallet. For aircraft carriers, the secondary containment pallet provided with the MRC should be used for this purpose. All containers should be secured (e.g., using nets, ropes, straps, banding, etc.) to the secondary containment pallet. Storage of collected used/excess EHM in the hangar bay should be sufficient to accommodate at least 10-day accumulation.

(a) If a MRC secondary containment pallet was provided, it must have a divided sump. This must be accomplished by ships' force utilizing absorbent material to segregate the sump into several separate smaller sumps depending on the types of incompatible EHM collected. The weekly housekeeping that is to be performed shall include inspection of the MRC pallet sumps to determine that the absorbent material is continuing to provide adequate segregation in the event of a spill or drum leakage. Drums shall be segregated based on compatibility/incompatibility of the HM over these separate sumps to prevent mixing in the event of a spill (or leakage). Incompatible materials shall be separated by distance of at least 3 feet. Oxidizers and corrosives shall not be stored on the secondary containment pallet.

(b) The MRC pallet shall not be located within 10 feet of the MRC air intake vents and A/C unit.

(2) If used/excess HM cannot be recycled or used by the ship, the item shall be transferred to the appropriate receiving shore activity with properly completed documents, e.g., DD 1348-1. Excess HM containers should have the original manufacturer's label. If missing, use the DOD Hazardous Chemical Warning Label available in HMIS. Excess HM may also include expired nonextendible shelf life HM identified by the supply system. HAZMINCEN personnel are encouraged to not open and consolidate these EHM containers with similar EHM due to their potential resale by DRMO.

i. Offload Requirements. The offload of collected used/HM shall be following the procedures provided in OPNAVINST 5100.19C and COMSCINST 5090.2 (10 September 1992) "Disposal of Plastic, Medical, and Other Waste in the Marine Environment."

ATTACHMENT TO APPENDIX III

Equipment List and Specifications

1. Specifications for Drum Packers Used on Board Navy Ships.

- a. Designed to compact into a standard 55-gallon drum per Federal Specification PPP-D-729.
- b. Safety interlocks shall prevent drum packer operation if any door accessing the compactor chamber is open.
- c. Has emergency stop button that can stop operation at any point during a compact cycle. The button should be highly visible and within reach of an operator standing in front of the machine.
- d. Platen can penetrate to within 12 inches of the bottom of the 55-gallon drum.
- e. Compactor force shall be 50,000 pounds minimum.
- f. The hydraulic cylinder rod, guide rods and platen and the connections between the cylinder rod, guide rods and platen shall be designed to take full eccentric loads while in the fully extended position without bending or breaking even if a noncompatible item is placed within the drum. These items shall be warranted against damage due to structural failure.
- g. Has a 4-inch diameter opening to the compactor chamber that can be attached to an exhaust ventilation system.
- h. Has a device to assist with the movement of a drum into and a fully loaded drum out of the compactor chamber so that only one operator is required.
- i. There is at least 13 inches of clearance between the top of the drum and the retracted platen. This clearance will permit the deposit of 5-gallon pails into the drum between compactor cycles. If the packer is equipped with a separate feed door, the door must be large enough to accommodate 5-gallon pails.

j. Height does not exceed 8 feet, width and length does not exceed 40 inches and weight does not exceed 3,500 pounds.

k. Electrical components are protected by NEMA 7, explosion proof enclosures.

l. Uses 440VAC, 60Hz, three phase power. Has pads for anchor bolts for permanently mounting to a ship's deck.

m. Has a device that ensures the drum is properly centered under the platen to prevent crushing the drum.

n. The compactor chamber door and chamber clamp the drum into place and prevent the drum from being deformed during the compactor stroke or from being lifted during the retraction stroke.

o. All surfaces subject to wear and corrosion shall be stainless steel or painted with paint suitable to prevent corrosion in a marine environment. All crevices shall be sealed with a silicone-based sealant.

p. The hydraulic system and components comply with ANSI, SAE and NFPA standards.

q. Cylinder seals shall be externally serviceable without disassembly of the cylinder. Cylinder rod shall be highly polished, hardened and chrome plated for wear/corrosion resistance.

r. Hydraulic pump shall be directly coupled to electric drive motor.

s. Has corrosion resistant fluid reservoir. Reservoir shall include bottom drain plug, fill port with strainer, suction port with strainer, filtered atmospheric vent and a fluid level indicator.

t. Has a full flow, in-line pressure filter to maintain SAE 749D, Class 4 cleanliness in the system.

u. Equipped with a pressure gauge designed to show the peak hydraulic pressure achieved during a compactor cycle.

v. Provided with a technical manual that includes operating instructions, installation instructions,

preventive maintenance instructions, a recommended spare parts list, illustrated parts breakdown with vendor's part numbers and original equipment manufacturer's part numbers, electrical schematics, hydraulic schematics and lay-up instructions.

NOTES:

1. Drum Packer may purchase as "CTI model 8560-EXL or equal." The purchaser must be aware that this model is not normally equipped with a large enough feed opening (item 1) and a larger opening must be specified (see note (3) below).

2. A standard Federal Specification PP-P-704 5-gallon paint pail is approximately 11-7/8 inches in diameter. The "Quick Chute" opening of the CTI model 8560-EXL unit is normally only 10 inches high.

3. A machine with a larger vertical dimension may be desirable if it is necessary to crush 55-gallon drums in addition to compacting into 55-gallon drums. The larger height is necessary because the hydraulic ram would need a longer stroke to fully compact a drum. The height of the drum packer would exceed 100 inches.

2. Drum Vaults. Drum vaults utilized for the containment of active consolidation drums shall meet the following criteria:

a. Sump capacity equal to or exceeding the total capacity of the drum vault contents. For example, if a drum vault has the capacity to store 55-gallon drums, then the containment capacity of the drum vault, when open, shall exceed 110 gallons.

b. Means of securing (locking the drum vault) from unauthorized access while not consolidating used/EHM.

c. Drum vaults must be constructed of material that does not generate excessive smoke or release toxins during combustion.

d. Drum vaults must not be readily combustible.

e. Fork lift capable.

3. Drum Handling Equipment

a. Drum lifter for moving full drums out of drum vault.

- b. Recommended features:
 - (1) Tong-style lifter clamps
 - (2) Fork lift use

4. Hand Tools

- a. Trowel (NSN: 5120-00-246-4350) for removing solidified HM from empty containers.
- b. Drum bung wrench (NSN: 5120-00-507-4886).
- c. Can opener, heavy duty, table mounted for opening empty HM cans up to 1 gallon size (NSN: 7330-01-199-333).

5. Drum Spill Control Funnels

- a. Large capacity and fits 55 and 30 gallon drums.
- b. Fill vent with flame arrester.

- 6. Spill Containment Equipment.** Spill socks for use in secondary containment sump (NSN: 7930-01-353-6415).

APPENDIX IV

HAZARDOUS INVENTORY CONTROL SYSTEM (HICS)

1. The HICS program is a user friendly, menu driven inventory control system supported by NAVICP M0541. This system provides for the systematic, positive control and issue of HM special features of HICS Version 4.2 include the following capabilities:

a. User friendly pop-up menus supported by function keys F1 to F10, which provide lists of key data.

b. Bar coding options:

(1) Prints Control Numbers for each product issued (supports "cradle-to-grave" container tracking).

(2) Produces itemized customer-billing statements as needed.

c. Maintain a Master Hazardous Inventory List and an (AUL).

d. Tracking HM usage and containers to the department, division, work center or individual level.

e. Reduce complicated paperwork. Print customer issue receipt and monthly itemized bills.

f. Produce required reports and custom reports. View all reports on screen or send to your printer.

g. Track weights and volumes of hazardous materials and what processes use the HM (SARA Title III reporting data).

h. Track total weight and volume of HM at your command.

i. Track inventory high and low limits. Produce reports needed to generate orders for new materials and disposal/resale excess stock. Prints standard DD 1348-6.

2. Attachment of an Intermec scanner will allow remote site recording/tracking of returned containers or site inventory.

3. The HICS Users' Manual is distributed separately and provides specific details of the system, explains current features, and new system capabilities. Questions or suggestions for improvements should be directed to NAVSUP 4C3.

APPENDIX V

CHRIMP AFLOAT CHECK-OFF LIST

ITEM	ACTION	REFERENCE
1	Pre-implementation planning session should include Commanding Officer/Executive Officer/Executive Officer (CO/XO), HM coordinator, department heads, division heads, and work center supervisors.	2.3.5.3
2	Select spaces for HAZMINCEN.	2.4.1.2
3	Acquire HICS capability.	
4	Inventory HM on board and conduct ship survey to ensure all HM is reported on inventory.	2.4.1.4
5	Develop plan for phased collection of HM and phased implementation of CHRIMP processes.	2.4.1.4
6	Promulgate internal procedures for HAZMINCEN operation to include issue, turn-in and inventory control.	2.3.5.2
7	Determine manning requirements and sources.	2.4.1.3
8	Establish anticipated usage rates, inventory levels and reorder points.	2.4.1.6
9	Conduct CHRIMP training and HICS training.	2.4.1.3
10	Determine operating hours and emergency response capability.	2.4.1.3
11	Establish budget for HAZMINCEN.	2.4.1.5
12	Coordinate turn in procedures with the local FISC.	2.4.1.8

APPENDIX VI

SAMPLE MEMORANDUM OF UNDERSTANDING

1. This Memorandum of Understanding (MOU) is between the (your command/activity) Hazardous Material Minimization Center (HAZMINCEN) and (base activity, shop) hereafter referred to as the CUSTOMER.
2. The purpose of this MOU is to formalize the responsibilities and agreements with regard to the requisitioning, storage and issue of new and used HAZMAT as well as the pickup and disposition (to include reuse and recycling of surplus shop HAZMAT and hazardous waste). This contract shall be in effect for a period of (date) until (date).

DESCRIPTION OF DUTIES

1. HAZMINCEN agrees to provide transportation services to include, as a minimum, hazardous material delivery, pick up and waste management during the hours of 0730-1600, Monday through Friday (emergency response after hours and weekends by staff duty beeper).
2. HAZMINCEN shall maintain sufficient stock to fulfill CUSTOMER'S needs based on a CUSTOMER supplied list of type and quantity required per unit time.
3. HAZMINCEN agrees to deliver only materials with usable shelf life (or as extended), and where possible, issue free items in the smallest unit of issue for maximum utilization.
4. HAZMINCEN agrees to provide expeditious delivery to the CUSTOMER'S designated delivery point.
5. HAZMINCEN agrees to provide an accurate Material Safety Data Sheet (MSDS) with all hazardous material delivered unless a current MSDS for required material is already maintained by the customer.
6. HAZMINCEN agrees to provide a satellite hazardous materials collection point and to provide for timely removal of all wastes/recyclables placed therein.

7. HAZMINCEN agrees to provide an itemized receipt with each delivery to be signed by both delivery and receiving parties.
8. HAZMINCEN agrees to provide an itemized bill for materials delivered on a monthly basis.
9. The CUSTOMER agrees to provide for a joint inventory of all hazardous material turned into HAZMINCEN. Upon completion of this inventory, a mutually agreed upon credit will be applied to the CUSTOMER'S account.
10. The CUSTOMER agrees to hold no more than 1-week's supply of hazardous material. All excess material will be returned to HAZMINCEN and reissued upon request.
11. The CUSTOMER agrees to provide HAZMINCEN with a Job Order number for payment of materials received upon verification of the itemized bill.
12. The CUSTOMER agrees to assign a Hazardous Material Coordinator to manage the satellite collection point; provide for waste segregation according to color code, itemize waste/recyclables on inventory sheet provided and to keep collection point clean and free of trash/debris.
13. The CUSTOMER agrees to provide a TAD person with pay grade of E3, E4 or E5 as mutually agreed for a minimum of 6 months to work in HAZMINCEN.
14. HAZMINCEN will inspect the CUSTOMER satellite collection point to ensure compliance with inspection criteria provided by base Environmental Division.

APPENDIX VII

COURSES AND MATERIALS AVAILABLE AND ASHORE

FORMAL AFLOAT TRAINING COURSES

COURSE TITLE	COURSE DESIGNATOR	LENGTH
HMC&M Technician	A-322-2600	5 Days
Afloat Environmental Protection Coordinator	A-4J-0021	3 Days
HM/HW Coordinator	A-8B-0008	2 Days
Afloat Hazardous Material for the Supervisor	A-322-0010	2 Days

FORMAL ASHORE TRAINING COURSES

COURSE TITLE	COURSE DESIGNATOR	LENGTH
Hazardous Materials	A-493-0031	5 Days
HMC&M Technician	A-322-2600	5 Days
Transportation of Hazardous Material for Trainers/Supervisors	A-822-0014	4 Days
Environmental Protection	A-4A-0054	4 Days
Environmental Law (For non-lawyers)	A-4A-0058	3 Days
Environmental Officer	CECOS	2 Weeks
Environmental Regulatory Interface	CECOS	3 Days

TRAINING AIDS

TRAINING AID	DESIGNATOR
Training Video Title	
Shipboard HM Spill Response and Cleanup	803492-DN
Shipboard Oil Spill Procedures	35009-DN
Hazardous Material Control A float	804939-DN
Hazardous Material Offload	805569-DN
Handling of Hazardous Materials	803475-DN
Storage of Hazardous Materials	803476-DN
Disposal of Hazardous Materials	803495-DN
Hazardous Material User's Guide	805357-DN
Hazardous Material Afloat for the User	805544-DN
Hazardous Material Control and Management Coordinator	805546-DN
Hazardous Material Control and Management for Senior Management	805114-DN
You and the U.S. Navy - An Environmental Partnership	805686-DN
Other Training Aids	
HAWKIT #30 - Hazardous Material Labeling	N63393-82-0030
HAWKIT #40 - Halocarbons	43146-DN
Hazardous Material/Environmental Protection Program Afloat PQS	NAVEDTRA 43520

Videotapes are produced in support of the NAVOSH Training Plan (NTP s-40-8603B). Copies are distributed to all afloat commands and support staffs and activities upon production.

These training aids are available at and may be requested for a 6-week period from the following commands:

Commanding Officer
 Naval Education and Training Support Center, Atlantic
 Code N5
 Naval Station
 Norfolk, VA 23511
 Phone: 757-444-4011/1468 (DSN 564-4011/1468)

Commanding Officer
 Naval Education and Training Support Center, Pacific
 Code N5
 Fleet Station Post Office Building
 San Diego, CA 92132
 Phone: 619-532-1360 (DSN 522-1355)

NOTE: Training aid titles and numbers are subject to change. Prior to ordering any training aid, OPNAV P-09B1-01-88, "catalogue of Navy and Marine Corps Visual Information Productions," should be checked to ensure the correct titles and/or numbers are requested.

APPENDIX VIII

**STATUTORY CODES, REGULATORY REQUIREMENTS, DOD
AND NAVY DIRECTIVES
(ASHORE)**

1. 29 CFR 1910.120; OSHA Regulations on Hazardous Waste and Emergency Response. Directs development of Emergency Response Plans.
2. 29 CFR 1910.1200; OSHA Hazard Communications Standard. Directs the communication concerning hazards and appropriate protective measure to employees via the Material Safety Data Sheet.
3. 29 CFR 1910.132; OSHA General Requirements for Personal Protective Equipment. Directs that Personal Protective Equipment be provided, used and maintained in a sanitary and reliable condition.
4. OPNAVINST 5100.23 Series; Directs implementation of the Navy Occupational Safety and Health Policy to provide a safe and healthful work place for all personnel.
5. MIL-H-1032, NAVFAC Design Manual.
6. NFPA Uniform Fire Code.
7. Uniform Building Code.
8. NFPA Flammable and Combustible Liquids Code Handbook.
9. 40 CFR, Parts 240-280; Resource Conservation and Recovery Act (RCRA).

APPENDIX IX

CHRIMP ASHORE CHECK-OFF LIST

ITEM	ACTION	CHRIMP Guide Reference
1	Assign responsibilities and organizational structure.	Para. 3.3.1 and 3.4.1.4
2	Coordinate plans and seek input from other involved organizational staff (e.g., safety industrial hygiene, environmental).	Para. 3.3.5.2 and 3.3.5.3
3	Compile a library of applicable regulations and directives	Appendix VIII
4	Determine if CHRIMP is to include Recycling Center as well as HAZMINCEN	Para. 3.3.3, 3.4.2 and 3.4.3
5	Develop POA&M.	Para. 3.3.5.3
6	Incorporate CHRIMP concept in command TQL Program to develop command awareness.	Para. 3.3.5.2
7	Determine facility/space requirements and locations.	Para. 3.4.1.1
8	Determine transportation requirements based on decisions regarding pickup and delivery of HM.	Para. 3.4.2.1
9	Determine safety requirements.	Para. 3.4.1.2
10	Determine equipment and materials requirements.	Appendix X
11	Execute MOUs with customer activities.	Para. 3.4.1.10
12	Assess financial impact.	Para. 3.4.1.3
13	Determine personnel staffing.	Para. 3.4.1.4 and 3.4.1
14	Determine required personnel training.	Para. 3.4.1.6
15	Assess NAVOSH requirements.	Para. 3.4.1.7
16	Develop financial accounting system.	Para. 3.4.1.8
17	Develop inventory control procedures.	Para. 3.4.1.9
18	Prepare start up schedule.	Para. 3.4.1.10
19	Develop customer orientation and training.	Para. 3.4.1.10
20	Develop operating scenario.	Para. 3.4.2 and 3.4.3
21	Develop plan for phased implementation of CHRIMP.	Para. 3.4.1.9

APPENDIX X

LIST OF EQUIPMENT AND SUPPLIES REQUIRED TO
ESTABLISH CHRIMP ASHORE

COMPUTER SYSTEM EQUIPMENT AND SUPPLIES:

IBM Compatible Pentium PC with 32 MB of RAM,
540 MB Hard Drive
VGA color monitor
Power supply
Bar code reader (Intermec Mode 1545A)
Cable for bar code scanner (Intermec No. 052904)
Bar code reader interface (Intermec No. Model 9570)
Bar code label printer thermal transfer adapter
(Intermec No. 1014MB)
Portable bar code reader (Intermec No. 9440, 9462, or
Janus 2010)
Bar code reader manual and guide (Intermec No. 049273)
Bar code printer ribbon (Intermec No. 04979)
Bar code printer label (1/2 x 5) (Intermec No. 05201)
Laser Printer
ADP cables
CD-ROM for HMIS (NSN 7025-01-272-5039)
3.5" diskettes (NSN 7045-01-209-2193)

OFFICE/HAZMINCEN EQUIPMENT AND SUPPLIES:

Desks
Chairs
File cabinets
Shelves
Tab, stock, circ. 2 1/4" (NSN 8135-00-178-9200)
Stencil, brush (NSN 7520-00-248-9285)
Packing List Envelopes (NSN 8105-00-334-4120)
Plastic Wire Ties (NSN 5975-00-451-5001)
Clipboards (NSN 7520-00-240-5503)
HM storage warning labels and signs
Bottle applicator (NSN 8125-00-488-7952)
Bottle applicator (NSN 8125-00-782-4000)
Bottle (4 oz) (NSN 6640-00-165-5778)
Bottle, dropper
Rags, wiping, heavy duty (NSN 7920-00-205-1711)
Sponge, cellulose, compressed (NSN 7920-00-240-2559)
Measure, liquid, 1 pint (NSN 7240-00-138-7984)
Measure, liquid, 1/2 pint (NSN 7240-00-138-7983)

Funnel, plastic, 1 pint (NSN 7240-00-404-9794)
Funnel, plastic, 1 quart (NSN 7240-00-404-9793)
Detergent, general purpose (NSN 7930-00-282-9699)
Detergent, spray and wipe (NSN 7930-00-296-5280)
Plastic pail, 5 quart (NSN 7240-00-061-1163)
Padlock, set of 5 (NSN 5340-00-291-4213)
Flammable waste can (NSN 7240-00-286-5342)
Garbage can for solid waste, 32 gallon (NSN 7240-00-160-0440)
Garbage can cover (NSN 7240-00-161-1143)
Can opener, hand (NSN 7330-00-272-2591)
Portable eye and face wash station (NSN-4240-01-258-1245)
18 LB PKP bottle
HM spill response kit
Fire extinguisher
Fire blankets
Transfer equipment (funnels, siphons, etc.)
Navy approved flammable liquid storage cabinets and lockers
55 gallon drums
Aerosol can crusher

PERSONAL PROTECTIVE EQUIPMENT:

Chemical Proof Splash Suits
Chemical Proof Gloves
Chemical Proof Boots
Aprons
Face Shields
Hard Hats
Chemical Protective Goggles
Respirators and Cartridges

NOTE: The list is intended as a guide only. Quantities of material/equipment/supplies will vary depending upon individual requirements. Other material/equipment/supplies may be required.

APPENDIX XI

HAZARDOUS SUBSTANCE MANAGEMENT SYSTEM (HSMS)

1. HSMS is an automated chemical tracking system capable of tracking and managing Hazardous Waste (HW) and Hazardous Material (HM). HSMS provides "cradle-to-grave" tracking of HMs plus the chemical constituents of those materials. HSMS enables the user to meet the chemical tracking and reporting requirements of the Environmental Protection Agency (EPA), Executive Order 12856 of 3 August 1993, the Pollution Prevention Act and the Emergency Planning and Community Right to Know Act (EPCRA), and state and local community reporting through a custom report generator. HSMS provides the following capabilities:

a. Maintains:

- (1) Local Material Safety Data Sheets (MSDS).
- (2) Material chemical constituent information.
- (3) Chemical hazard information.
- (4) An Authorized Use List (AUL) for HMs.
- (5) Information about all processes that use HMs or generate HW.
- (6) An on-line HM and chemical inventory.

b. Additional Features:

- (1) Authorizes the use of all HM based by process.
- (2) Tracks HM usage and HW generated for all processes.
- (3) Calculates chemical release information for all processes.
- (4) Tracks HM ordered, received, stored, issued, used recycled or spilled.
- (5) Assigns HM a material classification code that allows issues of new material at cost and reused material at no cost.

(6) Allows material to be used by document number or by NSN.

(7) Prints a reorder material report by NSN if hi/low limits are assigned.

(8) Provides a detailed billing report by Cost Center.

(9) Produces hard copy paperwork for receipts, inventory adjustments, material commitments, input process material dispositions, update process/location information and off-site transfer transactions if desired.

(10) Provides material inventory capabilities.

(11) Tracks HW from process generation through recycle, treatment or off-site disposal.

(12) Tracks chemicals through their life cycle at the facility based on material transactions.

(13) Prints HW manifests and DD-1348s.

(14) Collects and tabulates running weight totals by chemical for Tier I, II and generates information for Form R reports.

(15) Provides HW container inventory.

(16) Uses process algorithms to compute emission-reporting data.

2. The HSMS Users Manual is distributed separately to HSMS users. An HSMS Help Desk is located at Management System Support Division (MSSD), Code 1254, at the Portsmouth Naval Shipyard. It is available for HSMS user assistance from 0800 to 1630, Eastern Standard or Day Light Savings Time, Monday through Friday, except holidays. Communication lines to the Help Desk are as follows: 207-438-2813, DSN 684-2813, Fax (207) 438-2060, or e-mail ed_c1250@ports.navy.mil.

APPENDIX XII

DIRECTORY OF STATE ENVIRONMENTAL AGENCIES

Alabama	Department of Environmental Management Land Division, Hazardous Waste Branch 1 Federal Drive Montgomery, AL 36130 205-271-7700
Alaska	Department of Environmental Conservation 410 Willoughby, Suite 105 Juneau, AK 99801-1795 907-465-5150
Arizona	Arizona Department of Environmental Quality Waste Compliance 3033 North Central Phoenix, AZ 85012 602-207-4108
Arkansas	Solid and Hazardous Waste Division Arkansas Department of Pollution Control and Ecology 8001 National Drive Little Rock, AR 72205 501-562-7444
California	Department of State Toxic Substances Control Division 714 P Street Sacramento, CA 95814 916-324-1826
Colorado	Waste Management Division Colorado Department of Health 4210 East 11th Street Denver, CO 80220 303-331-4403
Connecticut	Department of Environmental Protection Waste Management Bureau Waste Engineering and Enforcement Division 165 Capitol Avenue Hartford, CT 06106 203-566-5019

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Delaware	Department of Air and Waste Management Division of Hazardous Waste Maintenance Branch Richardson and Robbins Building P.O. Box 1401/89 Kings Highway Dover, DE 19903 302-739-3689
District of Columbia	Environmental Regulations Administration 2100 Martin Luther King, Jr. Avenue, SE Suite 203 Washington, DC 20020 202-404-1167
Florida	Department of Environmental Regulation Bureau of Groundwater Protection and Waste Management Solid and Hazardous Waste 2600 Blair Stone Road Twin Towers Office Building Tallahassee, FL 32399 904-488-0300
Georgia	Land Protection Branch Environmental Protection Division Department of Natural Resources 270 Washington Street, SW Atlanta, GA 30334 404-656-2833
Hawaii	Solid and Hazardous Waste Branch 5 Waterfront Plaza 500 Ala Moana Boulevard Honolulu, HI 96813 808-586-4225
Idaho	State Hazardous Waste Management Planning Committee 1410 North Hilton Boise, ID 83720 208-334-5860
Illinois	Division of Land Pollution Illinois Environmental Protection Agency 2200 Churchill Road Springfield, IL 62706 217-782-6760

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Indiana	Indiana Department of Environmental Management 1015 South Mindian Street, P.O. Box 6015 Indianapolis, IN 46206 317-232-4417
Iowa	Environmental Protection Agency Region 7 726 Minnesota Avenue Kansas City, KS 66101 913-551-7058
Kansas	Department of Health and Environment Bureau of Waste Management Building 740 - Forbes Field Topeka, KS 66620 913-296-1593
Kentucky	National Resources and Environmental Protection Cabinet Department for Environmental Protection Division of Waste Management Capital Plaza Tower Frankfort, KY 40601 502-564-6716
Louisiana	Office of Solid and Hazardous Waste Department of Environmental Quality P.O. Box 82178 Baton Rouge, LA 70804 504-765-0332
Maine	Department of Environmental Protection Bureau of Oil and Hazardous Materials State House Station 17 Augusta, ME 04333 207-289-2651
Maryland	Maryland Environmental Services 2020 Industrial Drive Annapolis, MD 21401 301-974-7295
Massachusetts	Department of Environmental Quality Engineering Division of Solid and Hazardous Waste One Winter Street Boston, MA 02109 617-292-5853

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Michigan	Hazardous Waste Division Michigan Department of Natural Resources P.O. Box 30028 Lansing, MI 48909 517-373-2730
Minnesota	Minnesota Office of Waste Management 1350 Energy Lane Saint Paul, MN 53708 612-649-5750
Mississippi	Bureau of Pollution Control Department of Natural Resources P.O. Box 10385 Jackson, MS 39209 601-961-5171
Missouri	Missouri Department of Natural Resources P.O. Box 176 Jefferson City, Missouri 65102 314-751-3443
Montana	Department of Health and Environmental Sciences Solid and Hazardous Waste Management Bureau Cogswell Building Helena, MT 59620 406-444-2821
Nebraska	Hazardous Waste Section Water and Waste Management Division Department of Environmental Control Box 94877 State House Station Lincoln, NE 68509 402-471-4217
Nevada	UNR Small Business Development Center Mail Slot 032 Reno, NV 89557-0100 702-784-1717
New Hampshire	Waste Management Division Department of Environmental Resources 6 Hazen Drive Concord, NH 03301 603-271-2942

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New Jersey	New Jersey Department of Environmental Protection Solid Waste Administration Bureau of Hazardous Waste 32 East Hanover Street Trenton, NJ 08625 609-292-8341
New Mexico	New Mexico Environmental Department Hazardous and Radioactive Materials 525 Camino de los Marquez Santa Fe, NM 87502 505-827-4300
New York	Department of Environmental Conservation Division of Solid and Hazardous Waste 50 Wolf Road Albany, NY 12233 518-457-7267
North Carolina	Department of Human Resources Solid and Hazardous Waste Management Branch 225 North MacDowell Street Raleigh, NC 27602 919-733-2178
North Dakota	North Dakota Health Department Waste Management, P.O. Box 5520 Bismarck, ND 58502-5520 701-221-5166
Ohio	Ohio Environmental Protection Agency Division of Hazardous Waste Management P.O. Box 1049 1800 Watermark Drive Columbus, OH 43266-0149 614-644-2917
Oklahoma	Hazardous Waste Department 1000 Northeast 10th Street Oklahoma City, OK 73117 405-271-5338
Oregon	Oregon Department of Environmental Quality 811 SW 6th Avenue Portland, OR 97264 503-229-5913

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Pennsylvania	Department of Environmental Resources Division of Permits, P.O. Box 2063 Harrisburg, PA 17105-2063 717-787-7381
Rhode Island	Department of Environmental Management Division of Air and Hazardous Materials 75 Davis Street Providence, RI 02908 401-277-2797
South Carolina	Division of Solid and Hazardous Waste Management Bureau of Water Supply and Special Programs Department of Health and Environmental Control 2600 Bull Street Columbia, SC 29201 803-758-5681
South Dakota	Department of Water and Natural Resources Office of Air Quality and Solid Waste Joe Foss Building Pierre, SD 57501 605-773-3153
Tennessee	Division of Solid Waste Management Department of Health Environment Customs House, Fourth Floor 701 Broadway Nashville, TN 37219-5403 615-741-3424
Texas	Texas Department of Water Resources P.O. Box 13087 Austin, TX 78711 512-463-8175
Utah	Utah Department of Environmental Quality Division of Solid and Hazardous Waste P.O. Box 144880 Salt Lake City, UT 84114-4880 801-538-6170
Vermont	Department of Environmental Conservation 103 South Main Street Waterbury, VT 05671-0404 802-244-8702

Virginia	Department of Environmental Quality Division of Solid and Hazardous Waste Monroe Building, Eleventh Floor 101 North 1 4th Street Richmond, VA 23219 804-225-2667
Washington	Department of Ecology Office of Hazardous Substances and Air Quality St. Martin's College Mail Stop PV-1 Olympia, WA 98504-8711 206-459-6322
Washington, DC	See District of Columbia
West Virginia	Department of Natural Resources Solid and Hazardous Waste, Groundwater Branch 1356 Hansford Street Charleston, WV 25361 304-348-5989
Wisconsin	Bureau of Solid Waste Management Division of Environmental Standards Department of Natural Resources P.O. Box 7921 Madison, WI 53707 608-266-2111
Wyoming	Department of Environmental Quality Solid Waste Management and Control Program Herschler Building 122 West 25th Cheyenne, WY 82002 307-777-7752

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