

# Navy Packaging Board STATUS REPORT

**PHS&T**  
PACKAGING, HANDLING, STORAGE, AND TRANSPORTATION

May 2005



**DIRECTOR  
SUPPLY, ORDNANCE AND LOGISTICS OPERATIONS DIVISION  
OFFICE OF THE CHIEF OF NAVAL OPERATIONS  
WASHINGTON, D.C. 20350-2000**



The Navy-Marine Corps Team is committed to delivering cost-wise readiness and the future-state capabilities essential to prevail in the Global War on Terrorism. The Navy Packaging, Handling, Storage and Transportation (PHS&T) community plays a vital role in this effort, particularly in the optimization and integration of the global supply chain.

Over the past year, the Navy Packaging Board, along with Fleet, SYSCOMs, and other stakeholders, has actively pursued strategic initiatives and tactical improvements in PHS&T. This report details these efforts and builds on the knowledge gained in Operation Enduring Freedom and Operation Iraqi Freedom. It provides key lessons learned and best practices positively impacting our forces now and sets the expectation for the continued PHS&T improvements needed to achieve the realization of Global Integrated Supply Chain Management requirements.

I would like to thank the individuals throughout the Navy who have participated in the many activities that contributed to the improvement presented here. In particular, I would like to thank the members of the Navy Packaging Board. I am encouraged by the excellent work they are doing and look forward to continued progress.

  
RDML Alan S. Thompson, SC, USN

## EXECUTIVE SUMMARY

### INTRODUCTION

In recognition of the impact that packaging has on the supply chain, the Navy reconstituted the Navy Packaging Board in 2003 under the sponsorship of the Chief of Naval Operations (CNO) N41. Chaired by the Naval Inventory Control Point (NAVICP), the Board consists of both voting and non-voting members from a wide variety of Navy commands. Voting membership also includes a representative from the Headquarters Marine Corps in support of CNO's Naval Logistics Integration (NLI) program. In reconstituting the Navy Packaging Board, the Navy PHS&T community responded to a need for a permanent forum to share ideas and knowledge; prevent duplication of effort; and develop policy leading to the standardization of packaging, handling, storage, and transportability of materiel. This report is a summary of the Navy PHS&T community's initiatives, accomplishments, and programs.

This Report covers three major initiatives, as well as key accomplishments and ongoing programs. These initiatives, accomplishments, and programs are not sponsored by the Navy Packaging Board, but rather are the result of the efforts of the individual commands represented on the Board. The Report also provides Points of Contact (POCs) for further information and support.

### WHAT DOES PHS&T DO?

What is this discipline called "Packaging, Handling, Storage, and Transportation" or PHS&T for short? The best formal definition is that it is 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/internal carry capabilities available to deploy/move systems for strategic or tactical purposes. PHS&T experts are involved in the design of specialized reusable containers for both ordnance and non-ordnance material; development of packaging specifications and standards; and testing of packaging materials and containers. They provide support to the re-procurement process through the review and update of item packaging requirements. They oversee the Navy's Care of Supplies in Storage (COSIS) program to inspect and protect stored Navy material. With PHS&T as one of the ten integrated logistics support elements, PHS&T experts provide support as the logistics elements managers on Program Managers' Integrated Product Teams (IPTs). NAVICP packaging experts also perform the PHS&T portion of the Independent Logistics Assessments (ILAs). Through the efforts of Navy PHS&T experts, steps have been taken to implement Automatic Identification Technology (AIT) through the application of two-dimensional (2D) bar codes and radio frequency identification (RFID) applications. In short, the Navy's PHS&T experts are involved throughout the entire logistics cycle.

### NAVY BENEFITS

PHS&T is an enabler that has both direct and indirect effects on the entire supply chain and logistics cycle. Efforts provide direct and indirect support to the fleet by:

- **Improving readiness** by providing protection to ensure the survivability and usability of critical assets through the supply chain and distribution process.
- **Improving availability of supplies** by ensuring compatibility with the Defense Transportation System, MSC ships, and fleet supply and weapons departments.
- **Streamlining operations** through user-friendly packaging and weight handling systems, requiring less manning afloat, supporting seamless

distribution and supporting pollution prevention programs, which reduce solid waste afloat.

Efforts provide direct and indirect support to the Naval Acquisition Community by:

- **Reducing acquisition/repair costs and lead-times** by minimizing asset damage, improving asset reliability, and developing life-cycle cost effective packages.
- **Ensuring effective container designs** (both cost and performance) by standardizing approaches that are consistent with the Navy environment and Joint programs.
- **Leveraging private sector advances** to take advantage of commercial products and procedures, applying them when it makes sense to do so.
- **Increasing supply chain accuracy and accountability** through bar code marking and other AIT related initiatives.
- **Integrating PHS&T** with other logistics elements to enhance the supply chain for total system cost and performance.

This Report provides an overview of the following three major initiatives:

***Technical Assistance for Repairables Processing (TARP) Program.*** The TARP Program is an operational program, which provides field level support of the return of Class IX items. This program has improved the protection and inventory accuracy of Depot Level Repairables (DLRs) during the retrograde process. The program has provided support for both the Navy and Ground Marines during Operation Iraqi Freedom, ensuring significant improvements compared to past performances.

***CNO Sponsored Activities.*** Three Navy-wide initiatives sponsored by CNO have provided a strong basis for establishing common approaches to Navy PHS&T. These initiatives are the re-establishment of the Navy Packaging Board; the CNO N41 Ordnance Packaging Initiative; and the NLI Common Naval Packaging effort. With these three initiatives, working groups were put in place to identify common packaging requirements and to provide a forum to design common solutions.

***Joint Packaging Activities.*** The same challenge facing the Navy applies throughout the Military and Department of Defense (DoD): identify common solutions to generalized problems. The Navy is active in both formal and informal joint packaging activities. The Defense Packaging Policy Group (DPPG) is a formal Office of the Secretary of Defense (OSD) sponsored policy group that addresses common packaging issues. These issues range from two-dimensional bar coding for the Military Shipping Label to Enterprise Resource Planning (ERP) Support for Packaging to the use of the United States Department of Agriculture (USDA) compliant wood packaging materials for export. The Navy was also a co-founder of an informal working group, the Joint Intermodal Logistics Working Group (JILWG). The JILWG shares information between the Navy, Marine Corps, Air Force, and the Army ordnance packaging communities. This group developed the preliminary concept of a building block approach for smaller containers to fit or fill a standard 20' ISO transport container. The Joint Modular Intermodal Container (JMIC) concept was developed to support this overall approach intended to streamline the distribution process and support the vision of Sea Basing.

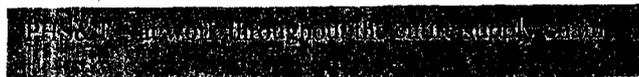
## MAJOR INITIATIVES

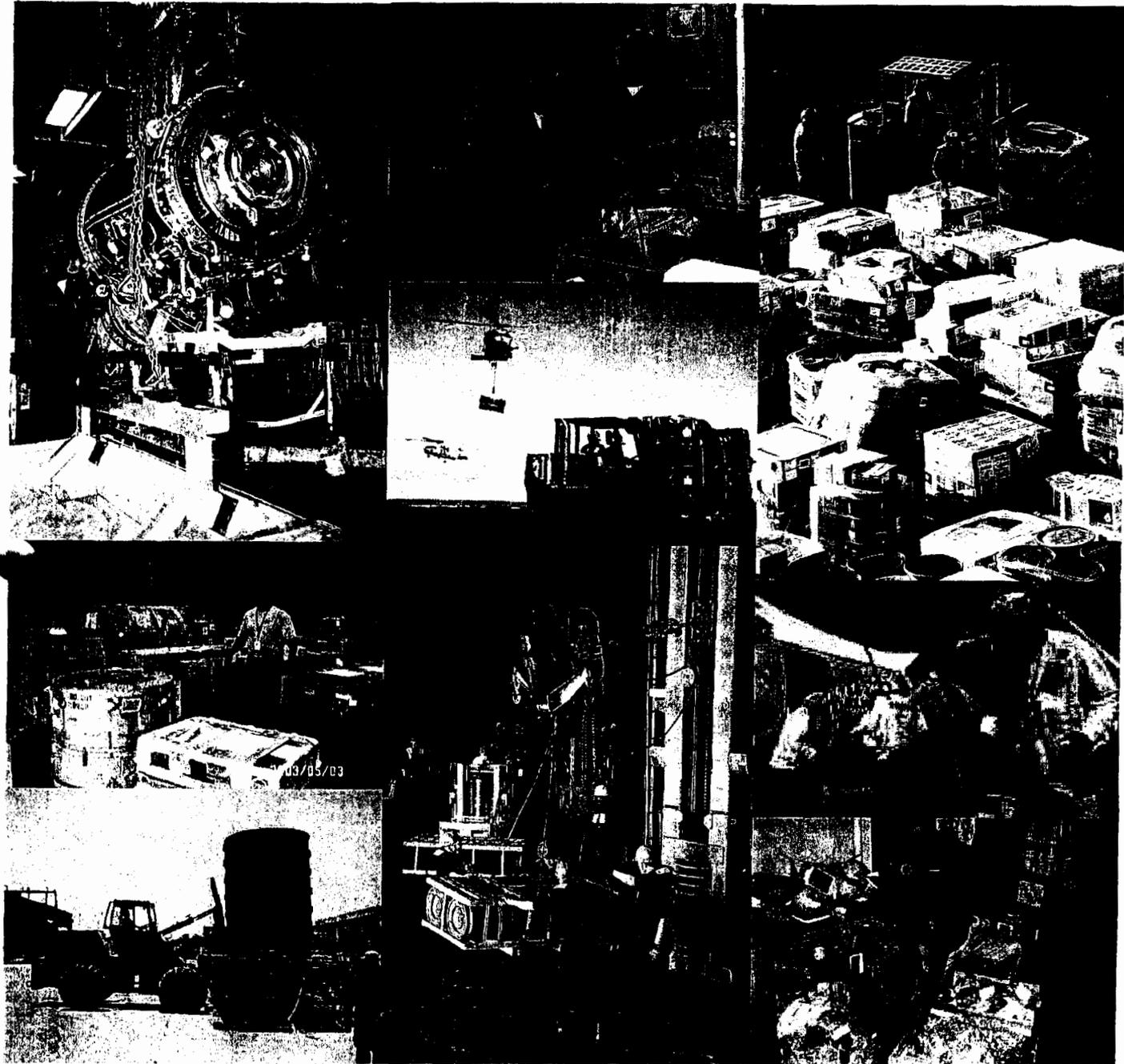
**KEY  
ACCOMPLISHMENTS**

The following key accomplishments and ongoing programs are highlighted in the Report:

- Reusable Bulk Container (RBC)
- Inflatable Bubble Wrap
- Blast Mitigation Packaging
- Automatic Identification Technology (AIT) Radio Frequency Identification (RFID)
- Joint Modular Intermodal Container (JMIC)
- T-56 QEC Assembly Container
- Sea Basing Packaging Appendix
- Container Reuse and Refurbishment Centers (CRRCs)
- NAVSEA Technical Warrant for Ordnance PHS&T
- Care of Supplies in Storage (COSIS)
- Automated Report of Deficiencies (AuotROD)
- PHS&T Test Capabilities
- PHS&T Logistics Element Manager Support
- Reusable Container Designs
- Packaging Specifications and Standards Preparation

This report has been compiled in order to provide the reader with information on the breadth and depth of the Navy PHS&T community's knowledge, skills, and involvement. Whether you need design and test capabilities, help with managing a logistics program, assistance in protecting material from damage while in distribution and storage, or advice on interpreting packaging specifications and standards, the members of the Navy PHS&T community are the right choice.





“Lessons learned during OEF, OIF and other current operations have re-enforced the need for a standardized approach for packaging and containerization... we agree a common approach and set of standards must be adapted as quickly as possible... The use of common packaging and containers will ensure cargo moves quicker, more securely, and offer a better opportunity to provide Automatic Information Technology (AIT) information to the Combatant Commander...”

# TARP PROGRAM

## TECHNICAL ASSISTANCE FOR REPAIRABLES PROCESSING



## TRAINING

## PROCESS RE-ENGINEERING

*TARP representatives support Mobile Air operations in Kuwait during Operation Iraqi Freedom April 2003*

## METRICS COLLECTION

The TARP Program, under NAVICP, is responsible for exercising general oversight of the Navy's PHS&T/Retrograde Management initiatives. TARP representatives are positioned at major Navy and Marine Corps activities, and when requested, are deployed at sea and in oversea locations. TARP representatives are permanently stationed in Japan and Bahrain, while temporary deployments in Afghanistan and Iraq are ongoing in support of combat operations.

The TARP Program was created to correct documented Navy retrograde process problems where critical retrograde assets were damaged through poor packaging and handling; were lost through poor documentation and accounting; and spent excessive time in the pipeline due to an undisciplined handling and transportation process. This deficient process cost the Navy investment dollars and response time to critical fleet needs.

Efforts have been focused in four areas: training, process re-engineering, metrics collection, and the development of process improvement tools.

The TARP program embarked on an ambitious PHS&T and supply chain training program. Since January 2002, nearly 800 Navy and Marine Corps training sessions have been conducted in proper PHS&T/Retrograde Management processes. Nearly 24,000 student hours of training have been delivered to Navy enlisted and officer corps personnel.



recognize process issues, and develop and implement solutions.

The TARP Program, through its TARP Web Port and metrics collection program, AutoROD/SDR, has collected significant data that allows for the documentation of process problems and the impact of re-engineered solutions. This data has also been

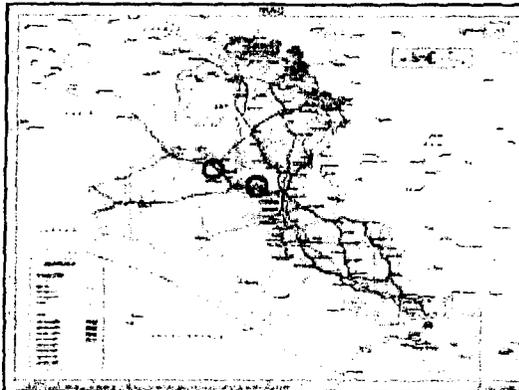


used to help prioritize TARP resources on areas needing improvement.

Perhaps as important as the TARP representation, the TARP Program's process improvement tools have influenced the success of the re-engineering effort.

The P700 Packaging database provides guidance for proper packaging, handling, storage, and transportation for all Navy Depot Level Repairables (DLRs) and consumables. The P700 is available through the web for Navy personnel and TARP representatives worldwide. In addition, the same database is distributed quarterly on CD-ROM. Electronic access to the P700 instructions makes it easier to identify proper packaging for any repairable.

During Operation Iraqi Freedom II, the P700 was expanded to include Ground Marine Corps equipment processed through the retrograde pipeline. At the same time the TARP Program itself expanded to support Marine units in Iraq. The P700 is one of the elements in the Common Naval Packaging Initiative mentioned earlier.



The AutoROD/SDR Program provides the PHS&T/Retrograde community with an Internet-based tool to identify PHS&T/Retrograde deficiencies. Through the use of a simple hand-held scanner and knowledge acquired through TARP training, retrograde handlers can quickly and easily document problems to the TARP Web Port. The data collected in the AutoROD/SDR Program is utilized to measure the effectiveness of TARP training and to identify Navy sites for new or remedial training.

The Repairables Packaging Management (RPM) Program was created to allow NAVICP to implement serial number tracking, implement 2D labels, and comply with MIL-STD-129P marking requirements. Since its implementation, RPM has been expanded to support the Navy offload process and is in development to support the Navy's first passive RFID labeling initiative.

The TARP program has set the standard for process improvement in the Navy PHS&T/Retrograde Management process by developing and implementing innovative solutions to difficult problems. The program has established a proven and repeatable process for process improvement that has resulted in significant cost savings.

TARP Measures of Effectiveness	Navy averages prior to TARP	Navy averages with TARP
Packaging efficiency rate	72%	91%
Misidentification rate	32.2%	20.3%
Critical asset retrograde time	27 (days)	7 (days)
Proof of Receipt rate	92%	99.5%

**PROCESS IMPROVEMENT TOOLS**

P700 PACKAGING DATABASE

OIF II SUPPORT

AUTOROD/SDR

REPAIRABLES  
PACKAGING  
MANAGEMENT

**CONCLUSION**

## CNO SPONSORED ACTIVITIES

### NAVY PACKAGING BOARD

Over the past several years, CNO has elevated the visibility on packaging through the following key activities:

The Navy Packaging Board, chaired by NAVICP, has been reconstituted during 2003. The primary purpose of the Board is to develop and recommend policy changes and guidance to help standardize packaging, handling, storage, and transportation of Naval materiel.

The Board membership is structured as follows:

Sponsor - CNO N41 is the Navy sponsor of the Navy Packaging Board.

Core Members (voting) - Core members of the Board consist of:

- Naval Supply Systems Command (NAVSUP) - represented by Naval Inventory Control Point (NAVICP)
- Naval Air Systems Command (NAVAIR) – represented by NAVICP
- Naval Sea Systems Command (NAVSEA)
- Space and Naval Warfare Command (SPAWAR)
- Naval Facilities Command (NAVFAC)
- Headquarters, United States Marine Corps (HQ USMC)
- Naval Surface Warfare Center (NSWC) Indian Head Division, Det Earle, PHST Center
- Naval Air Systems Command Aircraft Division (NAWCAD) Lakehurst
- Commander, Fleet Forces Command (CFFC)

Associate Members (non-voting) In addition, associate members attend on an as-needed basis. These members include: Military Sealift Command (MSC); Chief, Naval Reserves (CNAVRES); Office of Naval Research (ONR); Marine Corps Systems Command (MARCORSYSCOM); Naval Ordnance Safety and Security Activity (NOSSA); NSWC Crane Division; Commander, Fleet Industrial Supply Centers (COMFISCS); Navy Supply Corps School Athens; School of Military Packaging Technology (SMPT); Lead Naval Aviation Depot; and Defense Logistics Agency (DLA).

The Board established a charter for Board operations and provided comments on key instructions, such as OPNAVINST 4030.1A, Navy Packaging Program. These instructions are currently being routed for formal review and publication.

More importantly, the Navy Packaging Board and its members are coordinating the activities and accomplishments highlighted in this report. These range from tactical activities, like Solid Wood Packing Materials (SWPM) affecting wood materials for pallets, frames, dunnage, etc., to strategic activities, such as the Sea Base Appendix on Packaging. The breadth of the challenge reflects the breadth of the activities. The potential returns from readiness now and from manpower utilization are significant.

The Navy and Marine Corps face an interesting challenge in today's field operations and tomorrow's vision for a Sea Base. Providing a seamless logistics pipeline of materiel, which can move supplies quickly to end-users and minimize handling and touch points, requires changes both large and small. In response, the CNO Ordnance Packaging Initiative looks at one class of materiel to analyze this challenge. Based upon earlier work done by the Naval PHST Center, CNO N41 took the lead to further develop this study. The study team included CNO, the Hardware Systems Commands (HSC), Naval PHST Center, NAVICP, Military Sealift Command (MSC), Naval Operational Logistics Support Center (NOLSC), the Fleet, and HQ Marine Corps.

**CNO ORDNANCE  
PACKAGING  
INITIATIVE**

Over a dozen steps were identified for ship-to-ship replenishment of ordnance. Each of these steps is under the control of a different command. Optimizing for one step, for example connected replenishment, may be adversely affected by other steps, such as shipboard elevators. Resolving these conflicts while simultaneously reducing manpower requirements is the key to short-term improvements and long-term transformation. Packaging potentially plays an important role in reducing handling requirements.

The Defense Packaging Policy Group was briefed on the findings. Eventually, other classes of materiel beyond ordnance and the other services beyond the Navy and Marine Corps need to be investigated.

The CNO Guidance for 2003 stated, "Develop a plan to integrate USN-USMC logistics." This guidance resulted in the development of formal Terms of Reference that created a Naval Logistics Integration working group and identified areas of mutual concern for the Navy and Marine Corps. One of these areas of concerns was Common Naval Packaging.

**NAVAL LOGISTICS  
INTEGRATION /  
COMMON NAVAL  
PACKAGING**

This past year, the following targets of opportunity were identified for Common Naval Packaging:

- Unitization
- Standardize Packaging for Various Commodities
- Common Policies and Procedures
- Common Packaging Databases
- Industrial Packaging Services/ Support
- Retrograde Packaging Support

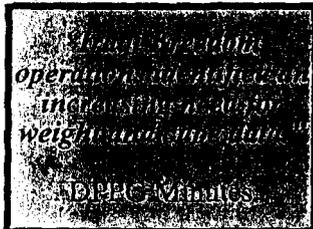
Planning and budgeting was completed for many of these opportunities. Two of these targets - Unitization and Common Packaging Databases - were identified for funding during FY 05.

The Unitization effort is intended to conduct a demonstration, using mid-sized reusable containers to move materiel from depot to end-user, testing possible distribution system improvements, and building a business case analysis on how these types of containers can reduce materiel or labor costs and/or pipeline handling efficiencies. The common packaging database effort is intended to develop a software tool that provides packaging requirements to the end-user in an easy to use, one stop shopping scenario for both Navy and Marine Corps items, which may require repackaging. Through the coordinated effort of these activities additional opportunities arise for Navy packaging.

Through the coordinated effort of these activities additional opportunities arise for Navy Packaging.

**CONCLUSION**

# JOINT PACKAGING ACTIVITIES



The DoD Packaging community represents both depth in subject matter expertise and breadth across a wide range of packaging challenges and approaches. As discussed in the previous section, Navy PHS&T makes a significant contribution both to the depth of expertise and breadth of experience.

By participating in joint activities, Navy PHS&T contributes to this shared expertise, harvests the experience from the other services, and represents the interests of the Navy on DoD-wide package activities.

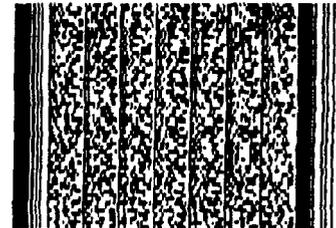
With the growing challenge of Joint Operations and the vision for future readiness represented in Sea Power 21 and Sea Basing, Navy Packaging has an important role to play.

## DEFENSE PACKAGING POLICY GROUP

Through the Navy Packaging Board, NAVICP represents the Navy on the DPPG, a formal organization sponsored by OSD. The DPPG is composed of representatives from all the Services and Defense Logistics Agency (DLA). DPPG addressed several key issues of importance to the Navy in 2004:

### MIL-STD 129 MILITARY SHIPMENT LABEL

A revision to MIL-STD-129 was approved that includes a two-dimensional (2D) bar code. The 2D bar code duplicates all the human-readable information from the Military Shipping Label (MSL). The Navy participated in several prototypes employing the 2D bar code. With the use of AIT, the Navy expects to realize efficiencies in handling.



### CONTAINER LABEL SURVIVABILITY

Recent feedback from Iraqi Freedom operations indicated that labels were not adhering to containers or were not legible primarily due to the desert environment. Naval PHST Center took the lead in reviewing MSL requirements with the Air Force and Army and submitted the findings to the DPPG.

### DATABASE INCONSISTENCIES

Accurate cube (dimensions) and weight data are needed for transportation planning and automated load configuration. Often this information is inconsistent in various logistics databases or may be omitted entirely. A review of this information and an approach for correction is underway.

### ERP SUPPORT FOR PACKAGING

With the ERP activity throughout DoD, it is important to anticipate packaging support in the various packaging and SAP databases. NAVAIR Lakehurst is leading a DoD Task Force to evaluate various approaches, with the goals of influencing and standardizing the PHS&T database solution. This will result in improved database capability and flexibility with a decreased implementation timeframe for future changes evoked by MIL-STD-2073-1.

### SOLID WOOD PACKAGING MATERIALS

DoD and USDA signed a memorandum of understanding (MOU) that defined specifications and inspection procedures to safeguard wood packaging materials used in military applications from infestation. The DPPG worked to secure concurrence across DoD, and through the coordination efforts of Navy Packaging a new SWPM manual was issued.

In addition to these major initiatives, the DPPG (1) solicits lessons learned as with the Army OIF Packaging Lessons Learned review, (2) recognizes outstanding achievements in packaging through DoD and industry awards, and (3) focuses on the development of training materials through the curriculum at the School of Military Packaging Technology.

#### LESSONS LEARNED AWARDS AND TRAINING

The Joint Intermodal Logistics Working Group (JILWG) is a grassroots organization consisting of field level engineers, operators, packaging specialists, and logistics managers from all four Services who represent their Service interests in supporting their operating forces. The Naval PHST Center, Detachment Earle of the NSWC Indian Head Division is a founding member and also serves as the chair of the JILWG.

#### JOINT INTERMODAL LOGISTICS WORKING GROUP

A key concept developed by the JILWG is the Joint Modular Intermodal Container or JMIC. Details of the concept are presented later in this report, but the concept uses a building block approach for smaller containers to be combined to fit or fill a standard 20 foot ISO container.

#### JOINT MODULAR INTERMODAL CONTAINER

JILWG milestones include:

#### JILWG MILESTONES

- Briefing JMIC concept to Joint Ordnance Commanders Group (JOCG), Executive Committee (EXCOM) in May 2004
- Briefing JMIC concept to United States Transportation Command (USTRANSCOM) Joint Infrastructure Working Group in May 2004
- Briefing JMIC concept to DPPG in June 2004
- Briefing JMIC concept to the JOCG Flag Board, in September 2004 as an agenda topic for the JLC
- JOCG plans on briefing the JILWG and JMIC concept to the JLC at the next meeting
- Developing a video, which demonstrates the advantages of the JMIC in an intermodal logistic environment
- Developing a prototype JMIC
- A CNO Operational Logistics Integration Program (OPLOG) JMIC prototype was demonstrated in December 2004
- A Joint Advanced Concept Technology Demonstration (ACTD) between the Navy and Army has been proposed that includes JMIC.
- Army is continuing their JMIC development.
- OPLOG is continuing the Navy JMIC development program for FY 05.

The initial funding for the JMIC was provided through the CNO OPLOG Program. The next challenge for the JILWG is to further develop this concept into a working product. With funding, the prototype can be expanded and tested in more real-world environments.

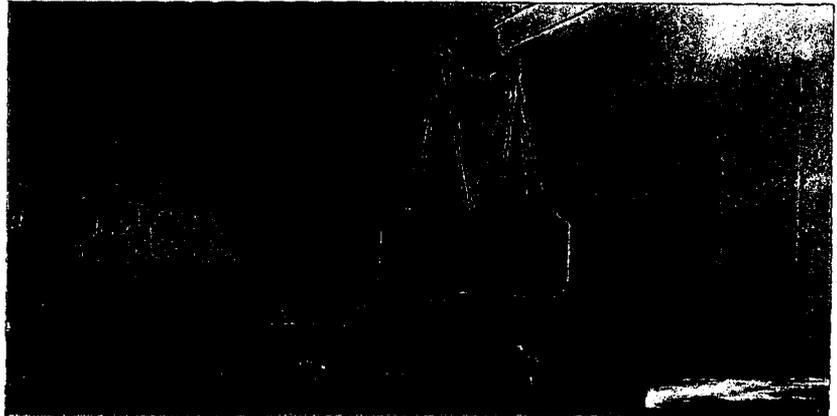
In November 2004 OSD decided to place JMIC initiatives under USTRANSCOM as Distribution Process Owner with the JILWG having the lead for standards, system development, and policy coordination. A new JILWG charter mandates coordination with the DPPG and other existing service/agency working groups (such as the Navy Packaging Board) to ensure positive coordination and oversight of intermodal issues.

The Navy packaging expertise is harvesting experience from the other services while representing Navy interests and sharing the vast body of Navy expertise. Working on joint packaging activities highlights the importance of cross-Command, cross-Service issues to achieve the comprehensive goals of transforming the military.

## Key Accomplishments

### REUSABLE BULK CONTAINER

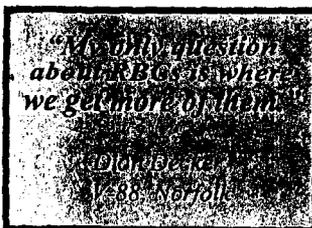
The Reusable Bulk Container (RBC) was designed and deployed to replace triwall, corrugated boxes on wood pallets. After initial testing, the program was expanded this past year as the RBC was exposed to extensive sea trials during replenishments-at-sea (RAS).



*An RBC being transferred during RAS*

Each year, the Navy disposes of more than 1.7 million pounds of fiberboard from triwall containers. More than 50% of shipboard solid waste comes from packaging materials used to transport supplies. The strike up, load, unload, and strike down for triwalls are manpower intensive. Eliminating the waste saves money and means less debris on-deck, which might cause FOD. Reducing the labor supports reduced manning initiatives.

To address this requirement, NAVICP's Pollution Prevention (P2) Program developed the RBC. The P2 Program already operates the Waste Reduction Afloat Protects the Sea (WRAPS) and Plastics Removal in the Marine Environment (PRIME) programs for NAVSUP, which attack the sources of solid waste. The RBC is the next step to reducing solid waste in the form of cardboard and wood.



The collapsible, polyethylene plastic container is designed for use with a forklift and approved handling slings. The container went through laboratory testing at the Naval PHST Center Earle. In addition, the RBC experienced sea trials with both Vertical Replenishments (VERTREPs) and Connected Replenishments (CONREPs).

The sea trials identified several design improvements, including improved marking for forklift operations and improved marking for operations in limited visibility. Changes were incorporated in the RBC design, and additional testing at the Naval PHST Center was successfully performed.

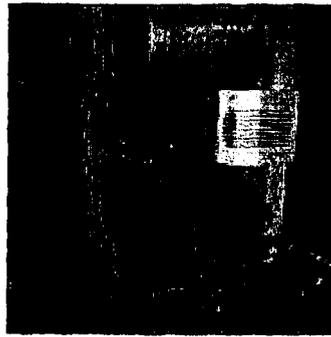
The useful life of the RBC is 500 trips without refurbishment, more than 50 times the useful life of a triwall. The contents are better protected with the RBC, thereby enabling readiness. Finally, the effort to load and unload is reduced, which improves the quality of service and potentially enables the reduced manning concept for future ship design.

### INFLATABLE BUBBLE WRAP

In a joint effort to streamline and improve packaging operations during deployment and at Navy shore-based facilities, NAVAIR-Lakehurst and NAVICP-Philadelphia initiated an operational change to introduce and prototype a Commercial Off-the-Shelf (COTS) packaging system into the Navy. The prototype's purpose was to evaluate Sealed Air's Inflatable Bubble Wrap (IBW®) Packaging System in an operational environment for potential replacement of pre-inflated bubble-type cushioning material (PPP-C-795) presently used and stowed aboard ships and at

shore-based facilities. Pre-inflated cushioning is used to protect Depot Level Repairable retrograde materiel during fleet operations. The IBW® Packaging System produces Bubble Wrap® cushioning on-demand. The objectives were to increase availability of cushioning material and productivity, while minimizing storage space. The primary locations selected for prototyping this COTS system were on board the aircraft carrier USS Enterprise (CVN 65) and at 3 shore-based Advanced Traceability and Control (ATAC) facilities located at Bahrain, Norfolk, and San Diego.

The prototype results were positive. Laboratory testing of the end item cushioning for fragility, shock and temperature were similar to that of the pre-fabricated cushioning material. USS Enterprise personnel found the systems to be trouble free, and easy and convenient to use. The systems' performance and reliability were high quality. Calculated cost savings and avoidances were exceptional. Waste disposal and man-hour cost avoidances approached \$9,500 and \$760 per deployment, respectively. Based upon expected deployments, waste disposal and man-hour cost



avoidances are calculated to be over \$164K per year while material storage cost savings were over \$11K per year. Using transportation cost comparisons based on two shipments to strategic global shipping destinations, cost savings were calculated to be almost \$450K per year. Hence, the overall recurring cost savings/avoidances total over \$625K per year. Lastly, for USS Enterprise, use of the systems resulted in total space savings of 1,029 ft<sup>3</sup>, while needing only approximately 9 ft<sup>2</sup> of floor space for each system. IBW® Packaging Systems have now also been installed on USS Abraham Lincoln (CVN 72) and USS Harry S. Truman (CVN 75).

In April 2001 the Naval PHST Center generated a white paper that proposed the exploration of lightweight materials to mitigate an energetic blast. It was hypothesized that packaging may hold the key to the potential of providing a means of shipping mixed energetic materials possessing different hazard classifications.

In August of the same year, the Naval PHST Center generated a technical proposal entitled "Introduction of Blast Mitigating Technologies To Improve Stowage Density and Reduce Risk Associated With Naval Ammunition and Explosives Afloat." The proposal addressed two objectives. The first was to initiate research and development of new technology that will reduce hazard classification and compatibility concerns as well as increase safety during weapons handling evolutions. The second objective is to perform a study on how compatibility restrictions currently impact shipboard operations and where the new technology can best be applied to increase stowage density and safety aboard ship.

The Office of Naval Research (ONR) funded the effort because they realized the major impact this type of technology would have in protecting Navy ships and personnel. ONR also recognized the potential for a multitude of commercial applications that would enhance homeland security.

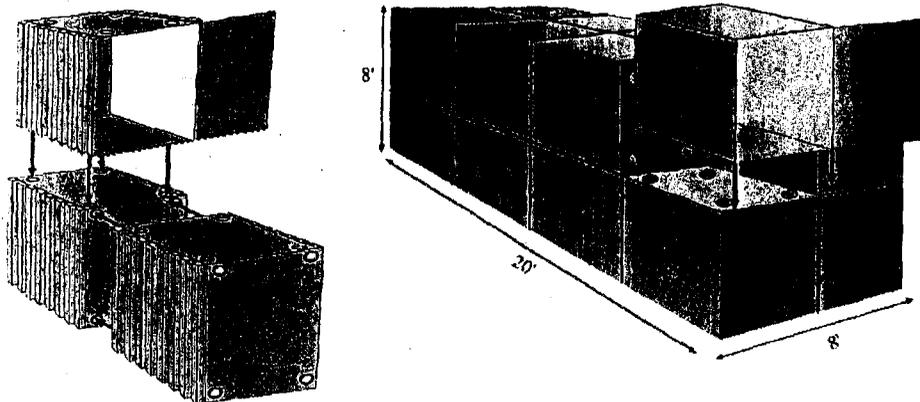
After two years of intense research the Naval PHST Center narrowed the playing field and focused in on three companies: Critical Solutions Inc., Kazak Design, and Honeywell. In November 2004, nine different containers were subjected to detonation using various amounts of C4 ranging from a 1/8 lb to 2 lbs. The successful tests showed that some of the materials used in the construction of the various containers withstood the blast, reduced over-pressure, and eliminated the fireball. In some cases the designs maintained their integrity. These tests have provided strong supporting evidence that the original hypothesis was founded on sound engineering principles and will eventually be met.

## BLAST MITIGATION PACKAGING



The JMIC is a revolutionary new container concept that transforms military logistics through modularity, inter-modality, and service compatibility. The JMIC concept was developed by the JILWG and designed by the Naval PHST Center. Current packaging does not optimize the distribution system, support interoperability, minimize manpower, or reduce materiel handling and logistics footprint. Simply put, there are too many different packages of varying shapes and sizes which are optimized for specific commodities rather than for the logistics pipeline. Combatant Commanders require a joint, seamless, intermodal conveyance system to improve joint and commercial interoperability from sea, air, air-droppable and land-based systems. To address these issues the JMIC container system concept was developed.

The JMIC concept provides a uniform modular container, which could replace current outer packaging for munitions and other supplies. JMIC defines a common building block that maximizes the movement of materiel through the logistics pipeline and that optimizes the materiel transfer and re-supply regardless of the equipment or service undertaking the operation. JMIC replaces the box-within-a-box-within-a-box concept of packaging with one box or container that serves as the outer packaging, but in multiple groups as the interface with commercial intermodal containers by which it is transported.



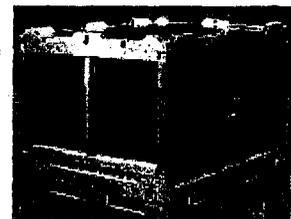
In multiple groups, JMIC serves as the interface with existing and future military distribution systems as well as the commercial intermodal container (the 20' ISO container) for strategic delivery. With an interlocking design and a standard size, additional blocking and bracing is eliminated. JMIC is collapsible for economical retrograde return.

JMIC has the potential to:

- Dramatically reduce the amount of battlefield manpower committed to logistics operations.
- Enable efficient, seamless joint service inter-operability through modular systems.
- Optimize military and commercial transportation systems.
- Simplify Sea Base logistics.
- Optimize existing and future distribution system support.

In the past year, the JMIC concept has been further developed by the Naval PHST Center, translating this concept into a prototype design. Development and testing of this concept is scheduled to continue over the next year. As momentum increases, the JMIC concept will transform ordnance packaging, bring all Services closer to joint logistics, and look for more cost-effective methods of supplying our warfighters.

## JOINT MODULAR INTERMODAL CONTAINER

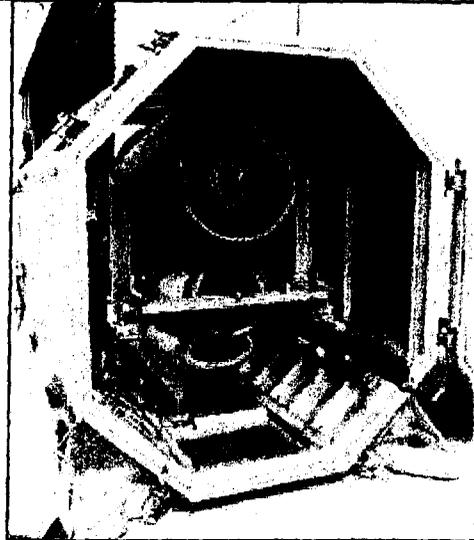


*JMIC Prototype*

## Key Accomplishments

### T-56 QUICK ENGINE CHANGE ASSEMBLY CONTAINER

The T-56 Quick Engine Change Assembly (QECA) is a complete aircraft engine assembly ready for rapid installation on an aircraft on the hangar deck. In the past, the QECA was packaged for storage and transportation on a metal frame with a barrier wrap for moisture protection. The QECA is delivered in underway replenishments (UNREP) so the risk of damage is high. The cost to repair and the impact on readiness justified developing a specialized container for this high value item.



In the past year, a prototype QECA container was developed and tested by NAVICP that met the design goal of protecting the QECA while supporting ease of handling. The container is accessed from the ends rather than the top to facilitate access on the hangar deck. The same equipment that mounts the engine on the aircraft is used to load and unload the container. The new container provides substantial protection during storage and transportation, which also reduces the risk of unintended damage.

### SEA BASE PACKAGING APPENDIX

As Joint Forces move into the future, they will operate on concepts such as Sea Basing. Current logistics practices require significant change to support these concepts.

Under the direction of the CNO N41, a draft appendix for the Sea Base Concepts of Operations was developed. The appendix presents a clear statement of the problem for Sea Based operations. It formalizes the definitions of the key elements for the next generation of PHS&T and presents the requirements to support Sea Base, including the following:

- **Modularity:** Future packaging, unitization, and containerization must be interoperable and interchangeable by employing a building block approach.
- **Legacy Compatibility:** Future packaging and containerization must be compatible with legacy transportation and handling systems.
- **Transport System Interoperability:** The modular building blocks must be easily reconfigured in order to be transported on as many platforms as possible.
- **Service Interoperability:** Future packaging must meet the unique needs of each service and the common handling requirements of Sea Base.
- **Retrograde Friendly Packaging/Reusable Containers:** When feasible, packaging/reusable containers should be collapsible and stackable for easier retrograde transport and stowage.
- **Minimal Waste Material:** Packaging should require minimal solid waste material such as steel banding or wood battens.
- **Total Asset Visibility:** Packaging must be compatible with asset identification standards.

Future Readiness

For a complete list with details, please refer to the Concept of Operations Appendix. The Appendix is a blueprint for PHS&T research and development. Many of the key accomplishments identified here are key steps in this blueprint, but the appendix includes direction for future research and development.



The Container Re-use and Refurbishment Centers (CRRCs) are dedicated to collecting, assessing, refurbishing, requisitioning, and maintaining inventories of Navy-owned reusable shipping containers. Through Navy PHS&T, NAVICP operates six CRRCs: Cherry Point, NC; Jacksonville, FL; Norfolk, VA; Puget Sound, WA; San Diego, CA; and Yokosoka, Japan.

In seven years of operations, the CRRCs recovered nearly 201,000 containers valued at over \$64 million. In addition, nearly 930 depot level repairable (DLR) items valued at nearly \$42 million were recovered from containers.

In the past year, the CRRCs have operated at a pace that reflects OIF and OEF usage with more than 41,500 containers received and 35,200 of those refurbished and reissued. Through re-use, procurement of new containers valued at over \$11.5 million was avoided. In addition, an estimated \$6 million in DLR items were recovered from the containers.

NAVSEA has granted individual technical warrant authority to the Director of the Naval PHST Center of the Naval Surface Warfare Center Division Indian Head. In order to understand the impact of this decision we should first look at what constitutes technical authority. It is the authority, responsibility and accountability to establish, monitor and approve technical products and policies. COMNAVSEA, Naval Surface Warfare Center, SEA 00 has entrusted and empowered the Center's director with an individual technical warrant authority to make technically sound engineering PHS&T decisions.

The purpose and understanding of the technical warrant authority policy are defined in NAVSEAINST 5400.97A dated 3 Feb 2003, which outlines the necessary engineering and technical responsibilities each warrant holder has to the Department of the Navy.

The Naval PHST Center has long been known as a Center of Excellence in PHS&T. With the issuance of the warrant, their reputation and notoriety has been further enhanced as the Navy's leading experts in PHS&T for ordnance. Their goal is to continually set a higher standard. They are actively participating in the Navy Packaging Board and the Joint Intermodal Logistics Working Group. Both groups are developing broad-based policies and standards for Naval Ordnance PHS&T reflecting the responsibility of the warrant holder. Through these initiatives, the Naval PHST Center has been involved in frequent cross-Command decisions involving engineering and technical issues. Technical warrant holders conduct an annual conference to foster both formal and informal discussions.

The technical warrant has given the Naval PHST Center's Director the authority to establish an aggressive game plan that will push state-of-the-art technology and practices in ordnance PHS&T and marry into the goals of the Department of the Navy for personnel reduction and automation in the 21<sup>st</sup> Century.

## CONTAINER REUSE AND REFURBISHMENT CENTERS

## NAVSEA TECHNICAL WARRANT FOR ORDNANCE PHS&T

DCN: 11797

# Key Accomplishments

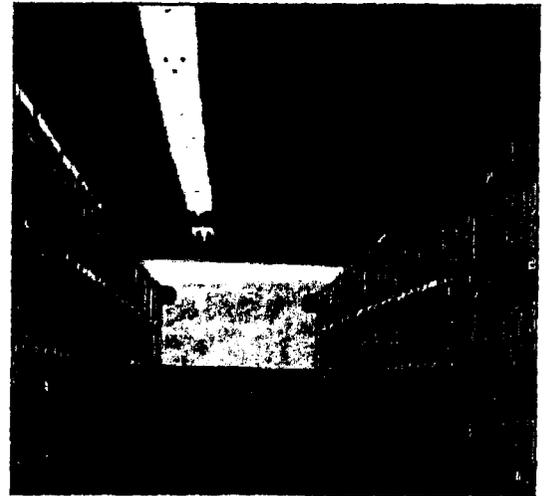
## CARE OF SUPPLIES IN STORAGE

The Care of Supplies in Storage (COSIS) program is intended to maintain stored Navy materiel in ready-for-issue (RFI) condition or to prevent uneconomic deterioration of unserviceable materiel. COSIS is an ongoing process to inspect supplies in storage for deterioration of the unit pack or marking, as well as to restore packaging or marking. The COSIS program is managed by NAVICP through Navy PHS&T.

Storage requirements vary within the services, and DLA personnel are not always aware of unique Navy storage requirements. Onsite assessments and training at all Navy storage sites are not possible in a short timeframe. Shipboard facilities are space restricted and may not accommodate the required storage environments. The process to authorize restorative actions was paper-based. Better metrics are needed to identify and cost justify additional effort.

**Automated Submittal of ROD/SDR**

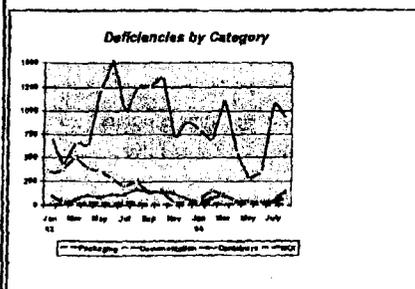
The COSIS authorization process was automated this past year and documentation is submitted online. Awareness of COSIS issues has been raised through increased COSIS assessments. These assessments provided insight for the development of a COSIS training package.



Automating the COSIS authorization process provides faster authorization and a database for analysis. Better metrics may provide the basis for more comprehensive, preventive programs in the future. The COSIS training package will be used by TARP representatives during regularly scheduled training at storage facilities, and by internal PHS&T personnel when onsite for other programs, thereby quickly increasing COSIS awareness at storage facilities.

## AUTOMATED REPORT OF DEFICIENCIES

Over the past year, paper-based Reports of Deficiencies (ROD) and Supply Deficiencies Reports were replaced with an automated program, AutoROD/SDR. The program developed by NAVICIP provides the PHS&T/Retrograde community with an Internet-based tool to identify PHS&T/Retrograde deficiencies.



Through the use of a simple hand-held scanner and knowledge acquired through TARP training, retrograde handlers quickly and easily document problems on the TARP Web Port. The data collected in the AutoROD/SDR Program is utilized to measure the effectiveness of TARP training and to identify Navy sites for new or remedial training.

Between NAVAIR Lakehurst and the Naval PHST Center, Naval Surface Warfare Center Indian Head Division, Detachment Earle, the Navy has extensive PHS&T testing capabilities.

In the past year, the NAVAIR Lakehurst, NJ Military Packaging Laboratory operated at full capability. The transition from NAVAIR Patuxent River of all test equipment and full responsibility for testing has now been completed. Lakehurst's responsibility for qualification testing is covered under 10 USC §2319. Also in the past year, with the effects of OEF and OIF, the pace of vendor qualification testing has increased. Barrier materials are the primary products tested to adherence to some of the following characteristics: Volatile Inhibitor Ability, Contact Corrosivity, Odor Barrier Ability, Tensile, Water Vapor Transmission Rate, Electrostatic Discharge, and Electromagnetic Interference. NAVAIR Lakehurst was also involved in evaluating the new Inflatable Bubble Wrap® Packaging System.

The Naval PHST Center in Colts Neck, NJ operates a comprehensive test facility primarily for ordnance PHS&T equipment and containers. The facility can perform and analyze tests not easily duplicated commercially. The Center has expanded its test equipment to fully support the evaluation of large containers presently used or being developed for the Navy. In addition to this inventory of test equipment, the Center has added a 35-foot conditioning chamber capable of reproducing any worldwide temperature or humidity environment that could be experienced by a shipping container. Also, the original 5,000 lb capacity repetitive shock table has been replaced with a 12,000 lb capacity machine.

The Naval PHST Center had conceived the idea of using multiple vibration machines to test large containers, which our test engineers attempted to manually control with some success. Today, because of the advancement of computer control systems, it is possible to run a multitude of shakers in tandem. The latest system can operate four shakers in tandem in either the vertical, longitudinal or horizontal direction.



*Test center equipment at Naval PHST Center*

The tandem system can now vibrate a long heavy container with a wide variety of programmable sinusoidal or random inputs that can simulate the deck of a ship, railcar floor, or the bed of a truck. At the same time, it is possible to record and process more than 100 channels of information obtained from transducers strategically positioned on the packaged item while the vibration test is underway. This provides the test engineer with a detailed electronic picture of the packaged weapon as it is subjected to the programmed forces.

Through extensive product testing, the Navy helps programs throughout DoD to identify design issues prior to production and deployment. Resolving issues early saves money and increases reliability. Qualifying vendors insures a competitive environment.

## PHS&T TEST CAPABILITIES

## PHS&T ONGOING PROGRAMS

### PHS&T LOGISTICS ELEMENT MANAGERS

PHS&T is one of the 10 integrated logistics support elements (functional logistics processes). PHS&T LEMs provide PHS&T Program Management Support to the Hardware Systems Commands (HSCs) for the entire logistics cycle, including transportation and transportability planning. Proper PHS&T management has a significant impact on lifecycle costs, system effectiveness, reliability, maintainability, corrosion prevention and control, safety and the environment. It is important that PHS&T be evaluated at program milestone decision points included on the HSC's ILA Teams. PHS&T LEM duties are performed by a number of offices throughout the Navy, with NAVICP 077 performing the PHS&T portion of ILAs.

The PHS&T LEM is an important member of each program's Integrated Product Team (IPT). The LEM is responsible for ensuring PHS&T is fully integrated with the weapons platforms and supply chain. The LEM must ensure PHS&T funding requirements, including reusable container design and development, are justified and included in the program budget.

Typical duties include tailoring PHS&T requirements to a program's needs and ensuring these requirements are included in the Statement of Work, reviewing the Integrated Logistics Support Plan (ILSP) and then passing information on to the Fleet in the User Logistics Support Summary (ULSS).

The following programs involve active participation from Navy PHS&T:

- |   |  |
|---|--|
| • MH-60S/MH-60S Armed Helo                                      | • MH-60S AN/AQS-20 Towed Body                                |
| • MH-60R  | • MH-60R-AAS-52 Movement Tracking System (MTS)               |
| • MH-60S Airborne Mine Countermeasures (AMCM)                   | • F/A-18E/F Shared Reconnaissance Pod (SHARP)                |
| • MH-60R AN/AQS-22 Airborne Low Frequency Sonar (ALFS)          | • F/A-18E/F Active Electronically Scanned Array (AESA) Radar |
| • F/A-18E/F Advanced Tactical Forward Looking Infrared (ATFLIR) | • E/A-18G  |
| • F/A-18E/F   | • V-22   |
| • H-1 Upgrade   | • P-3 Advanced Imaging Multi-Spectral Sensor (AIMS)          |
| • Consolidated Automated Support System (CASS)                  | • Multi-Mission Maritime Aircraft (MMA)                      |
| • P-3 Anti-Surface Warfare Improvement Program (AIP)            | • DD(X)  |
| • CVN-21  | • JSOW   |
| • Fire Scout Unmanned Aerial Vehicle (UAV)                      | • Sparrow  |
| • Tomahawk  | • Standard Missile   |
| • SLAM  | • VLS  |
| • Harpoon   | • Sea Sparrow  |
| • SSPO  | • Torpedoes/Mines  |

In addition, many of the electronic components shipboard or on Naval aircraft are programs of their own. An electronic component, referred to as a "black box", may require specific packaging to protect the integrity of the component. Over the past year, Navy PHS&T has served as the LEM for numerous black box and missile/ordnance programs responsible for reviewing the needs and identifying the appropriate standard container to protect the box.

The following container projects were active during 2004:

- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Airborne Electronics Sensor Array (AESA) Container</li> <li>• Aerial Refueling Stores (ARS)</li> <li>• CNU-673/E Shipping and Storage Container for the AN/AWW-13 POD (SLAM ER)</li> <li>• Common Towed Body (AN/AQS-20) Container</li> <li>• ESSM CONTROL Actuation Assembly Container</li> <li>• ESSM Fuze Booster Container</li> <li>• ESSM Guidance Section Container</li> <li>• ESSM Rocket Motor Container</li> <li>• ESSM Safe Arm Device Container</li> <li>• ESSM Thrust Vector Control Section Container</li> <li>• ESSM Transition Section Container</li> <li>• ESSM Warhead Container</li> <li>• ESSM Warhead Compatible Telemeter Container</li> <li>• Joint Modular Intermodal Container (JMIC)</li> <li>• MH60S AMCM Winch Container</li> <li>• MH60S AN/ALQ-222 Common Console Container</li> <li>• MH60S AN/ALQ-223 Base Assembly Container</li> <li>• Mk 781/0 Shipping and Storage Container for MK67 Mine (SLMM)</li> </ul> | <ul style="list-style-type: none"> <li>• Mk 787/1 Container, revised request to delete ERGM modifier from nomenclature</li> <li>• Mk 799/0 TSRM Container (SM-3)</li> <li>• Mk 793/0 VA Class Submarine Weapon Cradle Assembly Container</li> <li>• Mk 792/0 AWR Torpedo Container</li> <li>• Mk 799/0 TSRM Container (SM-3)</li> <li>• Mk 800/0 KW Container (SM-3)</li> <li>• Mk 801/0 Guidance Section Container (SM-3)</li> <li>• Mk 803/0 KW Kit Container (SM-3)</li> <li>• Mk 804/0 CD Fit Fuze Booster Container (STANDARD)</li> <li>• Mk 807/0 Container for RAM Propulsion Units</li> <li>• Mk 808/0 Shipping and Storage Container for SM -3 Kinetic Warhead Seeker</li> <li>• P-3 Blade Container</li> <li>• Reusable Bulk Container (RBC)</li> <li>• Shared Reconnaissance Pod (SHARP) Container</li> <li>• T56 Quick Engine Change Assembly (QECA) Container</li> <li>• Volume Search Sonar/Electro Identification Device (VSS/EOID) Container</li> </ul> |
|--|---|

## REUSABLE CONTAINER DESIGNS

## PACKAGING SPECIFICATIONS AND STANDARDS

There are over 70 packaging documents for which NAVAIR Lakehurst and NSWC Indian Head Division Detachment Earle PHST Center are the Preparing Activities. These documents cover barrier materials, cushioning, containers, humidity indicators, preservatives, and test method and development standards. Over the past year, the following key documents have been revised, amended, or reinstated. The following is a list of these documents:

- MIL-PRF-29597C - Bag, Odor Barrier, Flexible - for Food Contaminated Plastic Waste (Revised)
- MIL-PRF-81705D - Barrier Materials, Flexible, Electrostatic Protective (Amended)
- QPL-131-45 - Barrier Materials, Watervaporproof, Greaseproof, Flexible, Heat-Sealable (Amended)
- MIL-PRF-22191E - Barrier Materials, Transparent, Flexible, Heat-Sealable (Amended)
- PPP-C-795D - Cushioning Materiel, Packaging (Flexible Closed Cell Plastic Film for Long Distribution Cycles) (Reinstated)
- NAVSEA OP 4 Ammunition and Explosives Safety Afloat (PHS&T portion)
- MIL-DTL-81997D - Pouches, Cushioned, Flexible, Electrostatic-Protective, Transparent (Revised)
- MIL-DTL-6060E - Bags, Watervaporproof, Heat-Sealable, Complex (Revised)
- MIL-PRF-22019D - Barrier Materials, Transparent, Flexible, Sealable, Volatile Corrosion Inhibitor (Amended)
- MIL-PRF-3420G - Packaging Materials, Volatile Corrosion Inhibitor (Amended)
- MIL-STD-648C - Design Criteria for Specialized Shipping Containers
- NAVSEA OP 5 Ammunition and Explosives Safety Ashore (PHS&T portion)

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DCN: 1555

The movement of the Naval Packaging, Handling, Storage and Transportation (PHST) Center from Naval Weapons Station Earle to Picatinny Arsenal has been overshadowed by news of the proposed closing of Fort Monmouth. However, the proposed realignment could prove a serious detriment to the Navy mission.

No one seems to be able to make any sense of the move, especially considering:

1. NWSTA Earle is not being closed. In fact, BRAC documentation states that NWSTA Earle must remain open. However, much of the work done by other tenants/organizations NWSTA Earle would have to be moved to Picatinny. NWSTA would lose approximately \$1,000,000/yr in funding that is provided to the station and its tenants by the PHST Center. NWSTA Earle is already planning to open housing to the public in order to offset operating costs. The movement of the PHST Center would greatly increase the funding deficit.
2. The move is part of an effort to create a "Gun and Ammo" Center at Picatinny. However, guns and ammo work comprises only a small amount of the work done by the PHST Center. The bulk of the work involves missiles, torpedoes, handling equipment and manuals. Also, the report mentions the Naval PHST Center's "acquisition" activities. The acquisition function of the Naval PHST Center was transferred to NSWC Indian Head several years ago.
3. A so-called "Joint Packaging, Handling, Shipping and Transportation (PHS&T) Center" will be created, "particularly important in this current time of high demand for guns and ammunition by all the services" (this is a misnomer, the "S" in PHST stands for storage). However, the Army missile packaging function will remain at Redstone Arsenal, the transportation, handling and stowage work will remain at McAlester Army Depot, and the Army packaging test facilities will remain at Tobyhanna Army Depot.

The Naval PHST Center is already a four-pillared Center, a model that the other services should be following. In addition, the Naval PHST Center is responsible for explosive safety manuals (ship and shore). The Army packaging office at Picatinny does no such work. No additional joint capabilities are being created, and there would be minimal beneficial sharing of information. The Navy does joint work with Air Force programs, but the Air Force is not involved in this proposed joint center. There is one ongoing cooperative effort between Picatinny packaging and the Naval PHST Center. The Joint Modular Intermodal Container (JMIC). The distance between the two offices has proved no impediment to the success of this effort. It should be noted that JMIC is much better suited to Army items/ammunition. The size of the JMIC and the size restrictions in shipboard weapons magazines limits its Navy applications.

4. The move is justified by qualifying the Naval PHST center as "lower overall quantitative value". In fact, the Naval PHST Center has more people working on PHST than the Army packaging office. The Naval PHST Center has a packaging design department, the Army packaging office does not. In addition, the Naval PHST Center has packaging specific test equipment necessary for its mission.

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Examples are test chambers large enough to accommodate Tomahawk missile containers, and a pull tower to test ordnance handling slings. Since much of this equipment is for Navy-specific work, any significant potential for cost savings from consolidation of facilities is eliminated. In addition, Naval PHST work requires close coordination with the T&E branch, and is located adjacent to the PHST Center building. The T&E facilities at Picatinny are several miles away from the packaging office, and are part of a separate department. In addition, much of the testing done for the Army packaging office is performed at Tobyhanna Army Depot, which is about the same distance from Picatinny as is the distance from Picatinny to NWSTA Earle.

5. The Naval PHST Center is moved from the easy access to ships and Navy ordnance which have been a key to its success for decades. All synergy is destroyed, and the ability of the Navy to perform its mission is negatively impacted with no tangible benefits to the Army other than a gain in personnel at Picatinny. Some Navy personnel (the fleet and weapons program managers) are said to be very disturbed by this proposed move, and its potential impact on Navy capabilities.

The importance of packaging, handling, storage and transportation in Navy logistics is often overlooked. The fact remains, if a container does not provide adequate protection, it doesn't matter how effective a weapon is. Should a weapon be damaged during shipment or handling, it can't be used, or used effectively. If a container cannot be handled with existing equipment or moved through the ship, the mission is jeopardized. If it doesn't fit in an elevator or through a passageway, you can't get it to the aircraft on the flight deck, or to the launcher. As important, or perhaps more important is the safety of our sailors. Ordnance handling equipment is designed with strict safety factors. The threat to personnel and resources cannot be overstated. Weapons must be capable of being stored for long periods, handled and transferred easily and safely, and they must function when needed. PHS&T are critical to the success of the Navy.

It should be noted that the recommendation to move the Naval PHST Center was an Army recommendation, and neither the detailed Army nor Navy reports discuss the move of the PHST Center. How could the Navy have let this happen? The Army chaired the Joint Action Scenario Team. In addition, the Army representative to the Joint Cross Service Group was the Technical Director of the Army Developmental Test Command. Perhaps the Army, unfamiliar with the breadth of the scope of the Naval PHST mission, saw a small group at Earle, likely categorized as developmental T&E. A scenario was proposed, calling for the group to move to Picatinny. The PHST is currently under the Naval Surface Warfare Center, Indian Head Division. This is not a good match considering the Indian Head missions. Indian Head, anxious to shed its detachments (if you look at the BRAC report it seems as though they got rid of them all), put up no resistance to the proposal to move the Naval PHST Center to Picatinny. The Navy subsequently rubber-stamped the idea. How could Indian Head ignore the importance of the Naval PHST Center to the Navy?

An incorporation of NWSTA Earle into the existing Tri-Service Base (Lakehurst, Ft Dix and McGuire Air Force Base) is the logical solution. The idea of employing the NWSTA

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rail and pier as part of the Tri-Service base has already been discussed, and makes too much sense to ignore. Under such a scenario, the PHST Center could either remain at Earle, or be moved to Lakehurst. Lakehurst handles "Yellow Gear" and tie-down procedures. It also has facilities such as a virtual weapons magazine, that would be a valuable tool for the Naval PHST Center. Such a move would allow the Navy to consolidate and yet maintain a core capability.

If, in fact, a Joint Packaging Center is the goal, it is the Navy that should have lead. The Navy requirements are the strictest. Weight and cube must be minimal, the containers must be compatible with existing handling equipment, including approved slings, etc. Navy ordnance must be capable of being replenished at sea. With the exception of the finishes (the Navy does not require green coatings), Navy ordnance/weapons would have no problem fitting in the Army or Air Force logistics pipelines. The converse is not true when it comes to Army and Air Force ordnance/weapons in the Navy pipeline.

One week after the announcement, many of details and the supporting information (cost analyses, justification, detailed rationale, etc) have yet to be released (if they even exist). Do the PHST employees become Army employees? Will a new facility have to be built at Picatinny? Will this proposed joint center be part of the gun & ammo Center? How much will that cost? PHS&T is one of the 10 elements of weapons logistics, and the Naval PHST Center is the technical warrant authority for Navy PHST (the Navy has specifically authorized the PHST Center to do the PHST work for the Navy). The Navy cannot survive without a uniform system of developing, approving, distributing and maintaining weapons containers and ordnance handling equipment. The system must have a standard for ensuring explosive safety, and take into consideration Navy-unique PHST requirements, including underway replenishment, ship passageways, weapons elevator dimensions and other constraints. How can the Navy not be negatively impacted by turning a key element of Navy weapons logistics over to the Army? If it is under the guise of "jointness", what is the benefit to the Navy? Navy drawings, manuals, handbooks, allowance lists, etc, would be turned over to the Army. These have no value to the Army, and the Army would have no vested interest in maintaining them, updating them, etc.

As troublesome as the proposed move is to the employees of the Naval PHST Center, just as troublesome is the fact that no one at the center can make sense of the move. At a minimum the Naval PHST Center must remain part of the US Navy, no matter where it winds up being physically located. I understand that the time you have available to fully investigate all the proposed alignments and closings is extremely limited. However, I urge take the time to fully investigate this matter. The impact to the Navy cannot have been adequately evaluated. Is it merely open season on defense facilities in Monmouth County, NJ?