



DEPARTMENT OF THE NAVY  
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OPNAV INSTRUCTION 4030.1B

From: Chief of Naval Operations

Subj: PACKAGING OF NAVY MATERIAL

Ref: (a) DoD 4140.01-M, Volume 1, DoD Supply Chain Material Management Procedures, February 2014  
(b) NAVSUPINST 4030.28E  
(c) MIL-STD-2073-1E, Standard Practice for Military Packaging, January 2011  
(d) MIL-STD-129R, Military Marking for Shipment and Storage, February 2014  
(e) OPNAVINST 5090.1D  
(f) DoD 4140.65-M, Issue, Use, and Disposal of Wood Packaging Materials (WPM), August 2012  
(g) NAVSUP Pub 700  
(h) Virtual SYSCOM Joint Instruction-VS-JI-22A, January 2007  
(i) MIL-STD-130N, DoD Standard Practice Identification Marking of U.S. Military Property, November 2012  
(j) SECNAVINST 4355.18A  
(k) NAVSUP Pub 505  
(l) 10 U.S.C. §2451  
(m) NAVSUP Pub 485, Volume I, Chapter 7  
(n) MIL-STD-648D, Design Criteria for Specialized Shipping Containers, April 2008

Encl: (1) Packaging Terms and Definitions  
(2) Navy Packaging Board

1. Purpose. To provide policy and delineate specific responsibilities for the packaging of Navy material. This instruction is being reissued with a new date, updated version and signature authority to meet Chief of Naval Operation's age requirement for Office of the Chief of Naval Operations (OPNAV) instructions. This is a complete revision and should be reviewed in its entirety.

2. Cancellation. OPNAVINST 4030.1A.

3. Background. Navy material packaging policy is derived from Department of Defense (DoD) policy as described in references (a) and (b). This instruction further defines the criteria for application of military packaging standards of reference (c). References (a) through (c) provide direction and guidance on implementation of policy; packaging requirements; and specifications and levels of protection and procedures for developing protection requirements. The objective is to achieve optimum asset protection for all Navy weapon system assets, ashore and afloat, at the lowest total ownership costs throughout the life cycle of the weapon system. This instruction continues the operation of the Navy Packaging Board. The packaging of Navy material has a broad scope that includes virtually all Navy activities and consists of a myriad of related packaging functions such as asset packaging requirements; containerization; asset marking and identification; shelf life; management of hazardous material (HAZMAT); weapon system integrated logistics support; and care of supplies in storage (COSIS). Enclosure (1) is a list of common definitions for packaging and related functions, terms, and areas. Enclosure (2) provides an overview of the Navy Packaging Board's functions and members and specific roles and responsibilities for Navy packaging.

#### 4. Policy

a. All Navy hardware systems commands (HSC), affiliated program executive offices (PEO), program managers (PM), field activities, and the fleet and Navy industrial or operating activities shall comply with the requirements of this instruction. It is Navy policy to:

(1) Provide adequate, efficient protection of Navy material while minimizing total ownership cost per reference (a).

(2) Standardize packaging requirements for preservation, packing, and marking for shipment, storage, and stowage of the same or similar items.

(3) Acquire item technical data necessary to develop packaging requirements per references (a) and (b).

(4) Facilitate efficient receipt, storage, stowage, inventory, transfer and issue of material throughout the asset lifecycle.

(5) Use marking compatible with automatic identification technologies (AIT), radio frequency identification (RFID) and item unique identification policies as defined in reference (d).

(6) Ensure the use of unit, intermediate and shipping containers of a minimum weight and cube are consistent with anticipated storage and shipment hazards, issue needs and transportation profiles.

(7) Ensure that all HAZMAT and associated containers are packaged, labeled, marked, placarded and shipped in compliance with Department of Transportation (DOT) modal regulations identified herein.

(8) Ensure that Navy packaging is consistent with DoD environmental goals contained in reference (e) by specifying recovered materials and/or bio-based materials, and choosing materials that are recyclable at end of life.

(9) Minimize non-indigenous wood species transport per reference (f).

(10) Ensure sensitive items are protected against damage from electrostatic discharge (ESD) and electromagnetic field forces from the time of acquisition to anticipated use.

b. OPNAV Director, Logistics Programs and Business Operations Division (OPNAV (N41)) is responsible for providing policy and management of the Navy's packaging functions and supporting the activities of the Navy Packaging Board as outlined in enclosure (2) to:

(1) Provide a forum for cross systems command (SYSCOM) communication to facilitate issue resolution and standardization of packaging related practices;

(2) Develop and coordinate Navy positions on DoD packaging policy matters and communicate issues, topics, and Navy positions to the Defense Packaging Policy Group; and

(3) Pursue innovative packaging-related research and development initiatives that support enhanced asset protection or lower total ownership cost. Enclosure (2) provides details regarding the scope, membership, and governance of the Navy Packaging Board.

5. Requirements. Navy HSCs shall plan for asset protection at the lowest ownership cost by contracting for either asset technical data or packaging requirements data in all phases of acquisition documentation, and by facilitating the transfer of this data to the Naval Supply Systems Command (NAVSUPSYSCOM) Weapon Systems Support (NAVSUP WSS) for validation, standardization, and incorporation into Navy logistics and supply databases. Navy industrial and operating activities are responsible for stocking and using approved packaging materials in reference (a), to ensure that packaging is standardized from acquisition through disposal. The fleet is responsible for ensuring that both "A" and "F" condition depot-level repairables (DLR) are packed per reference (g), and that adequate space is available for asset storage and packaging operations while underway.

6. Responsibilities. The Navy packaging program impacts the entire acquisition process through system sustainment and disposal. HSC responsibilities include:

a. NAVSUPSYSCOM shall:

(1) Maintain overall responsibility for the development and execution of policies and methods governing supply management of naval material, administration of packaging programs having Navywide implications, and the coordination of all packaging issues within the Navy and with DoD components, other government agencies, and industry partners as required.

(2) Interface with SYSCOMs to ensure packaging, handling, storage, and transportation (PHS&T) acquisition requirements are consistent with PHS&T sustainment requirements for Navy managed material.

(3) Periodically update reference (h), which delegates Navy packaging oversight authority to NAVSUP WSS Engineering Directorate as the Navy technical authority warrant holder for

all PHS&T except conventional ordnance, material under the cognizance of the Naval Sea Systems Command (NAVSEASYS COM) Deputy Commander for Nuclear Propulsion (NAVSEA 08) and material under the cognizance of the Director, Strategic Systems Programs Office.

(4) Monitor execution of the Navy's packaging program and ensure NAVSUP WSS:

(a) Maintains appropriate liaison with OPNAV (N41) to assure that packaging policies are in consonance with operational and mobilization planning;

(b) Serves as the Navy technical warrant holder per reference (h);

(c) Represents Navy in the development of the DoD packaging policy and coordinates the Navy's input with the Navy Packaging Board to ensure broad concurrence on the Navy's position;

(d) Serves as the Navy representative to the Defense Packaging Policy Group established by reference (a) and implemented by reference (b);

(e) Ensures Navywide evaluation and coordination of all packaging issues, policies, and studies or related responses to congressional and secretariat inquiries, other government agencies, the Government Accountability Office and other auditor reports and any responses to industry that may have Navywide impacts;

(f) Chairs the Navy Packaging Board per enclosure (2);

(g) Develops Navy input to packaging training, doctrine, and publications and provide advice and guidance on the technical and administrative aspects of any training programs;

(h) When assigned and resourced, serves as the PHS&T logistics element manager for HSC acquisition programs and when

in that capacity, ensures that all packaging and marking, including any AIT components abide by references (a), (b), (d) and (i);

(i) Provides packaging design, interface, and compatibility requirements related to shipboard storage, transportation, and warehousing environments;

(j) Serves as the packaging design agent for weapon system material and specialized and multi-application, long-life reusable, and shipping containers for HSC acquisition programs;

(k) Serves as the PHS&T assessor for independent logistics assessments and initial operating capability reviews conducted on Navy weapon system acquisition programs;

(l) Monitors processing and resolution of packaging supply discrepancy reports for Navy-managed material as delineated in reference (j);

(m) Conducts periodic reviews of procedures for the packaging of items in all condition codes;

(n) Provides oversight of the preservation, packaging, packing, and marking processes performed at Navy industrial or operating activities and other DoD activities where Navy material is packaged;

(o) Provides oversight of the COSIS process per reference (a);

(p) Monitors and provides oversight on wood packaging materials issues and regulations per reference (f);

(q) Investigates and develops methods to reduce excessive use of packaging materials, develops specifications for materials manufactured with recyclable materials, and identify uses for non-plastic packaging products per reference (e); and

(r) Serves as the Navy's focal point for non-nuclear, non-ordnance related HAZMAT items, ensuring that the requirements for HAZMAT packaging are met per reference (k).

b Naval Air Systems Command (NAVAIRSYSCOM), NAVSEASYSKOM, Space and Naval Warfare Systems Command, and Naval Facilities Engineering Command shall:

(1) Integrate Navy PHS&T technical warrant holders into acquisition programs per reference (h), or ensure that a technical warrant-approved PHS&T logistics element manager is assigned to all weapon system acquisition programs;

(2) Ensure that for Navy weapon systems, all independent logistics assessments and initial operating capabilities include specific assessment of the PHS&T functional logistics process (logistics element);

(3) Transfer packaging data for Navy managed material to NAVSUP WSS for entry into reference (g);

(4) Address packaging requirements in all acquisition and supply transactions;

(5) Procure item technical or packaging requirements data necessary to support DoD-wide standardized databases as required by reference (l), and provide it to NAVSUP WSS as a contractual deliverable;

(6) Procure packaging data from commercial sources at the time of acquisition of new systems or components through the insertion of Navy technical warrant holder-approved contract data requirements lists in contracts;

(7) Require that adequate protection is provided per reference (m) when HSCs or their subordinate commands are shipping material; and

(8) Ensure that funding for PHS&T logistics element managers, independent logistics assessment participation and development of technical warrant holder approved reusable containers is available.

c. NAVAIRSYSCOM shall also support NAVSUP WSS efforts to perform ILS planning; logistics element manager PHS&T functions; PHS&T assessment for independent logistics assessments; reusable container design, engineering, logistics support, and

maintenance engineering; source selections; and PH&S policy and procedure reviews per previous functional transfer agreements with NAVSUP WSS.

d. NAVSEASYSKOM shall also:

(1) Provide conventional ordnance related PHS&T guidance per reference (h);

(2) Coordinate PHS&T planning for weapon system-related and Navy-managed items with NAVSUP WSS;

(3) Ensure that the Naval Surface Warfare Center (NAVSURFWARCEN) Indian Head Division's Navy PHS&T Center Detachment Picatinny Arsenal, New Jersey, executes the following:

(a) Serves as the Navy's HAZMAT focal point for ordnance items, ensuring that the requirements for ordnance packaging are met per reference (k);

(b) Coordinates all efforts related to the certification of ordnance packaging with regard to the regulations imposed by DoD, the DOT, and other international agencies or modal regulations as required;

(c) Serves as the NAVSEASYSKOM engineering design agent responsible for identification of life cycle requirements, conception, design, development, prototype fabrication, test and evaluation, production acquisition, and documentation of ordnance containers and handling equipment; and

(d) Serves as the technical custodian for reference (n).

(4) Ensure that the NAVSURFWARCEN Port Hueneme Division provides the Navy Packaging Board with connected replenishment interface criteria as it relates to packaging design.

(5) Coordinate with U.S. Army Soldier Systems Center, Natick, to obtain vertical replenishment interface criteria as it relates to packaging design and provide that information to the Navy Packaging Board.

e. Commander, U.S. Fleet Forces Command (COMUSFLTFORCOM)  
and Commander, U.S. Pacific Fleet (COMUSPACFLT) shall:

(1) Issue instructions that comply with the packaging and COSIS requirements of reference (m) to ensure the continued integrity of the packaged asset;

(2) Ensure performance of routine COSIS on shipboard assets per reference (a);

(3) Ensure participation in the DoD program for reporting and correcting packaging deficiencies as outlined in reference (j);

(4) Ensure "A" and "F" condition DLRs are packaged following references (g) and (k);

(5) Initiate, develop, and conduct packaging training as required to support fleet operations; and

(6) Provide input to the Navy Packaging Board on any fleet PHS&T recommendations or any related issue regarding shipboard handling, storage, or stowage requirements.

f. Navy Industrial and Operating Activities shall:

(1) Issue instructions that comply with the packaging and COSIS requirements of reference (m) to ensure the continued integrity of the packaged asset;

(2) Perform routine COSIS on assets per reference (a);

(3) Participate in the DoD program for reporting and correcting packaging deficiencies as outlined in reference (j);

(4) Package "A" and "F" condition DLRs following references (g) and (k);

(5) Conduct packaging training as required to support operations; and

(6) Provide input to the Navy Packaging Board on any fleet PHS&T recommendations or any related issue regarding shipboard stowage, storage handling and stowage requirements.

g. Office of Naval Research (ONR) shall:

(1) Provide technical advice to the Chief of Naval Operations and the Secretary of the Navy (SECNAV) and work with industry to improve technology and manufacturing processes;

(2) Support the Navy packaging program, ONR, and the science and technology community, in technology development programs as Navy customers identify requirements for packaging improvements; and

(3) Provide input to the Navy Packaging Board regarding advances in packaging, handling, storage, or stowage technologies.

7. Records Management. Records created as a result of this instruction, regardless of media and format, shall be managed per SECNAV Manual 5210.1 of January 2012.

8. Reports Control. Reporting requirements contained within this instruction are exempt from reports control per SECNAV Manual 5214.1 of December 2005, paragraph 71.



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PACKAGING TERMS AND DEFINITIONS

1. Automatic Identification Technology (AIT). A suite of technologies that enable and facilitate the accurate capture and rapid transmission of machine-readable data to automated information systems, thereby enhancing the readiness of deploying forces with improved knowledge of their equipment, personnel, and capabilities in support of their respective mission.

2. Care Of Supplies in Storage (COSIS). A program composed of a set of processes and procedures whose purpose is to ensure that materiel in storage is maintained in ready-for-issue condition or to prevent uneconomic deterioration of materiel.

3. Containerization. The use of transport containers (that is, container express, military van, sea van, roll-on/roll-off trailers) to unitize cargo for transportation, supply, and storage. Containerization aids carriage of goods by one or more modes of transportation without the need for intermediate handling of the contents.

4. Electronic Product Code. A product-numbering scheme that can provide unique identification for physical objects, assemblies, and systems. Information is not stored directly within the code; rather, the code serves as a reference for networked (or Internet-based) information. In other words, the code is an "address" that tells a computer where it should go to find information on the Internet.

5. Electrostatic Discharge (ESD) Protective Packaging. Packaging designed with ESD protective materials to minimize the chance of damage through the transmission of electrostatic charges to sensitive circuits.

6. Hazardous Material (HAZMAT). A substance or material that has been determined by the Secretary of Transportation to be capable of posing an unreasonable risk to health, safety and property when transported in commerce and has been so designated.

7. Hazards of Electromagnetic Radiation to Fuels. High-intensity radio frequency fields produced by modern radio and radar transmitting equipment that can spark ignition of volatile combustibles.

8. Hazards of Electromagnetic Radiation to Ordnance. High-intensity radio frequency fields produced by modern radio and radar transmitting equipment that can cause sensitive electro-explosive devices contained in ordnance systems to actuate prematurely.

9. Hazards of Electromagnetic Radiation to Personnel. High-intensity radio frequency fields produced by modern radio and radar transmitting equipment that can produce harmful biological effects in humans.

10. Marking. The application of numbers, letters, labels, tags, symbols, or colors to packages for identification purposes during shipment, handling and storage.

11. Packaging. Provides for product security, transportability, and storability with the added utility of serving as a medium of communication from the producer to the user. The material characteristics of an item determine the type and extent of protection needed to prevent its degradation. Shipping and handling, as well as the length and type of storage considerations, dictate material and methods selected for preservation and packing.

a. Military Packaging. The methods and materials described in federal, military, and selected commercial specifications, standards, drawings or other authorized documents or systems designed to prevent damage or deterioration during distribution and storage of materiel through the military distribution system.

b. Commercial Packaging. The methods and materials employed by the supplier to satisfy the requirements of that supplier's distribution system.

12. Packaging, Handling, Storage and Transportation (PHS&T). A set of design and development parameters that assure a system, sub-system, component or equipment is compatible with the aircraft, ship, rail, truck, and helicopter external lift or internal carry capabilities available to deploy or move systems for strategic or tactical purposes.

13. Packing. The assembling of materiel into an exterior pack, consisting of a container, bundle or assembly, with the necessary blocking, bracing, cushioning, weather-proofing, reinforcing, and marking.

14. Preservation. The processes and procedures used to protect materiel against corrosion, deterioration, and physical damage during shipment, handling, and storage. As applicable, preservation includes cleaning, drying, application of preservatives, barriers, wrapping, cushioning, containers (unit and intermediate) and complete identification markings up to, but not including, the exterior shipping container.

15. Radio Frequency Identification (RFID). Technology that uses low-powered radio transmitters to read data stored in a transponder tag at distances ranging from 1 inch to 300 feet. RFID tags are used to track assets, manage inventory, and authorize payments. They are increasingly being used as electronic keys for everything from autos to secure facilities. The two concepts of RFID are as follows:

a. Active RFID. Technology that uses an internal power source (battery) within the tag to continuously power the tag and its radio frequency communications circuitry.

b. Passive RFID. Technology that relies on radio frequency energy transferred from the reader or interrogator to the tag to power the tag.

16. Reusable Container. A shipping and storage container designed for reuse without impairment of its protective function. It may be repaired, refitted, or both to prolong its life and to adapt it for shipment of items other than that for which it was originally intended. The two types of containers are as follows:

a. Multi-application Containers. Containers designed to protect a variety of components within a given fragility and size range. Typically, these containers are made of rugged plastic construction containing internal cushioning pads or permanent shock mitigation systems (i.e., shear mounts, steel coils and springs) and are designed to protect repairable components packaged therein, during forward and retrograde movements within the military supply system.

b. Specialized Shipping Containers. Containers, generally the long-life variety, and are uniquely configured to support and protect a specific item, or limited variety of items, during handling and storage or to protect personnel and equipment from hazardous contents. Containers of this type frequently incorporate energy absorbing systems, temperature control systems, or special features to make handling or shipment possible, easier, or safer. Engineering drawings, or equivalent, are used to define form, fit, function, materials, tolerances, and manufacturing processes.

17. Shelf-Life. The total period of time beginning with the date of manufacture, cure, assembly or pack (subsistence only), that an item may remain in the combined wholesale (including manufacturers) and retail storage systems, and still remain usable for issue and or consumption by the end user. Each item that meets the shelf-life criteria is assigned a national stock number and a specific shelf-life code. Typical shelf-life items include food, medicines, batteries, paints, sealants, adhesives, film, tires, chemicals, packaged petroleum products, hoses, belts, mission-critical o-rings, and nuclear, biological and chemical equipment and clothing.

18. Weapon System Material. Spare parts, secondary repairables, end item repair parts, and components of a weapon system, exclusive of ordnance.

19. Unique Identification. The set of data for tangible assets that is globally unique and unambiguous; ensures data integrity and data quality throughout life and supports multi-faceted business applications and users.

20. Unitization. The assembly of exterior packs of one or more line items of supply into a single load so that the load can be handled as a unit through the distribution system. Unitization (unitized loads or unit loads) encompasses consolidation in a container, placement on a pallet or load base or securely binding together.

NAVY PACKAGING BOARD

1. Purpose. The Navy Packaging Board was established as a permanent forum to serve as an advisory staff to OPNAV (N41) to ensure the Navy is fulfilling its packaging responsibilities. The Navy Packaging Board shall:

a. Develop recommendations concerning changes to Department of the Navy (DON) and DoD policies, guidance and standardization for the PHS&T of Navy materials, supplies, and equipment;

b. Integrate efforts of members and non-members to derive and implement solutions to Navy PHS&T issues;

c. Promote on-going dialog between those commands and agencies involved in and affected by the DON packaging program to promote uniform understanding of policies, objectives, implementing programs and logistical requirements;

d. Provide liaison and perform advisor duties to Navy PEOs and PMs for PHS&T issues;

e. Review commercial packaging practices and new technology developments to more rapidly adopt those that benefit military packaging;

f. Serve as a means for the exchange of information on laboratory investigations, field tests, and research and development activities in the packaging field;

g. Ensure that packaging-related trends having national sociological and ecological implications are given full consideration; and

h. Coordinate Navy interests for the Defense Packaging Policy Group.

2. Charter. NAVSUP WSS shall be responsible to establish and maintain the Navy Packaging Board charter. Any changes must be approved by a majority of its voting members.

3. Membership. Current membership includes all Navy SYSCOMs or their designated representatives, COMUSFLTFORCOM, COMUSPACFLT, Commander, Naval Air Forces, U.S. Marine Corps, NAVAIRSYSCOM Aircraft Division Lakehurst, ONR, and NAVSURFWARCEN Picatinny.