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Report to Secretary, Department of Defense; by Richard W. Gutmann, Director, Logistics and Communications Div.

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The military services spend an estimated \$2 billion annually for packaging. The Army and Navy could save millions of dollars annually by improving their controls and accounting systems relative to specialized reusable containers.

Findings/Conclusions: Existing controls are not sufficient to prevent the loss of valuable specialized reusable containers by the military services. This lack of control and visibility has resulted in unnecessary procurement of containers, unnecessary fabrication of substitute containers, and premature disposal of containers. Although reusable containers have characteristics similar to other items of supply and many containers are of high dollar value, they are generally not treated as accountable assets. As a result, containers may be obtained without cost to the user, lost without explanation, disposed of without justification, or sold without approval. DOD and the military services need to give more attention to the management and control of reusable containers to eliminate such problems as misuse, failure to redistribute excess reusable containers, and premature disposal. The Army and Navy are not selecting reusable containers based on cost-effectiveness analyses or other relevant criteria.

Recommendations: The Secretary of Defense should establish DOD policies that will: assure that specialized containers are used and reused to the fullest extent practicable; prevent the loss or premature disposal of these assets; study the designation of regional clearinghouses to collect, repair, and redistribute containers; require the services to account for specialized reusable containers, revise container repair criteria, and consider imposing penalties for loss of containers; and direct the services to perform economic analyses and consider alternatives available when selecting containers for new procurements. The Secretary of the Army should improve review procedures for the Automatic Return Item List to ensure that all containers needed in the distribution system are placed on the list. (RRS)

7044

REPORT BY THE U.S.

General Accounting Office

The Department Of Defense Could Save Several Million Dollars Annually Through Improved Management And Control Of Reusable Containers

The services are responsible for maintaining visibility and control over many thousands of reusable containers. However, DOD, the Army, and Navy have provided limited container guidance and instruction, resulting in misuse, failure to redistribute and reuse excess containers, and premature disposal.

DOD could reduce packaging costs and increase the use of these containers by improved management and control, resulting in savings of several million dollars annually.



LCD-78-214

JULY 19, 1978



UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

LOGISTICS AND COMMUNICATIONS
DIVISION

B-157476

The Honorable
The Secretary of Defense

Dear Mr. Secretary:

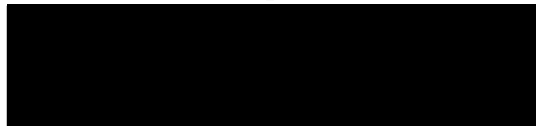
This report discusses the need for DOD to improve management and control of reusable containers to reduce packaging costs and increase the use of many thousands of military specialized reusable containers already in the military services' distribution systems. Also discussed is the need for the Department to make better analyses at the time decisions are made as to what type of container to buy.

We discussed our observations with Army, Navy, and DOD headquarters officials. They generally agreed with our observations and conclusions on the need for improvement in the management and control of reusable packaging containers.

This report contains recommendations to you on pages 19, 28, and 33. As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Director, Office of Management and Budget; the Chairmen, Senate and House Committees on Appropriations and Armed Services; the Chairman, Senate Committee on Governmental Affairs; the Chairman, House Committee on Government Operations; and the Secretaries of the Army, Navy, and Air Force.

Sincerely yours,



R. W. Gutmann
Director

GENERAL ACCOUNTING OFFICE
REPORT TO THE
SECRETARY OF DEFENSE

THE DEPARTMENT OF DEFENSE
COULD SAVE SEVERAL MILLION
DOLLARS ANNUALLY THROUGH
IMPROVED MANAGEMENT AND CONTROL
OF REUSABLE CONTAINERS

D I G E S T

The Department of Defense (DOD) can save millions of dollars annually by improving its management and control of specialized reusable containers required for shipping innumerable types of equipment and materials.

The military services spend an estimated \$2 billion annually for containers and packaging. These costs represent only original packaging provided by vendors. DOD spends additional millions to package items that have been repaired, overhauled or require repackaging for other reasons. (See p. 1.)

This report is directed at the need for improved management and control of two types of reusable packaging containers used by DOD--specialized reusable containers and metal multi-purpose reusable containers--and also the need for DOD to make better analyses for deciding what types of containers to buy. (See pp. 5, 21, and 29.)

A specialized container--usually steel or fiberglass--is one that is configured to enclose and protect a specific item. In contrast, metal multi-purpose reusable containers, available in several sizes, each accommodate many different items of similar dimensions and weight. Designed to military specifications, these containers are commonly referred to as MS containers. (See p. 2.)

Under current DOD and service regulations, instructions, and management practices, specialized reusable container controls are weak, and Army and Navy accounting and reporting systems do not provide managers with the information needed to maintain visibility and control over containers. (See p. 5.)

The millions of dollars in savings can be achieved by improving Army and Navy controls and accounting systems to identify and conserve thousands of such containers. Needed improvements can be accomplished under existing accounting and reporting systems. Under current Army and Navy regulations and management practices:

- Valuable containers are lost because they are not treated as accountable assets. (See pp. 6 and 11.)
- Regulations established to control reusable containers often are not current, followed, or enforced. (See pp. 7 and 11.)
- Accounting and reporting systems do not inform the services what reusable containers are available or where they are located. (See pp. 7 and 11.)
- Unnecessary procurement of specialized reusable containers and building of substitute containers is occurring. For example, when GAO identified truck engine containers in Korea, the Army saved about \$400,000 in container procurement costs and could have saved as much as \$860,000 on just three types of engine containers if an adequate specialized container control and reporting system had existed. (See p. 13.)

The Army and Navy also could realize savings by improving their management and control over multi-purpose reusable MS containers. Present controls over these containers are ineffective due to

misuse, failure to redistribute excess containers, and premature disposal. (See p. 21.)

The Army and Navy often make their packaging container selection for a new item without considering pertinent criteria directly affecting the cost and effectiveness of their logistics systems. The two services are not

- monitoring container trip life to determine if the containers are fully used and
- requiring contractors to delineate container cost in procurement contracts so alternative containers might be considered. (See p. 29.)

The Secretary of Defense should act to reduce packaging costs and increase the use of reusable and specialized containers by establishing DOD policies that will

- assure that specialized and MS containers are used and reused to the fullest extent practicable (see pp. 19 and 28),
- prevent the loss or premature disposal of these valuable assets (see pp. 19 and 28),
- study the designation of regional clearing houses to collect, repair, and redistribute MS containers (see p. 28),
- require the services to (1) account for specialized reusable containers whether empty or in use, (2) revise container repair criteria to include current replacement cost, and (3) consider imposing penalties for loss of containers (see pp. 19 and 28), and
- direct the services to (1) perform economic analyses and consider alternatives available through new packaging technology when selecting containers for new procurements and (2) assess container performance by evaluating container utilization and trip life (see p. 33).

The Secretary of the Army should improve the review procedures for the Automatic Return Item List to ensure that all containers needed in the distribution system, and only those needed, are placed on the list. (See p. 20.)

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ABBREVIATIONS

ASO	U.S. Navy Aviation Supply Office
DARCOM	U.S. Army Materiel Development and Readiness Command
DOD	Department of Defense
DLA	Defense Logistics Agency
GAO	General Accounting Office
PDO	Property Disposal Office
TARCOM	U.S. Army Tank-Automotive Materiel Readiness Command
TSARCOM	U.S. Army Troop Support and Aviation Materiel Readiness Command

CHAPTER 1

INTRODUCTION

Although packaging is often considered commonplace and not worthy of serious discussion or top management attention, it is nevertheless costly and essential to the distribution of military hardware and spare parts. Packaging is vital to getting essential items (as well as routine ones) safely and in usable condition to user locations throughout the world. Packaging also greatly influences the costs of delivered material. This may be in terms of damage losses resulting from inadequate packaging, excessive costs for redundant packaging, or the necessary expense of providing adequate protection for material while it is transported and stored.

American industry spent \$28.5 billion in 1975 for packaging materials alone, not to mention the costs of equipment and labor used in packaging operations. Within the Department of Defense (DOD) the military services also spend a great deal of money for packaging. Although precise figures were not available, one DOD official estimated that the Department spends about \$2 billion annually for packaging. From a few limited analyses, various estimates have been made by the military services that from 3 to 15 percent of the acquisition costs of military items goes for packaging.

Estimates based on a percentage of acquisition costs, however, represent only original packaging provided by the vendors. DOD spends additional millions for packaging items which have been repaired, overhauled, or require repackaging for various other reasons. For example, in fiscal year 1976, the Army's depots in the United States spent \$78 million for building packaging containers, and for preserving, cushioning, and packaging material.

Aside from costs, packaging has recently taken on greater significance because of the drain it has on scarce materials (such as petrochemicals), emphasis on resource conservation, and the effect on the environment caused by disposal of packaging and cushioning materials.

In the past we have issued a number of reports to improve DOD packaging programs. In May 1973 we reported to the Congress 1/ that DOD could save millions of dollars annually by using commercial-type packaging, instead of the

1/B-157476, May 21, 1973.

more expensive military specification packaging, for items that did not require especially designed protection. The Army estimated that it is saving \$4 million annually as a result of adopting our recommendations. In May 1976 we reported to the Secretary of Defense 1/ that the services needed to improve coordination of their packaging research, development, and test and evaluation programs. In June 1977 we reported to the Secretary of Defense 2/ that the services needed to improve and expand the use of two packaging innovations--foam-in-place and fast packs--both of which have reuse potential.

This report discusses the services' management of two types of reusable packaging containers--specialized and metal multi-purpose. A specialized container is one usually made of steel or fiberglass which is configured to enclose and protect a specific piece of equipment or its component. Multi-purpose containers are available in several sizes, each of which can accommodate many different items of similar dimensions and weight. These containers may be made of metal, plastic, or fiberboard; however, this report discusses only the metal, military specification cylindrical cans, commonly referred to as MS containers.

The photographs on the following page show both specialized engine containers costing \$1,750 each and multi-purpose containers which range in cost from \$2 to \$43.

In the usual sense packaging is an expense, rather than an investment cost. It adds no value to the product enclosed, serving only to protect and conserve the product's value. When a reusable container is purchased, however, it represents an investment. The investment is in future use which expires only when the container wears out, or the enclosed item becomes obsolete and the container cannot be economically adapted to other uses. In this sense we viewed the purchase of a reusable container as a capital investment.

The Assistant Secretary of Defense (Manpower, Reserve Affairs and Logistics) is responsible for establishing DOD packaging policies. He has created the DOD Storage and Warehousing Policy Committee to keep him informed of the adequacy and effectiveness of packaging policies and to recommend new or revised policies as appropriate. A Joint

1/LCD-76-221, May 18, 1976.

2/LCD-77-216, June 8, 1977.



SPECIALIZED REUSABLE ENGINE CONTAINERS



MULTI-PURPOSE REUSABLE CONTAINERS

Technical Coordinating Group on Packaging, under the Joint Logistics Commanders, serves to coordinate the services' efforts in implementing DOD policy.

The Army Materiel Development and Readiness Command (DARCOM) has overall responsibility for managing Army materiel, including packaging. However, DARCOM has virtually no headquarters staff to oversee its packaging programs. Instead, each of DARCOM's five subordinate commodity commands decides on the type of container and packaging protection level that will be used on the items it manages. DARCOM also directs the Packaging, Storage, and Containerization Center at Tobyhanna Army Depot, Pennsylvania, which performs the technical functions pertaining to packaging of general supplies. The commodity commands prepare packaging data sheets which contain all applicable packaging criteria for each item of supply. These are filed and distributed to using activities by the center at Tobyhanna.

The Naval Supply Systems Command is the Navy's packaging coordinator/manager, and develops packaging policy. However, each of the Naval systems commands is responsible for packaging its assigned items. The Naval Air Systems Command has delegated authority and responsibility to perform the technical direction of preservation, packaging, and packing functions to the U.S. Navy Aviation Supply Office (ASO) at Philadelphia, Pennsylvania. ASO has developed a field instruction for procedures of reporting, using, and disposing of all reusable containers used to package Navy aviation equipment.

Packaging policy for the Air Force is established by Air Force Headquarters. Responsibility for implementing policy is divided between two commands--Air Force Logistics Command and the Air Force Systems Command.

A joint service regulation implements DOD Instruction 4100.14, "Packaging of Materiel," which prescribes DOD's policies and responsibilities for packaging. The individual services have issued other regulations covering various aspects of packaging, including reusable containers.

CHAPTER 2

IMPROVED MANAGEMENT OF SPECIALIZED

REUSABLE CONTAINERS WILL REDUCE PACKAGING COSTS

The Army and Navy could save millions of dollars annually and thousands of specialized containers by improving their accounting systems to identify and control the specialized container assets available in their supply systems. Existing controls are not sufficient to prevent the loss of valuable containers. This lack of control and visibility is resulting in unnecessary procurement of containers, unnecessary fabrication of substitute containers, and premature disposal of containers. Needed improvements can be done under existing accounting and reporting systems.

Although reusable containers have characteristics similar to other items of supply and many containers are of high dollar value, they are generally not treated as accountable assets. As a result, containers may be obtained without cost to the user, lost without explanation, disposed of without justification, or sold without approval.

ADDITIONAL DOD AND SERVICE EMPHASIS NEEDED TO CONTROL CONTAINERS

DOD guidance on the management and control of reusable containers is limited and only the Air Force has established a specific servicewide program for controlling reusable containers.

DOD guidance is limited

We were unable to identify any DOD instruction prescribing policies and/or responsibilities for specialized reusable containers. A DOD instruction establishing DOD's packaging policies endorses maximum reuse of packaging materials to the extent that it is economically feasible but makes no specific reference to specialized reusable containers. The Army and Navy have not issued instructions that adequately fill the void in DOD guidance or expand upon the need to reuse containers and other packaging materials.

The Air Force has established a container and packaging material reclamation program

Only the Air Force has recognized the need for establishing a program requiring its major commands to recover, retain,

and reuse containers. The program was established to (1) reduce packaging and packing costs, (2) increase the reuse and availability of containers, (3) improve asset protection during handling and storage, and (4) increase resource conservation.

The Air Force program was improved after an October 1975 Air Force Audit Agency report stated that an effective reusable container program was vitally needed because of material shortages, rising costs, and environmental protection goals. The Air Force (1) expanded its container and packaging material reclamation program, (2) clarified program guidance, (3) improved data systems support, and (4) improved packaging and technical support for base-level transportation personnel in response to the report. We did not review the Air Force's container and packaging material reclamation program because of the Air Force actions in response to the report.

NAVY REGULATIONS FOR CONTROLLING CONTAINERS NEED STRENGTHENING

The Navy's instructions on reusable containers need to be brought up to date, enforced, and supplemented with local instructions. The Navy's principal regulation on reusable containers does not require that containers in use be recorded on inventory records; however, most activities at which containers become available--as items are removed for use--are required to report container inventories only infrequently, or not at all.

Reusable containers managed by ASO are assigned a stock number for accountability and identification similar to other items of supply. However, when an item is placed inside the container for protection during storage and transportation, accountability is maintained only for the enclosed item, and the container loses its identity. This system might work if there was assurance that (1) items assigned to specialized containers were always packaged in those containers while moving through the logistics system and (2) empty containers were again recorded on the inventory when they became separated from the item.

However, the Navy is not accounting for the container once it reaches the user and is separated from the item it protects. At several Navy activities visited, many empty specialized containers were on hand which were not on any inventory records. (See p. 8.)

NAVY REPORTING SYSTEM DOES NOT
INFORM MANAGEMENT ABOUT CONTAINER
ASSET AVAILABILITY

To obtain maximum use and reuse of specialized containers, the services need to (1) improve and adhere to asset accounting and reporting requirements, (2) maintain visibility over containers throughout the logistics system, and (3) impose penalties for lost containers. The Navy has not followed the above principles. However, the Navy has an existing asset reporting system which could be used, with slight modifications, to effectively control containers.

Improvements needed in Navy's
asset reporting systems to
better control containers

For aviation items, the primary Navy items having specialized containers, the Naval Air Systems Command has delegated responsibility to ASO for the technical direction of preservation, packaging, and packing functions including container management. Although ASO has asset reporting systems to accommodate the needs and capabilities of both its large, sophisticated wholesale stock points, and its small stock points (scattered over the world), most of the specialized containers are not on ASO's records.

ASO's automated inventory system provides instantaneous reporting of transactions involving specialized containers (as for any other supply item) by its 29 largest stock points. However, no data is reported on containers on hand containing an item. ASO's cyclic asset reporting program requires the smaller stock points, in over 115 locations worldwide, to report container inventories (only empty containers in ready-for-use condition) to ASO quarterly.

Although container status reports are required whether or not activities have any containers, few reports were submitted and ASO's stock records, in some cases, were based on reports that were several years old. During the 3 years before our visit, ASO had received only 20 container reports from 12 activities out of a minimum of 4,140 required from over 115 reporting activities. As an example, one activity we visited in the Philippines had not submitted any of the required container reports during the previous 2 years, yet ASO had not questioned this failure to report. Further, ASO does not have visibility over containers at all activities. Many using activities that are not involved in issuing stocks to others are not required to report their assets on hand.

As a result of activities not being required to report containers in use and those needing repairs, and many activities not reporting at all, most of the containers in the logistics system are not visible to ASO's supply managers.

THE NAVY COULD AVOID BUYING
CONTAINERS OR BUILDING SUBSTITUTES
IF ONHAND ASSETS WERE VISIBLE

If ASO's accounting systems gave better visibility over containers on hand, Navy managers could avoid buying some containers or building substitute containers. Also, damage to expensive equipment incurred as a result of inadequate protection might be avoided if the availability of the proper containers was known.

At our request, the North Island Naval Air Rework Facility compared the quantity of selected specialized containers on hand to the quantity of components in process and found they had an excess of 128 containers, valued at \$134,000, and a shortage of 46 other containers. In addition, there were 381 containers, valued at \$306,000 at the adjacent North Island Naval Air Station Supply Department that were the same type as the 128 identified as excess to the Rework Facility's requirements. The Supply Department also had six other containers, valued at \$7,000 which were identical to those in short supply at the Naval Air Rework Facility.

The Navy had an immediate need for one type of the excess containers found at the North Island Rework Facility. The Facility refurbished 86 of these for \$82 each and returned them to the supply system. Since new containers cost \$600 each, about \$44,500 was saved by using these previously unreported containers which were identified. The remaining excess containers may be used to satisfy future needs now that their availability is known to ASO. However, as illustrated below, Navy managers may not have enough confidence in ASO's system to rely on it. In some instances wood boxes were built as substitutes for specialized containers although ASO's records showed no requests for the designated containers--in some cases ASO's records showed quantities of the designated containers on hand in good condition. To improve container management ASO inventory managers need (1) reliable and complete data on empty containers available and needed at field activities and (2) consultation from field activities prior to fabrication of substitute containers.

As a result of inadequate controls over containers, equipment and components are often returned for repair in improper containers or without containers. This obliges repair facilities to obtain replacement containers or build substitutes. The North Island Naval Air Rework Facility builds about 7,800 wood boxes annually to replace missing containers.

Wood boxes may be economical to build, but sometimes their use increases costs. At the Naval Air Station in Rota, Spain, we were shown two magnetic submarine detecting heads, one of which had been shipped in a wooden crate while the other had been shipped in its designated reusable container. The damaged head was both improperly packaged and shipped with another detecting head in a box designed for a single head. The photograph on the following page shows the damage caused by not using a specialized container.

Maintenance personnel at Barbers Point Naval Air Station, Hawaii, purchase and stock reusable detecting head containers because the heads, if not packed in the proper container, incur damage. They noted that detecting heads received from Naval Air Rework Facility overhaul programs, in other than the specified container, require anywhere from \$200 to \$1,000 rework before they can be installed in aircraft.

NAVY ALSO NEEDS IMPROVED CONTROLS TO AVOID PREMATURE DISPOSAL OF CONTAINERS

The Navy has disposed of many containers prematurely because controls and visibility were lacking. The condition of items enclosed in good containers has been allowed to determine their fate. A Navy ASO instruction states in part:

"Specialized containers shall not be disposed of, with or without equipment, unless specifically requested and authorized by ASO. Requests for disposition shall be made to ASO when these containers house prospective excess material."

However, activities were not adhering to this provision. Many containers were disposed of without proper review and approval of the disposition.

Navy Supply Department personnel at North Island said that when components were disposed of at the instruction of ASO, the container was included unless ASO specifically advised them to retain it. Officials advised us of one



(Photo courtesy of U.S. Navy)

TWO DETECTING HEADS RECEIVED IN A PLYWOOD BOX ALTHOUGH PACKING SPECIFICATIONS CALL FOR THE
DETECTING HEAD TO BE SHIPPED IN A SPECIALIZED CONTAINER DESIGNED TO ACCOMMODATE ONE HEAD

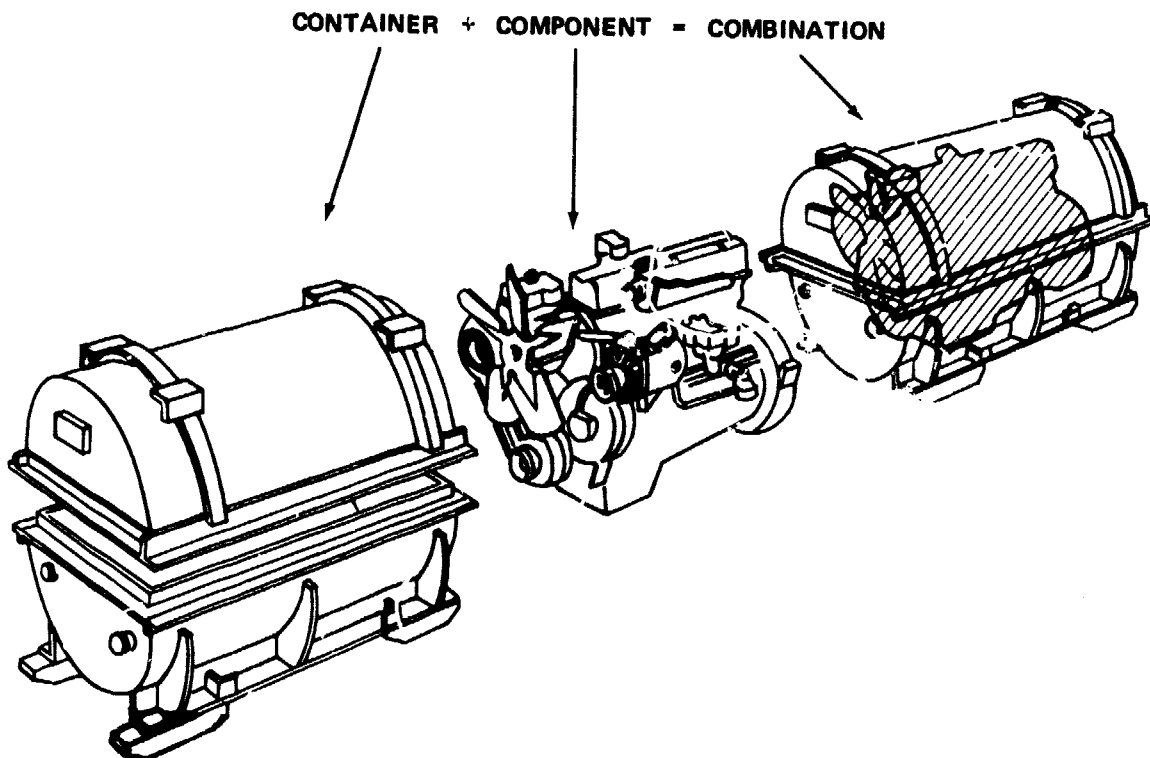
instance in which an alert warehouseman observed components being sent to disposal in reusable containers (at ASO's instruction) although ASO had earlier listed the containers as critically needed. Arrangements were made to return the containers to the supply department at an estimated savings of over \$31,000. In another case, 27 containers were sent to the disposal yard although, at the same time, there was a Navy-wide shortage of this container. Not only were the containers lost (at \$250 each) but it was necessary to initiate an emergency procurement for new containers and to ship them via premium transportation to satisfy immediate requirements.

ARMY NEEDS TO STRENGTHEN AND
ENFORCE CONTAINER REGULATIONS AND
ACCOUNTABILITY TO IMPROVE VISIBILITY

Army regulations call for different stock numbers to identify containers in use versus empty ones, and require some field activity reporting of containers. However, these provisions were not sufficient to maintain control. Hundreds of unrecorded empty containers piled up at using activities, even though many of these were critically needed elsewhere.

An Army regulation specifies that separate stock numbers will be used for an item, its designated container, and the combination of the item enclosed and the container, as shown on the following page. Thus, the item and container are to be controlled under the combination stock number while the two remain together. If the regulation were implemented properly, it could provide some control over containers whether they were empty or in use.

The U.S. Army Tank-Automotive Materiel Readiness Command (TARCOM) adheres to this regulation and has issued an implementing supply bulletin identifying stock numbers for TARCOM-managed items assigned specialized containers, the related items, and the resulting combinations. However, TARCOM's latest implementing bulletin was issued in 1969. The U.S. Army Troop Support and Aviation Materiel Readiness Command (TSARCOM) does not not adhere to the regulation and has no plans to use the combination stock number. Field activities apparently ignore the regulation.



TSARCOM uses a method similar to ASO's to account for its specialized containers. TSARCOM also loses sight of its containers because its inventory records account for only the item and not the container housing it. TARCOM, in accord with the regulation, assigns a separate (or third) stock number to an item enclosed in its container to distinguish this combination from the item not in a container. This action alone is not adequate to maintain accountability because inventory managers' visibility over containers does not extend beyond the large wholesale depots in the United States. Because of this lack of visibility TARCOM items are routinely returned to overhaul depots under the combination stock number when they are in fact packaged in substitute containers. This results in nonuse of the specialized container, without anyone being held accountable.

Army using activities and stock points below the wholesale level are required to report unneeded containers to inventory managers. In the case of critically needed containers, however, field activities are required to automatically return unneeded containers. Using a quarterly

Automatic Return Item List, the Army identifies supply and equipment items--including containers--that are in short supply and required to be returned to the supply source regardless of condition. In practice, however, the Return Item Lists were (1) inaccurate, (2) not sent to all activities, and (3) not honored by other activities.

ENFORCEMENT OF CONTROLS AND IMPROVED
VISIBILITY NEEDED TO PRECLUDE CONTAINER
LOSSES AND UNNECESSARY PROCUREMENT

The Army was buying new containers while similar containers piled up overseas and many unreported excess specialized containers were held by using activities and stock points, worldwide. In Korea, one activity alone had 1,185 TARCOM-managed specialized containers excess to local requirements and not reported as of the beginning of April 1976. We estimated the value of these containers at approximately \$1.3 million. We identified 1,051 of these containers on the Automatic Return Item List as being in short supply and required to be returned regardless of condition.

TARCOM officials took immediate action to recover 652 containers (representing three types) that we identified in Korea for use under current programs. Most of these containers were for a 2-1/2-ton multifuel truck engine which TARCOM was procuring. TARCOM later amended the purchase contract to eliminate the final increment of 300 containers at approximately \$400,000 net savings. This container requirement will be filled using the excess containers we identified in Korea. The TARCOM action was the best possible under the circumstances, but as much as \$860,000 could have been saved if an adequate container control and reporting system had existed.

We advised TARCOM that (1) some containers needed were not on its Return Item List, (2) containers were on the List which should not be, and (3) overseas activities were not returning or reporting containers which were on the List. TARCOM officials acknowledged that the List had not been reviewed closely enough. They agreed to improve the validity of future Lists. Also, in response to our observations, TARCOM issued a supply letter to Army field activities telling them that we had found that activities below the depot level were stockpiling containers when the items enclosed were found to be uneconomically repairable. In an effort to get these activities to report their excess reusable containers, TARCOM requested that all activities survey their areas to identify empty containers, dispose of any

uneconomically repairable containers, report any excess containers to the command, and return those identified on the Return Item List.

Regarding aviation items, the Army Troop Support and Aviation Materiel Readiness Command's Return Item List appears to be deficient. It did not include any containers, although substitute wood containers were being built at the Corpus Christi Army Depot because of a shortage of specialized metal reusable aviation containers.

Army needs to correct other uneconomical practices

Many Army activities were substituting considerable numbers of wood boxes for specialized containers. The Depot System Command, which is the Army's focal point for worldwide logistics information, estimated that the Army is spending between \$2.5 million and \$3.0 million annually to build boxes as substitutes for specialized reusable containers. Based on our observations, many of the specified containers for which the boxes are substituted are usually available somewhere within the system. This extensive substitution can result in unnecessary expenditures and items not receiving adequate protection.

If the Army's purpose in designating a specific reusable container is to give the item the best possible protection at the lowest cost, then that purpose is often defeated. We found in a sample of three automotive engine components, which had specialized reusable containers designated for them, that the items were routinely shipped to an Army depot in various other types of containers. Two items requiring metal containers were shipped in wood crates and boxes and one was shipped without a container on wood skids. Another item with foam packaging specified was shipped in fiberboard cartons and wood boxes and crates. As an illustration of the problem, we identified an instance at an Army installation in Hawaii where eight wooden crates costing \$672 were specially built to ship 2-1/2-ton truck engines back to the continental United States while at the same time the activity was shipping back seven empty reusable metal containers for the identical engine.

BETTER ARMY CONTROLS NEEDED TO AVOID DISPOSING OF GOOD CONTAINERS

As in the Navy, Army activities were allowing the condition of items enclosed to determine the fate of containers,

and good containers were disposed of without proper authorization and/or review and approval.

Item condition influences container use

When specialized reusable containers become uneconomically reusable they should be sent to the Defense Logistics Agency's (DLA's) Property Disposal Offices (PDOs) with prior approval of the inventory manager. But premature disposal of reusable containers usually occurs when the Army sends condemned and unserviceable items to DLA's disposal yards in good containers. The following photograph shows some of the good reusable Army containers observed at a PDO.



**REUSABLE SPECIALIZED ENGINE CONTAINERS
OBSERVED AT CORPUS CHRISTI, TEXAS PDO YARD**

The Army's practice of sending condemned or obsolete items to PDOs in good reusable containers existed worldwide and included both TARCOM and TSARCOM items. At one PDO in Europe, we identified over 70 TARCOM reusable containers, many containing TARCOM condemned or obsolete items.

An Army depot in Korea sent 78 condemned 2-1/2-ton truck engines to the PDO in specialized reusable containers during January through March 1976. Although the engines had

only salvage value, the containers were on the Return Item List and could have been used to reduce TARCOM container purchases by about \$100,000. Officials stated that the stock number listed on TARCOM's instruction to dispose of these items was the combined engine with container stock number; therefore, the engines and containers were sent to PDO. Officials said if TARCOM had wanted the containers removed and returned, it should have issued separate instructions, that is, one to dispose of the engine, another to retain the containers.

Reusable container disposal decisions need closer review

TARCOM, in response to our findings, reminded customers in its October 1976 supply letter that when an item is condemned the item and its container will be separated and the container, if serviceable and/or economically repairable, should be returned to the supply system. It also asked its customers to report any suspect TARCOM disposal instructions.

Greater emphasis is also needed at the commodity command level. Inventory managers were not reviewing disposal actions closely enough; therefore, many specialized containers in a reusable condition were being sent prematurely to DLA disposal activities despite the stipulation in Army regulations that specialized reusable containers are not to be disposed of without command authorization and that reusable container usage should be optimized.

At TARCOM we reviewed six weekly field returns listings which itemize weekly activities' reported excess assets. According to the listings, TARCOM inventory managers approved the disposal of two combined stock number line items representing 109 containers which were required to support ongoing TARCOM programs. Proper retention and use of these containers could have saved the Army about \$140,000.

OTHER MEANS OF CONTROLLING CONTAINERS CAN BE USED TO GREATER ADVANTAGE BY BOTH SERVICES

Other means available to the services for controlling and maintaining visibility over containers are not being used to full advantage. The following tools can be used to (1) alert managers when items are not being packaged in the specified containers, (2) hold activities responsible for loss of the containers, and (3) preclude disposal of containers that can be economically repaired.

Army and Navy activities should
use packaging improvement reports
(DD Form 6)

The DD Form 6 is unique in that it is the only form specifically designed to provide feedback in determining the adequacy of packaging for items in storage or transit. Its prime purpose is to report packaging related deficiencies in order to improve supply management and assure material readiness. One important use is to report instances where items assigned specialized containers are received in some other type packaging (or none at all). Use of this form is established by a joint service regulation.

The Naval Supply Systems Command emphasized the value of the form in an April 1976 memorandum. The Command concluded that information supplied by a properly executed DD Form 6 provides an excellent means for corrective action, potential savings, and future customer satisfaction. Some Navy activities visited were not completing the form. Comments were made by Navy officials at several activities that the forms had not been prepared because of a shortage of personnel and that using them carried the stigma of reporting on someone.

In the Army, the DD Form 6 was not being used consistently. One Army depot which receives and ships thousands of items annually received only two of the forms during a 12-month period. From January to June 1976, the depot issued approximately 50 DD Form 6s and received none. In our examination of 10 sample items received by the depot we found only 2 forms prepared for sample items--even though 7 of the items were observed in 2 or more different type containers which should have mandated use of the form.

Penalties for container losses could
strengthen accountability

The Army's and Navy's ability to enforce their limited reusable container regulations is severely restricted because most containers are issued without charge to using activities and no penalties are imposed when items are returned without the original container or when items sustain damage because of inadequate protection. Army supply officials suggested to us that some means should be instituted to penalize a unit which returns an item in an improper container. The need for sanctions becomes apparent when the type of items shipped in specialized containers is considered.

We examined a few items being turned in for repair by an aircraft carrier. The remarks portion of shipping documents for three items ranging in price from \$12,000 to \$108,000 each indicated specialized reusable containers were required yet these items had been turned in without containers. When this occurs not only are the reusable containers lost, but the danger of these high-value repairable components being damaged during shipment to the repair facility increases.

Current cost data should be used
when deciding whether to scrap or
repair containers

Both the Army and Navy may be disposing of containers unnecessarily because the repair criteria used is 65 percent of the last acquisition price instead of replacement cost. Over the past several years the costs of many specialized containers have risen sharply and are sometimes much higher than the last acquisition cost. For example, at ASO the following price changes were shown for two of the reusable containers we selected for analysis where more than one procurement had been made.

<u>Container</u>	<u>Year of purchase</u>	<u>Unit price</u>
1	1972	\$ 925
	1974	1,645
2	1965	480
	1972	981
	1974	1,651

The Army uses the same repair criteria. The chief of a TSARCOM engine section said that when a particular container is excess to needs, the last acquisition price would be used in repair/disposal analysis. For instance, the last acquisition price of about \$600 each would be used to establish repair criteria for one type of TSARCOM engine container instead of the current replacement price estimated at about \$1,700. Therefore, the container would be sent to disposal if repair costs were estimated over \$390 even though it would cost about \$1,700 to replace it.

CONCLUSIONS

Under current DOD and military service regulations, instructions, and management practices, specialized reusable container controls are weak, and Army and Navy accounting and

reporting systems do not provide managers with the information needed to maintain visibility and control over containers. DOD needs to develop guidance concerning the recording, reporting, using, reusing, and disposing of reusable containers. The Army and Navy should treat specialized reusable containers as accountable assets and should establish reusable container programs to include revising, expanding, and enforcing reusable container regulations and imposing penalties for loss of containers.

By improving their management of specialized reusable containers these services can save millions of dollars through reducing container procurement and curtailing the building of substitute containers. The retention and utilization of containers can also be increased by improving controls and visibility so that premature disposal of reusable containers is eliminated.

RECOMMENDATIONS

We recommend that the Secretary of Defense develop specialized reusable container instructions which establish accounting and reporting requirements and specify the extent of controls and visibility to be maintained. We also recommend that the Secretary of Defense direct the military services to:

- Require all military activities to account for specialized reusable containers even when the containers are in use.
- Revise accounting and reporting procedures to assure that all military activities which may have possession of excess specialized reusable containers provide this information to the inventory managers.
- Identify those containers which have not been reported to the inventory managers and place them on appropriate inventory records.
- Establish procedures so container inventory managers are informed and their concurrence received before disposal actions are taken.
- Monitor and compile data on the failure to use the appropriate designated containers and take action to increase utilization.

- Devise some method of incentives or penalties to encourage retention and use of good reusable containers.
- Change specialized reusable container repair criteria to include current replacement costs.

We further recommend that the Secretary of the Army improve the procedures for preparing and distributing the Automatic Return Item List to ensure that all containers needed in the distribution system, and only those needed, are listed, and that the List is sent to all activities which may come in possession of specialized containers.

CHAPTER 3

IMPROVED MANAGEMENT AND CONTROL OVER MULTI-PURPOSE

REUSABLE METAL CONTAINERS WILL PRODUCE SAVINGS

DOD and the military services need to give more attention to the management and control of MS containers to eliminate such problems as (1) misuse, (2) failure to redistribute excess reusable containers, and (3) premature disposal. Although the services should replace many MS containers with the more economical fast packs and foam-in-place containers--as discussed in our report 1/--the current high volume use of MS containers mandates that they be better managed and controlled.

Present controls over MS containers are ineffective. Although DLA is responsible for their management, it loses visibility and control over MS containers once they have been issued to the services. In the Army and Navy ^{2/} responsibility for these containers has been delegated to using activities, but under this arrangement control and visibility over MS containers is not being maintained.

As a practical cost-effective move, DOD should consider designating some existing service activities, such as regional clearing houses, to recover and facilitate redistribution and reuse of MS containers. Because the Navy is the principal user of MS containers, Navy activities located where military installations are concentrated should be prime candidates to serve as clearing houses. In concert with this action, instructions and procedures providing more effective criteria for MS container use, repair, redistribution, and disposal should be developed.

The following illustrates the current high-volume use of MS containers by the services. In fiscal years 1976 and 1977 DLA issued over 137,000 MS containers costing over a million dollars to DOD activities. About 90 percent (54,000) of the 60,000 MS containers issued in fiscal year 1977 went to the Navy. These containers consist of a large variety of sizes and are designed for repetitive use. (See photo on p. 3.) The specifications indicate that MS containers have a 100 trip-life expectancy.

^{1/}LCD-77-216, June 8, 1977.

^{2/}See pages 5 and 6 for references to the Air Force's reusable container program.

DOD NEEDS TO ESTABLISH A SYSTEM OF EFFECTIVE CONTROLS OVER MS CONTAINERS

The Army and Navy have (1) provided insufficient guidance on MS containers and (2) issued conflicting MS container repair criteria. As a result, recovery and reuse of MS containers has not been effective. We could not identify any DOD instructions referring specifically to controlling MS containers. DLA manages MS containers which includes procuring, stocking, and issuing them to the military services. However, because of their relatively low cost, it is not practical for DLA to maintain visibility over the containers once they have been issued to Army and Navy activities. Since the services have no effective means of redistributing them, containers are easily lost or misused.

Guidance is limited and means available for controlling MS containers are not used

The Army and Navy have provided little guidance on MS containers to activities using them. For example, we were able to identify only one Army instruction pertaining to the use of MS containers, dated March 1, 1957. It stated that MS containers should be used to return items to repair depots and that excess containers should be returned to the next higher supply level. Also, the Army's Material Management Center in Europe does not provide MS container movement directives or maintain visibility over MS containers. Units in Europe needing MS containers have no procedures to obtain a used one from a depot in Europe. They must requisition new ones from the United States.

Many of the Army and Navy activities visited during our review were not using the means available for controlling MS containers. Stock records should be maintained for MS containers as for any other supply item. However, some Navy activities were not keeping stock records for MS containers and/or have no procedures for reusing them. One such Navy activity had an excess of 130 MS containers available. Army activities followed similar practices, for example, one Army depot had 193 MS containers in various sizes, but maintained no stock records on them.

These activities can significantly improve MS container utilization and reduce packaging costs by (1) recording MS containers on their stock records and (2) developing and implementing use, repair, and disposal criteria (see pp. 23 to 27).

Under existing procedures, the services should be notifying DLA when excess containers are generated

Because DLA is responsible for managing MS containers and determining when they should be returned to its control, it should have visibility over excess containers at field activities. However, many activities receiving items in MS containers but having no further need for the containers are not notifying DLA. For example, many Navy activities are ignoring a Navy instruction requiring them to first offer excess MS containers to DLA before disposing of them. Navy activities are returning few MS containers to DLA's control. During fiscal year 1976 the Navy obtained 18,404 of one type MS container and returned only 177. In another case, the Navy obtained 9,623 of another type MS container while returning none. At the same time MS containers piled up at disposal and scrap yards.

Other military services also return few MS containers to DLA. Overall, in fiscal year 1976, DOD activities returned only 2,500 (equivalent to 3 percent of the 77,000 MS containers issued to DOD) MS containers to DLA.

IMPROVED CONTROLS NEEDED TO INCREASE RETENTION AND REUSE AND PREVENT USE FOR UNINTENDED PURPOSES

Many Army and Navy activities were not fully realizing the reusability potential of MS containers. Containers were (1) used for unintended purposes, (2) not being redistributed when excess to needs, and (3) prematurely sent to disposal activities. By improving MS container usage, redistribution, and disposal and repair criteria the Army and Navy can conserve valuable assets.

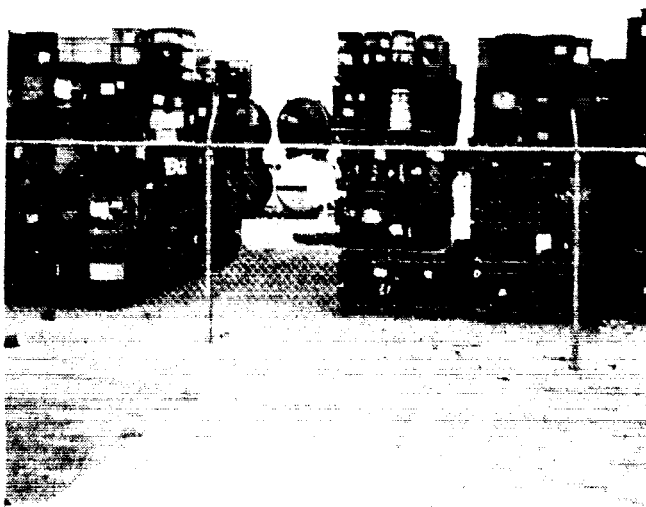
Improved MS container redistribution practices are needed

Many Army and Navy activities did not know what to do with excess reusable MS containers. Consider for example three adjacent Naval activities in the Philippines. During a 12-month period, a Navy depot, acting as primary receiving, shipping, and stocking point, obtained 500 MS containers valued at \$4,500. At the same time, the second activity returned 700 empty MS containers to the continental United States, while the third installation misused or scrapped several hundred more of the containers. As another example, we observed 150 MS containers rusting and deteriorating due to weather at the Naval Station in Rota, Spain.

Improved disposal procedures can
increase MS container utilization

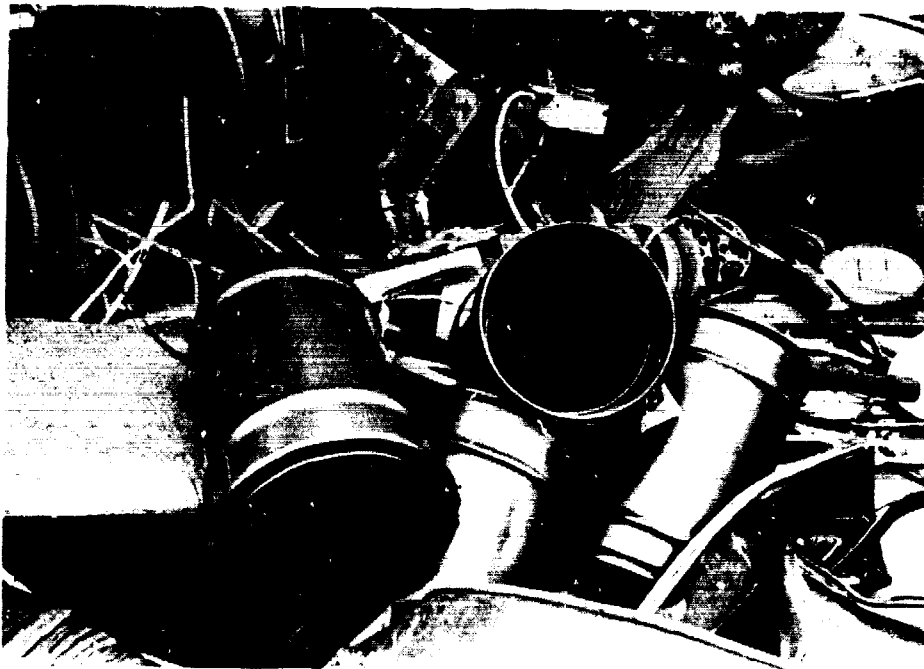
Improved disposal procedures can increase the number of reusable MS containers available for redistribution and reuse. Two major hindrances to the effective disposal management of MS containers are (1) too few procedures to guide using activities and PDOs and (2) the failure to identify by stock number MS containers sent to PDOs.

When an item is sent to a PDO in an MS container, usually only the item in the container is identified by stock number. After the item is sold or donated the MS container is essentially "lost," since neither PDO nor the disposing activity attempts to recover the container. The following photograph shows some of these containers at a PDO.



**EMPTY REUSABLE MS CONTAINERS SOLD AS
SCRAP BY THE NORTH ISLAND PDO, SAN
DIEGO, CALIFORNIA**

At Norfolk we observed hundreds of containers in reusable condition at the PDO scrap yard. Many of these containers were the same types used by the nearby Naval Air Rework Facility. All of these containers were either sold or about to be sold as scrap. The following photograph shows some of these containers.



REUSABLE MS CONTAINERS BEING SOLD AS SCAP BY THE PDO IN NORFOLK, VIRGINIA

MS containers should be reused,
but only for their intended purposes

A practice observed at the Barbers Point Naval Air Station in Hawaii serves as a good example of how MS containers are not used for their intended purposes. Approximately five times a year the air station collects and returns empty MS containers to the Naval Air Rework Facility in Alameda, California, while the components needing repairs, which were originally received in the MS containers, are packed together in large cardboard boxes and shipped to the same facility. Although officials at the air station had no cost data to support their position, they contend it is cheaper to multi-pack and return the containers and components separately. If this is the case, then the packaging instructions for the components should be changed eliminating directions

to ship them in MS containers. These officials estimated that 70 percent of MS containers they receive are returned empty.

Many Army and Navy activities were using MS containers for unintended purposes. Activities throughout the world were misusing MS containers for such purposes as

- drip cans for water spigots,
- cigarette butt cans,
- garbage cans,
- holding water for concrete mixing,
- cleaning fluid containers, and
- encased concrete bases for sign posts.

The following photograph illustrates a misuse of a MS container.



A REUSABLE MULTI-PURPOSE MS CONTAINER BEING USED AS A TRASH CAN

Based on the number of MS containers we observed world-wide being used for unintended purposes and at disposal activities in a reusable condition (many in like-new condition), the Army and Navy are not realizing the intended 100-trip life of MS containers. If additional container trips are realized through improved management and control, considerable savings can occur.

Regional clearing houses appear to be a practical solution for improving MS container controls

One method DOD should consider using to improve MS container management without developing a costly control system is to designate some existing service activities as regional clearing houses to accumulate, repair, and make the MS containers available to other activities in the same area. By designating these clearing houses the services can (1) better recover MS containers, (2) facilitate their reuse, and (3) facilitate redistribution of containers prior to DLA involvement. These clearing houses also might foster an increased command interest in, and development of, more responsible management of MS containers. Because the Navy is the principal user of MS containers, Navy activities located where military installations are concentrated should be prime candidates to serve as clearing houses.

CONCLUSIONS

To reduce packaging costs and increase the utilization of the many thousands of MS containers already in the military services' distribution systems, DOD needs to improve MS container management and control. Although using activities have been delegated the responsibility for maintaining visibility and control over MS containers, DOD, the Army, and Navy have provided them with only limited guidance and instructions. The problems are evidenced by the existence of conflicting MS container repair criteria and the few MS containers being returned to DLA, the inventory manager for MS containers. The effects of the lack of direction in MS container management are misuse, failure to redistribute and reuse excess containers, and premature disposal.

The establishment of regional clearing houses may provide a method whereby necessary guidance and responsibility needed to improve MS container management and control can be accomplished. In addition, DOD, the Army, and Navy should establish guidance and instructions stating how MS containers are to be used and when these containers are to

be disposed of. This guidance should assure that visibility and control of MS containers is maintained to avoid the unnecessary loss of thousands of reusable MS containers and DOD procurement dollars.

RECOMMENDATIONS

We recommend that the Secretary of Defense:

- Develop and issue guidance and instructions to provide for more effective reusable MS container use, reuse, repair, and disposal criteria.
- Direct the Army and Navy to supplement and/or implement regulations to provide more effective control and visibility over MS containers.
- Consider designating regional clearing houses to accumulate, repair, and facilitate redistribution of MS containers.

CHAPTER 4

IMPROVEMENTS NEEDED IN THE CONTAINER SELECTION PROCESS

Once the military services decide to introduce a new item into their logistics systems, they must select a container or containers suitable to protect the item throughout the storage and distribution cycle. Army and Navy container selection decisions are often made without considering all the relevant criteria. Criteria which should be used in the container selection process include (1) cost-effectiveness analyses among the alternative containers available, (2) number of suitable containers already in the system, (3) reusability of the containers being considered, and (4) the potential for using new packaging technology. The Army and Navy are either not using or are making only limited use of these criteria in their present container selection processes. Benefits to be gained by applying these criteria are the potential for saving millions of dollars in container costs, related savings in distribution costs, and improving the utilization of existing containers and packaging materials.

CONTAINER SELECTED WITHOUT COST-EFFECTIVENESS ANALYSIS

The Army and Navy are not performing cost-effectiveness analyses to determine what type of container is best for an item. This can result in choosing an uneconomical container when considering total life cycle cost, including reusability.

The type of dilemma caused when cost-effectiveness analyses are not done is shown by the following chain of events at TSARCOM, concerning the UH-1 (helicopter) main rotor hub container. For fiscal year 1976, one Army depot requested reimbursement of over \$66,000 for fabricating wood containers substituted for metal reusable UH-1 main rotor containers. Although the funds were spent, TSARCOM did nothing to determine if this was a cost-effective course of action.

We attempted to determine what analysis or study had been made to support the decision to build wood containers instead of procuring metal reusable containers for the UH-1 main rotor hub. TSARCOM had initially specified a metal reusable container for this item although no study had been made to determine if this was cost effective. The packaging instructions on the master data records had been changed in July 1971 to cancel the requirement for a metal container.

The Packaging Branch at TSARCOM made the change from metal to wood as a temporary substitute, apparently due to the immediate shortage of applicable metal containers, stating that in no case was the wood box to become a substitute for the metal container.

The next major action concerning this container occurred in July 1975 when the Packaging Branch changed the master data records to allow for future projected procurement of the metal containers because of complaints received from an Army depot regarding the deteriorated condition of the wood containers due to outside storage. Consequently, in August 1975, the item manager recommended incremental procurement of 1,250 metal containers through fiscal year 1977 at an estimated cost of \$500 each. However, the procurement action never took place. A TSAPCOM official told us that use of the wood boxes was continued because

--a wood container cost about \$50,

--a metal container would cost about \$500, and

--the cost to refurbish a metal container after each trip would probably be about \$50.

However, TSARCOM had no data to support the cost of a wood container or the estimated cost of refurbishing a metal container. Also, no data was available to show that any cost analysis had been made to consider other factors involved.

One reason why the services have not performed cost-effectiveness analyses of containers is that they do not know how much many of their reusable containers cost. In many procurement contracts, packaging costs, which may include reusable containers, are often not identified. In these contracts the only packaging information provided may be the number of items to be delivered with containers.

DATA IS NEEDED ON THE UTILIZATION AND AVAILABILITY OF REUSABLE CONTAINERS

For a logistics system to be effective, the use of packaging containers already within the system must be maximized. However, the Army and Navy do not maintain data on the number of containers in their inventories. For example, ASO buys a container for each new component or spare part acquired without considering whether identical or similar containers are already available in its system. If

the services knew the types and quantities of containers already available in the system when selecting a container for an item, new procurement could probably be reduced.

Furthermore, in the Navy, the possibility of using containers as is or after modification as substitute containers is not even considered before disposing of the container. The Naval Air Systems Command has no procedures for reviewing planned reusable containers procurements to determine if any other existing container would serve as a substitute. In addition, although ASO performs all the basic inventory management functions for containers, it does not have the authority to consider the utilization of substitute specialized containers when a shortage occurs.

Production control officials at the Norfolk Naval Air Rework Facility told us that they had a critical shortage of TF-30 engine containers (suitable for F-14 and A-7 engines) but had an excess of 50 J-57 engine containers suitable for F-8 and A-3 aircraft engines). According to these officials, 34 of the 50 excess J-57 engine containers could be converted to accommodate TF-30 engines. Also, we observed a large number of J-57 engine containers at the Naval Air Station container storage site and more of these containers at the DLA disposal yard awaiting sale as scrap.

The cost of the conversion was first estimated at \$2,100 (\$1,500 for parts and \$600 for labor) while the expected procurement cost for new TF-30 containers was \$4,800 each. The Naval Air Systems Command headquarters subsequently provided an estimate of \$4,500 to convert each container (\$3,000 for parts and \$1,500 for labor). We question the validity of this higher conversion cost; however, conversion could still have resulted in savings since the cost of procuring new TF-30 engine containers rose to \$5,900 or \$1,400 more per container. The Navy subsequently chose to procure new containers.

In addition, none of the three commodity commands visited were maintaining or even collecting trip-life information on their reusable containers. The trip life of a container is a major consideration in choosing a reusable container. Trip-life information is also important in analyzing container utilization. For example, if an item becomes uneconomically repairable after 10 trips while the container has a life of 50 trips, then the containers should be available to be provided as Government-furnished equipment to contractors furnishing additional items. Thus, trip-life information aids supply and packaging personnel in choosing the most

economical container and in determining if the containers chosen are being effectively used.

PACKAGING TECHNOLOGY NEEDS TO BE CONSIDERED IN CONTAINER SELECTION DECISION

Although the services are increasing the use of new technology in their packaging operations, they also need to consider it when performing the cost-effectiveness analyses as discussed earlier in this chapter. New technology in packaging, as mentioned in our report of June 8, 1977, to the Secretary of Defense, entitled "Military Services Should Uniformly Adopt Improved Packaging Techniques," offers advantages over more conventional packaging methods. As an illustration of how new technology can save money, one Army depot found that it saves about \$86,000 annually by packaging some items using foam-in-place instead of conventional packaging. Also, on a sample of a few high-volume items, shipping weight was considerably reduced and labor costs were reduced over 50 percent when foam-in-place was substituted for conventional packaging.

Another reason for considering new packaging technology is packaging costs represent an increasing percentage of procurement costs. On one \$100 million contract with Bell Helicopter for spare parts, a joint study done by the contractor and the Defense Contract Audit Agency showed that packaging costs increased from 3.7 percent of total procurement costs in 1970 to an expected 7.4 percent in 1977, or an increase of 100 percent in just 7 years.

CONCLUSIONS

Although choosing a reusable container for an item is an important decision directly having an impact on a logistics system, the Army and Navy are making this decision without considering many pertinent criteria involved. They are not performing economic analyses, do not collect information concerning expenditures for reusable containers, and do not require contractors to delineate the cost of reusable containers that are purchased along with the item to be shipped in the container. Further, they do not monitor trip life to determine if containers chosen are being fully utilized, nor do they always fully consider alternatives afforded by new technology.

RECOMMENDATIONS

We recommend that the Secretary of Defense:

- Direct the services to develop clear-cut procedures to be followed in selecting reusable containers to include performing economic analyses and considering alternatives available through advances in new packaging technology.
- Direct that all military procurement contracts involving containers delineate in some way container costs and that the services maintain information on expenditures for fabricating substitute containers.
- Direct inventory managers to consider the possibility of substituting excess containers for other containers in short supply.

CHAPTER 5

SCOPE OF REVIEW

We examined the pertinent regulations, manuals, instructions, and other publications pertaining to reusable containers. We also examined the policies, procedures, and practices that the Army, Navy, and DLA use in managing reusable containers. Our review covered the life cycle of reusable containers within DOD from the decision to use a reusable container through the disposal of the container.

We worked at the following activities:

Army

Headquarters, Army Materiel Development and Readiness Command, Alexandria, Virginia
Headquarters, Army Tank-Automotive Materiel Readiness Command, Michigan
Headquarters, Army Troop Support and Aviation Materiel Readiness Command, St. Louis, Missouri
Army Support Command, Hawaii
25th Infantry Division, Hawaii
Corpus Christi Army Depot, Corpus Christi, Texas
Red River Army Depot, Texarkana, Texas
U.S. Army Inventory Management Center, Korea
2nd Infantry Division, Korea
19th Support Brigade, Korea
U.S. Army Europe, Headquarters, Heidelberg, Germany
1st Support Brigade, Headquarters, Kaiserslautern, Germany
U.S. Materiel Management Center, Zweibruecken, Germany
Kaiserslautern Army Depot, Kaiserslautern, Germany
The 8th and the 122nd Divisional Maintenance Battalions, Hanau, Germany

Navy

Headquarters, Navy Material Command, Washington, D.C.
Headquarters, Naval Air Systems Command, Washington, D.C.
Headquarters, Naval Supply Systems Command, Washington, D.C.
Aviation Supply Office, Philadelphia, Pennsylvania
Barbers Point Naval Air Station, Hawaii
Corpus Christi Naval Air Station, Corpus Christi, Texas
Miramar and North Island Naval Air Stations, San Diego, California
Naval Station, San Diego, California

Naval Station, Long Beach, California
Naval Station, Pearl Harbor, Hawaii
Commander, Naval Logistics, Pacific, Hawaii
Cubi Point Naval Air Station, Philippines
Naval Station, Subic Bay, Philippines
Naval Station, Rota, Spain

DLA

Headquarters, Defense Logistics Agency, Alexandria,
Virginia
Defense Property Disposal Offices in Europe, Far
East and the United States

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