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Report to the Chairman, Subcommittee on Oversight of Government Management, Committee on Governmental Affairs, U.S. Senate

April 1994

COMMERCIAL PRACTICES

Leading-Edge Practices Can Help DOD Better Manage Clothing and Textile Stocks

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General Accounting Office
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National Security and
International Affairs Division

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April 13, 1994

The Honorable Carl Levin
Chairman, Subcommittee on
Oversight of Government Management
Committee on Governmental Affairs
United States Senate

Dear Mr. Chairman:

This report was prepared as part of your request that we continue to compare commercial logistics practices with similar Department of Defense operations. It summarizes the results of our review of inventory management practices used by leading private sector companies and the Department of Defense to provide clothing and textile supplies. It describes various private sector initiatives having potential application to the military clothing logistical environment.

We plan no further distribution of this report until 30 days from the date of the report, unless you publicly announce its contents earlier. We are sending copies of this report to appropriate congressional committees; the Secretaries of Defense, the Air Force, the Army, and the Navy; the Director, Office of Management and Budget; and other interested parties. We will also make copies available to others on request.

If you have any questions, please call me on (202) 512-8412. Other major contributors are listed in appendix II.

Sincerely yours,

Donna M. Heivilin
Director, Defense Management and
NASA Issues

Executive Summary

Purpose

Between 1980 and 1988, the Department of Defense's (DOD) secondary inventories, which include spare parts for weapon systems and consumable items such as shoes and socks, increased by about $60 billion. Concerned about identifying ways in which DOD can address wasteful inventory management practices, the Chairman, Subcommittee on Oversight of Government Management, Senate Committee on Governmental Affairs, asked GAO to compare DOD's logistics practices with the private sector's. This report focuses on DOD's inventory management system for supplying clothing and textile (C&T) items to the military services, currently valued at $1.8 billion. Specifically, the report addresses (1) inventory problems and other inefficiencies in the Defense Logistics Agency's (DLA) C&T logistics system, (2) commercial practices used in the private sector to reduce inventory holding and distribution costs, and (3) DOD's progress in improving C&T inventory management.

Background

DOD spent about $650 million in fiscal year 1992 to purchase C&T inventories for the military services. Clothing items include apparel such as shirts, trousers, uniforms, socks, shoes, and hats. Textile items include mattress covers, body armor, tents, and flags. The Defense Personnel Support Center (DPSC), part of DLA, manages the C&T inventory at the wholesale level and stores it at six principal distribution depots and two specialized support depots across the United States. In fiscal year 1992, DPSC charged $1.3 billion for C&T items it sold to military service customers, primarily the services' 14 recruit induction centers and over 300 military exchange stores.

Results in Brief

At a time when private sector companies are cutting costs by minimizing inventories, DOD continues to store redundant levels of C&T inventories throughout its wholesale and retail system. Much of this inventory is aged—for about 26 percent of the items, DOD had 10 years of supply on hand. To maintain these stocks, DOD employs a large supply operations infrastructure and, in doing so, often incurs unnecessary inventory storage and handling costs.

DOD's inventory practices stand in significant contrast to those used in the best managed private sector firms. Competition has forced private sector firms to cut costs by moving to "just-in-time" inventory concepts that help keep inventories low, turn stock frequently, and fill orders quickly while maintaining good customer service. For example, leading private sector uniform providers have 60 to 120 days of wholesale supplies on hand while

DLA has 2 to 10 years of supply. At the retail level, uniform consumers hold no supply, while DLA has an average of 90 to 120 days.

Many private sector firms and some federal agencies with uniformed employees are relying on prime vendors to manage their clothing inventories. Prime vendors provide timely and direct delivery between customers and suppliers, and order additional stock from manufacturers on short notice, with quick turnaround, to minimize inventory holding costs. DOD has recently begun to increase its use of innovative concepts, such as "quick response," but progress in implementing them has been slow. In particular, DLA has yet to explore the possibility of using prime vendors to supply high volume C&T items, even though they appear particularly suited to the operations of the recruit induction centers.

Principal Findings

DOD's Logistics System Leads to Large Inventories

DLA clearly holds larger C&T stocks for longer periods of time than the private sector firms GAO visited, as shown in table 1.

Table 1: Average Performance Measures for DLA and Private Sector Uniform Providers

Performance measure	DLA	Commercial
Wholesale supply on hand	2-10 years	60-120 days
Retail supply on hand	90-180 days	0 days
Yearly stock turnover rate	0.5 times	1.8-4.0 times
Procurement lead time	400 days	2-60 days

These inventory differences largely reflect contrasting approaches to meeting customers' needs. DOD's system, which operates with wholesale and retail inventory storage levels, attempts to satisfy customer demands by having large stocks readily available. Commercial firms, on the other hand, rely on quick order and delivery systems to satisfy customer demands, relieving the need for large inventories and helping to avoid items deteriorating or becoming obsolete before they are used.

As of September 30, 1993, DLA depots held C&T inventory valued at more than $1.8 billion—over a quarter of which represents 10 or more years of supply and a half of which represents 2 or more years of supply—often resulting in large inventories of aged and obsolete items. For example, at one depot, GAO identified 7,680 pairs of size 8-wide combat boots with

packing dates between 1953 and 1958. In another case, of the eight sizes in brown undershirts stocked, DLA carried a 21-year supply of the largest size, and a 25-year supply of the smallest size.

Private Sector Uses Leading-Edge Practices

Although the private sector used a system similar to DLA's in the past, it now meets customer needs while holding minimal inventory levels. Competition has forced companies to cut costs by managing less inventory and by exploiting technological advances. For example, to save money, companies store more unfinished than finished products, and by doing so, it allows them to minimize inventory levels. When clothing is stored in pieces, it can be assembled to fit a range of sizes, meaning that total fewer pieces are needed, and fewer pieces are wasted at the end of the product's life. Better computer and communication systems help inventory managers obtain an item's status at any time, including its demand history, thus enabling them to better forecast requirements, accurately plan the reorder of replenishment stock, and tightly control inventories.

Many private sector firms whose employees wear uniforms and other clothing items are turning to prime vendors who provide a range of services, including purchasing, storing, and distributing uniform items and managing employee uniform allowance programs. One prime vendor GAO visited managed an agency's employee uniform allowances and profiles through a central data base, which enabled order information to be transmitted directly to a distribution point and issued to customers in a few days. The cost was automatically deducted from the employee's allowance. The agency using this prime vendor estimated it had saved at least 15 percent of the amount it had allocated for clothing items over the previous year.

DLA Is Pursuing Commercial Practices, but Progress Is Slow

The Office of the Secretary of Defense has called for improved business practices to be implemented quickly to achieve $1.3 billion in cost reductions envisioned by current defense management review initiatives. DLA has, in some cases, started to adopt commercial practices as a way to reduce its substantial C&T inventory and associated holding costs, but the overall success of the commercial initiatives is unknown at this time.

DLA's success will hinge, in part, on its ability to enhance its computer and program capabilities between and within the services. Few of the 14 recruit induction centers have bar code scanning equipment necessary for vendors that use electronic data interchange and direct delivery to

achieve quick response objectives. DLA also must overcome government procurement requirements that officials believe inhibit the use of commercial practices in DOD's logistics operations. These requirements, some of which are based on federal laws, serve a variety of objectives, including providing equal opportunity to all potential contractors and promoting social and economic programs.

Despite the additional burdens these requirements might create, DOD has begun to incorporate commercial practices in its operations. There are several legislative proposals to reform the government procurement system which, if enacted, could make it easier for DOD to implement commercial practices. There are opportunities to expand its application of these practices to C&T inventory management. For example, DLA is not considering the use of prime vendors to supply high volume C&T items to the services' 14 induction centers, where new recruits are issued standard clothing, future demand is fairly predictable, and volume is high. Instead, DLA has recently started a limited prime vendor pilot project to provide expensive and low demand and special order items.

Recommendations

GAO recommends that, in addition to modified prime vendor demonstration efforts to obtain low volume and special order items, the Secretary of Defense direct the Director of DLA to conduct a pilot project to demonstrate whether the prime vendor concept is beneficial in providing high usage uniform items, such as items that are currently a part of DPSC's quick response initiatives, to recruit induction centers. GAO further recommends that the Director (1) determine the number of prime vendors, items, military services, and recruit induction centers to include in the project in a manner to best measure the cost benefit potential of the concept and (2) use the pilot project as an opportunity for testing ways to overcome impediments such as software and hardware incompatibilities within DOD and difficulties in government procurement practices in implementing commercial practices.

Agency Comments

DOD generally agreed with the findings and recommendations, but stated that greater recognition should be given to DOD's initiatives to use commercial practices. It stated that DLA has already begun testing prime vendor arrangements for difficult-to-obtain C&T items, such as low usage, high cost skirts and slacks for Navy and Marine Corps recruits as well as dress coats and special measurement clothing. DOD felt that the results of these tests should be evaluated before it expands those programs to

high-volume items and that the evaluation include an assessment of costs, benefits, and the impact on readiness. GAO agrees that such an approach can provide lessons learned regarding the mechanics and evaluative techniques for testing the prime vendor concept on high-volume items. GAO cautions, however, that the results of the low-volume item tests should not be used as a basis for abandoning future tests. GAO maintains that the cost-benefits possible from adopting a prime vendor arrangement for items where volume is high and demand is more predictable appears to be substantial.

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Abbreviations

C&T	clothing and textile
DDT	dichloro-diphenyl-trichloroethane
DLA	Defense Logistics Agency
DOD	Department of Defense
DPSC	Defense Personnel Support Center
GAO	General Accounting Office
RIC	recruit induction center
UPS	United Parcel Service

Introduction

In fiscal year 1992, the Department of Defense (DOD) purchased about $650 million of clothing and textile (C&T) items for its forces worldwide. DOD provides C&T stocks to its military customers through a large logistics system managed by the Defense Logistics Agency (DLA). The system is comprised of a network of depots and warehouses that receive, store, and distribute C&T stocks.

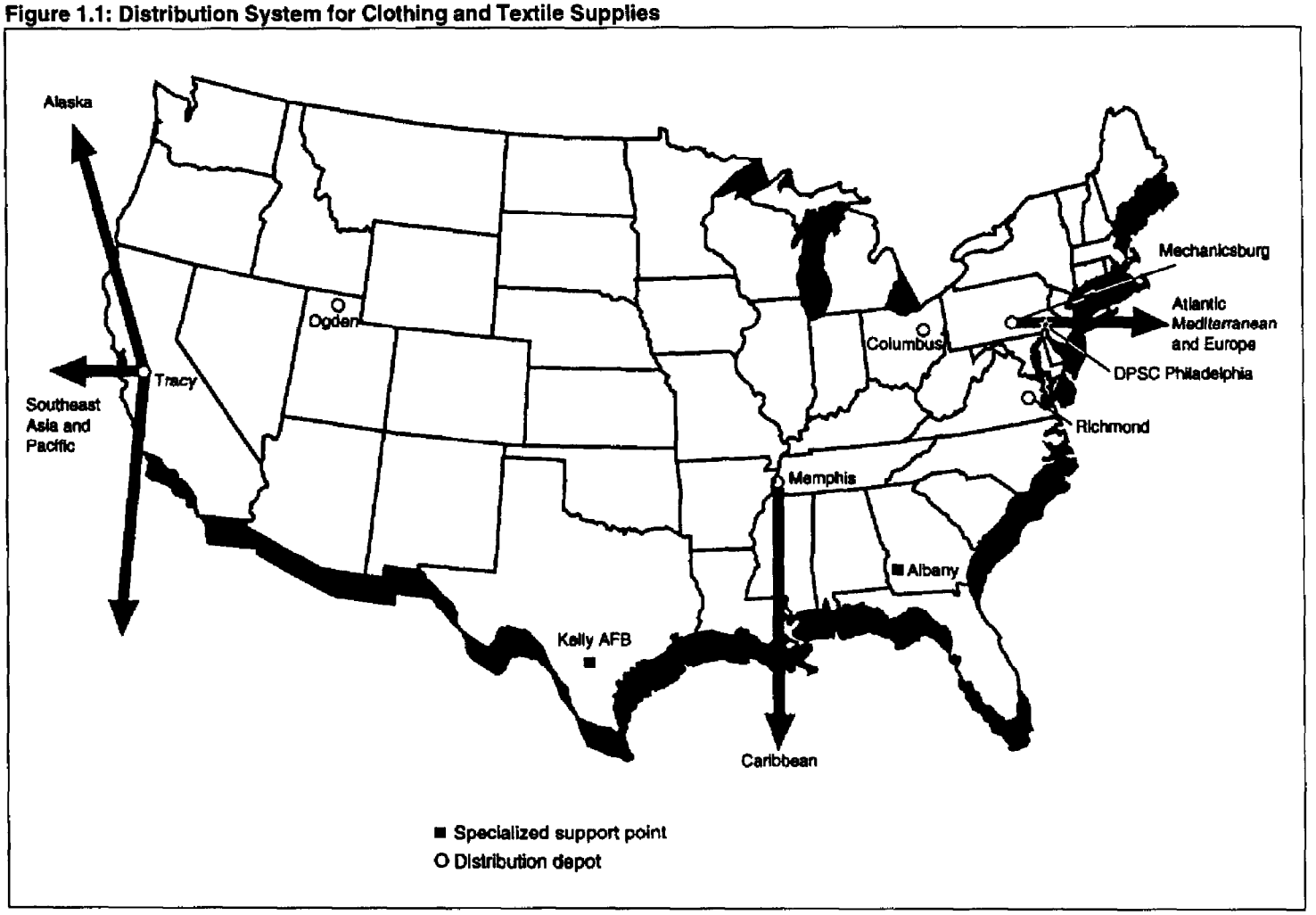
DOD's Logistics System

The Defense Personnel Support Center (DPSC), an activity of DLA, acquires and manages C&T inventory needed for the military services. Overall, the Center maintains stock for about 17,000[1] items when size ranges for generic items such as shirts and trousers are considered. DPSC purchases C&T stocks from a variety of clothing manufacturers and fabric mills that deliver their goods to designated DLA depots. These depots are large warehouse facilities that store a variety of consumable items,[2] including clothing, food, and medical supplies, as well as common items such as nuts, screws, fuses, and batteries. The depot system for C&T stock includes six distribution depots that store the full range of C&T items and two specialized support points located within the continental United States that store a single commodity or support a single service. The depot system is considered the wholesale level of supply. Figure 1.1 shows the location of the depots and facilities.

[1]When non-stocked items and locally purchased items are included, DPSC manages a total of 32,540 items.

[2]Consumable items are not intended for repair and should be disposed of once they become inoperative.

Figure 1.1: Distribution System for Clothing and Textile Supplies



During fiscal year 1992, DPSC charged its approximately 20,000 customers over $1.3 billion for C&T items. Customers included the services' 14 recruit induction centers (RIC) and over 300 military exchange stores, as well as Army, Air Force, and Marine Corps bases, Navy air stations and shipyards, and Reserve and National Guard Units. These retail locations usually store C&T items until the items are needed by service personnel, who are the final consumers.

Upon receipt of a customer's requisition, DPSC validates the information, identifies the DLA depot storing the materiel, and issues a materiel release

order to the depot to ship the item. The depot processes the order, picks the item from storage, packs it, and ships it to the customer. The timeliness of this service depends on the priority that the customer assigns to a requisition and the need for priority transportation.

Objectives, Scope, and Methodology

We previously reported that the value of DOD's secondary inventory, which includes C&T stocks, increased by $60 billion between 1980 and 1988.[3] Concerned about identifying ways DOD can address wasteful inventory management practices, the Chairman, Subcommittee on Oversight of Government Management, Senate Committee on Governmental Affairs, asked us to conduct additional work comparing DOD's logistics practices with private sector practices. This report, the fifth in a series,[4] addresses (1) inventory problems and other inefficiencies in the DLA C&T logistics system, (2) commercial practices used in the private sector to reduce inventory holding and distribution costs, and (3) DOD's progress in improving C&T inventory management. We selected C&T stocks as the fifth topic in our series because they represented a large investment—over $1.8 billion in fiscal year 1993—and are sold by commercial clothing and apparel firms that serve large organizations. Our specific objectives were to (1) compare DOD's inventory practices for C&T items with those used by leading-edge private sector firms and (2) identify new or innovative commercial practices DOD could adopt to reduce its inventory levels.

For our comparison, we focused on clothing, which represented about 35 percent of the inventory managed by DPSC, because these items are more likely to have commercial counterparts. More specifically, we looked at initial issue clothing items, such as uniforms, shirts, trousers, hats, socks, and shoes, that are distributed to new recruits. To a lesser extent, we analyzed organizational items such as tents, mattresses, body armor, flags, insignias, and other special purpose items, which accounted for the remaining 65 percent of DPSC-managed items.

To obtain information on DOD's logistics system for C&T inventory, we interviewed officials from the following organizations:

- Headquarters, DLA, Cameron Station, Alexandria, Virginia;
- DPSC, Philadelphia, Pennsylvania;
- Defense Distribution Depot, Memphis, Tennessee;
- Defense Distribution Depot, Columbus, Ohio;

[3]Defense Inventory: Top Management Attention Is Crucial (GAO/NSIAD 90-145, Mar. 26, 1990).

[4]See Related GAO Products.

- Defense Distribution Depot, Susquehanna, Pennsylvania, Mechanicsburg, Pennsylvania Facility; and
- DLA Supply Depot, Kelly Air Force Base, San Antonio, Texas.

At these locations, we discussed the practices DOD uses to provide its military customers with required C&T inventory; the processes DLA depots use to store, handle, ship, and dispose of C&T inventory; and the constraints DOD believes hamper commercial practices from being adopted more rapidly. We also obtained trend data on the volume of C&T inventory and excesses and developed case studies of specific C&T items. We did not test or otherwise validate DOD inventory data.

We were unable to obtain actual cost information because DOD's accounting system does not gather the data in sufficient detail to isolate the actual cost of storing inventories. DOD does use a C&T holding cost rate of 18 percent to help determine order quantities. We found this rate useful in demonstrating the potential costs of holding inventories for long periods of time.

To examine each military service's system for supplying new recruits with their initial issue clothing items, we visited the following locations:

- U.S. Marine Corps Headquarters, Installations and Logistics, Arlington, Virginia;
- Marine Corps Recruitment Depot, Parris Island, South Carolina;
- Naval Supply Systems Command, Arlington, Virginia;
- U.S. Naval Training Center, Orlando, Florida;
- Headquarters, U.S. Army Training and Doctrine Command, Fort Monroe, Virginia;
- U.S. Army Training Center, Fort Jackson, South Carolina;
- Department of the Air Force, Deputy Chief of Staff, Logistics, Washington, D.C.;
- U.S. Air Force, Lackland Air Force Base Training Center, San Antonio, Texas; and
- U.S. Coast Guard Training Center, Cape May, New Jersey.

At these locations, we discussed the process RICs followed in issuing clothing to new recruits, the volume of clothing inventory stored at the centers, the turnaround time for ordering replenishment supplies from DLA, and the forecasted number of new recruits each center anticipated in future years.

To assess the difference between DLA's logistics practices and the practices followed by the Air Force, Army, and Navy exchange stores, we visited the following locations:

- Army and Air Force Exchange Service, Military Clothing Store, Fort Dix, New Jersey;
- Army and Air Force Exchange Service, Military Clothing Sales Store, Fort Jackson, South Carolina;
- Navy Exchange Service Command, Staten Island, New York;
- Army and Air Force Exchange Service, Lackland Air Force Base, San Antonio, Texas;
- Retail Clothing Outlet, Marine Corps Recruiting Depot, Parris Island, South Carolina; and
- Exchange Service, U.S. Coast Guard Training Center, Cape May, New Jersey.

At these locations, we discussed the processes military service exchange stores followed to order, store, and issue C&T items.

Through discussions and literature searches, we identified companies that were thought to be using unique and leading-edge commercial practices. To identify current inventory practices for C&T items in the private sector, we interviewed officials from these companies:

- R & R Uniforms, Inc., Nashville, Tennessee;
- Lion Apparel, Inc., Mount Sterling, Kentucky;
- The Limited, Inc., Columbus, Ohio;
- Federal Express Corporation, Memphis, Tennessee;
- United Parcel Service, Atlanta, Georgia;
- Riverside Manufacturing Company, Moultrie, Georgia;
- Cintas Corporation, Cincinnati, Ohio;
- Greif Companies, Allentown, Pennsylvania;
- American Apparel, Inc., Selma, Alabama;
- Cass Logistics, Inc., St. Louis, Missouri;
- Wrangler Division of Vanity Fair Corporation, Greensboro, North Carolina; and
- Strawbridge and Clothier, Philadelphia, Pennsylvania.

Our discussions with officials from these firms focused on the variety of methods companies use to minimize clothing inventory levels, fill customer orders quickly, and establish closer working relationships with vendors. We also conducted a detailed search of academic and

professional publications to identify other innovative practices used in the clothing and apparel industry.

In addition, we interviewed officials from the following federal agencies on the ability of government agencies to use prime vendors:

- U. S. Department of Agriculture Forest Service, Rosslyn, Virginia;
- U. S. Department of the Interior, Bureau of Land Management, Washington, D.C.;
- U. S. Department of Justice, Immigration and Naturalization Service, Washington, D.C.;
- U. S. Department of Agriculture, Animal and Plant Health Inspection Service, Hyattsville, Maryland; and
- United States Postal Service, Washington, D.C.

We conducted our review from May 1992 to October 1993 in accordance with generally accepted government auditing standards.

Report Presentation

In chapter 2 of this report, we focus on DOD's multilayered C&T logistics system and its effect on inventory growth. In chapters 3 and 4, we contrast DOD's system with our findings of the private sector's initiatives and examine their potential application to the military clothing logistical environment.

DOD's Logistics System Contributes to Inventory Buildup and Other Inefficiencies

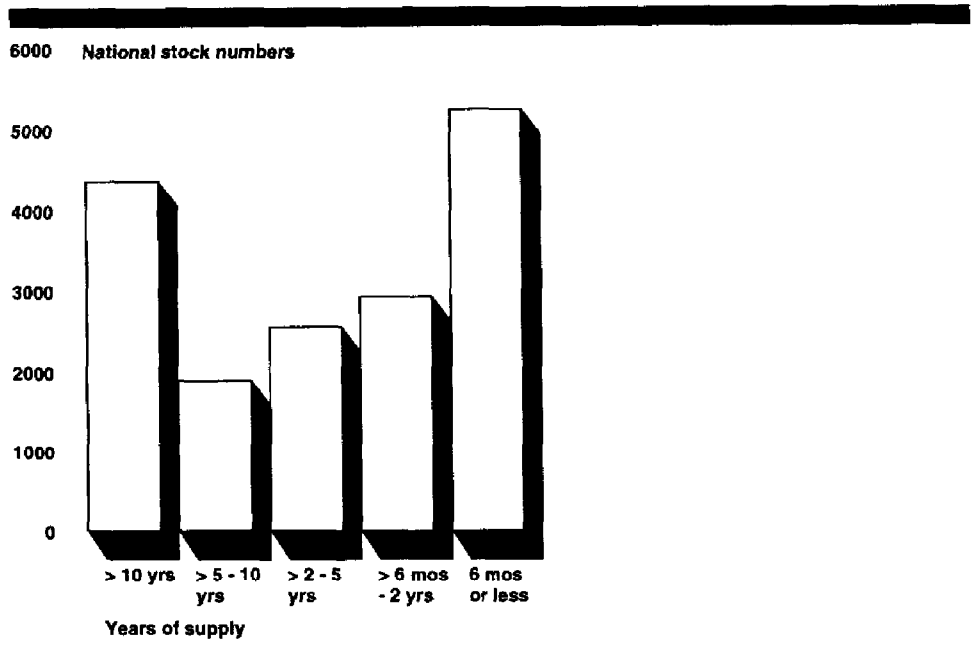
DOD maintains a logistics system that stores duplicate C&T inventories throughout the DLA and military service supply system. Our review indicated that DOD's system is characterized by (1) inventories that turn over slowly and (2) high costs for holding some excessive inventories. In some cases, items are held in depots for years or even decades before being sent to a customer or becoming eligible for disposal. A number of factors have contributed to the inventory buildup, including DLA's lack of visibility of retail assets and the lengthy procurement process that results in receiving inventory before it is actually needed.

Multilayered Supply System Leads to Large C&T Inventories

DOD stores large amounts of C&T inventory at a number of wholesale and retail activities. As of September 30, 1993, DLA reported that it stored $1.8 billion worth of C&T items in various depots and warehouses located throughout the United States.[1] In terms of days of supply, 4,360 items, or 26 percent of the C&T items DLA stocks, had enough inventory on hand to last 10 years or more based on current demand. Another 11 percent had between 5 and 10 years of supply on hand. Figure 2.1 shows that, in total, 52 percent of all C&T items had over 2 years of supply.

[1]The reported value of DLA's C&T inventories includes the cost of each item plus a surcharge to cover various operating expenses.

Figure 2.1: Wholesale Stock of C&T Items



At the retail level, RICs we visited had stock on hand for initial issue items to new recruits generally ranging from 90 to 180 days based on current demand. For example, the Navy RIC in Orlando, Florida, held C&T items such as shirts, trousers, and boots to accommodate 180 days of supply. Yet, for some of these Navy items, DLA held as much as 10 years of additional supply at its depots.

A considerable amount of C&T inventory held in DLA depots and at RICs is further duplicated by inventories held at military service exchange stores. This stock is service owned and is purchased with appropriated funds; the exchanges in turn charge the services a fee for carrying these inventories. For example, the Naval Exchange Service Command stocks 4 to 6 months of clothing items at 133 military clothing stores, including initial issue items for which DLA and the Navy also hold substantial inventory.

Lastly, the wholesale and retail warehouses store additional inventories of some clothing items categorized as war reserve stock. For example, the Parris Island Marine Corps RIC holds the equivalent of $4 million of selected items in contingency to meet a sudden mobilization surge requirement. Similarly, the Army stores about $450 million of C&T items at

DLA depots, over 90 percent of which are war reserve stocks. In contrast, the Navy and the Air Force do not hold war reserve C&T stock at either the wholesale or retail levels. In commenting on a draft of this report, DOD stated that the requirement to maintain contingency stocks makes its operations substantially different than commercial firms. According to DOD, commercial firms have no requirement to keep such stocks in wartime. While we agree, we included the data on war reserve stock because it represents an additional layer of similar items maintained at the wholesale and retail levels.

DOD estimates the value of C&T retail inventory to be between $100 million and $200 million. Based on our analysis, this estimate of retail level stocks may be understated. Table 2.1 shows individual components' retail inventories of initial issue clothing items.

Table 2.1: Retail Inventories of Initial Issue Items

Dollars in millions	
Army	**$28.4**
Navy	15.2
Marines	15.8[a]
Air Force	7.8
Army National Guard	45.3
Naval Exchange Service Command	17.5
Army & Air Force Exchange Service	51.2
Total	**$181.2**

[a]Includes $4 million in war reserve stocks.

The total of $181.2 million represents only initial issue clothing inventory and does not include non-initial issue items, such as chemical protective wear, which account for 65 percent of the different types of items that DLA stocks. For example, out of Fort Jackson's total C&T inventory of $25.6 million, $12.3 million, or 48 percent, was organizational clothing and equipment stocks.

In commenting on a draft of this report, DOD stated that, due to changes in threat and reduction in the size of its military forces, it was drawing down inventory levels by taking such actions as deferring follow-on acquisitions and disposing of excess inventory.

DLA System Characterized by Large Item Buildup and Aging Clothing Stock

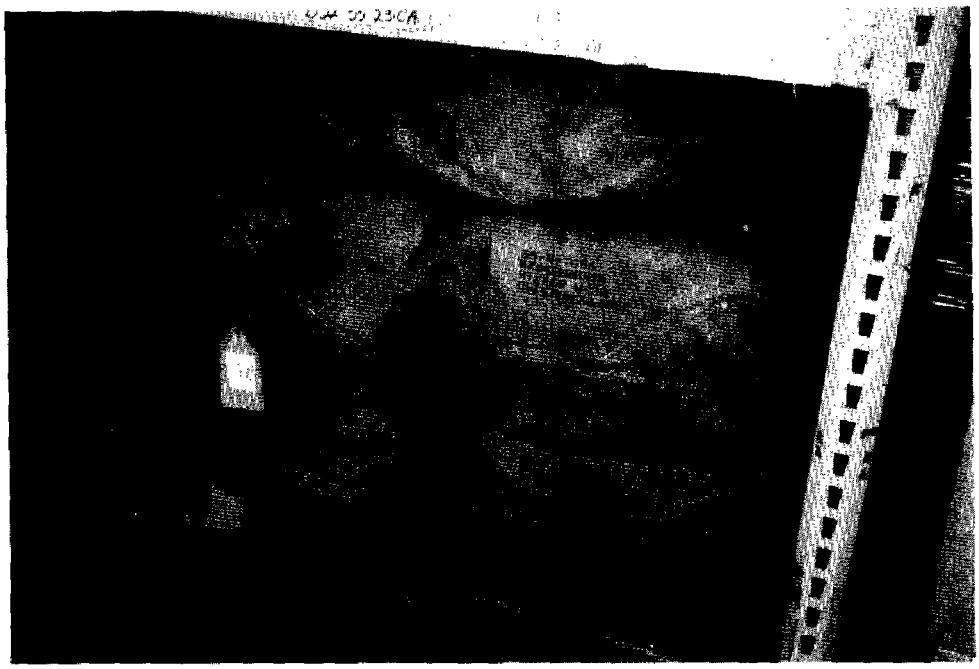
DLA's turnover of C&T stocks is slow. The turnover rate is expressed as the ratio of sales to average inventory and is a measure of how efficiently a business uses its inventory investment. In 1992, DLA sold approximately $1 of inventory for each $2 of on-hand stock, which means its wholesale inventory turns over once every 2 years. As a result of this slow inventory turnover, DLA has built up unnecessarily large stocks of many items it currently issues to its customers.

For example, the Army carries 33 sizes of a cotton/polyester, green Army mens' shirt (NSN 8405-01-311-9719). DLA forecasts usage and replenishes supply for this shirt on a size-by-size basis to control stocks of individual sizes. This shirt, however, had a lot of excess stock in some sizes. Based on an average of the past 12 months' demand, we estimated that 9 out of 33 sizes had over a 6-year supply. Of those nine sizes, six sizes had stocks exceeding 10 years' demand, and one size had a 19.5-year supply.

Similarly, DLA had substantial stocks of an Army men's brown undershirt available in eight sizes. The largest size shirt (NSN 8420-01-112-1479) had a 21-year supply, and the smallest size (NSN 8420-01-112-1472) had a 25-year supply. Army war reserve assets for these slower moving sizes further compounded the large amounts of supply. For example, the Army owns, in addition to DLA's 31,500 undershirts, 23,236 undershirts in the smallest size that are warehoused with the DLA-owned stocks. At current rates of demand, the combined Army and DLA supply for this size constitutes a 43-year supply. In the case of the largest size, adding the Army's 12,128 undershirts to DLA's inventory increases the total amount of stock on hand from 21 to 27 years.

In addition, DLA's inventory includes many phaseout and low-demand items that have been in the DOD supply system for decades. DLA categorized 1,992 C&T items, or about one-fourth of its 8,817 generic C&T items, as no longer procurable, or phaseout items. An additional 500 C&T items have had no demand for the past 5 years. We identified numerous examples of old and obsolete stocks in the depots we visited. Old and seldom-used clothing inventory represents a burden to the supply system because it wastes warehousing resources, often in the absence of any substantial requirements by end users. For example, at the Defense Distribution Depot, Memphis, Tennessee, we identified stocks of an obsolete cold weather undershirt (NSN 8415-00-197-2887) packed in 1952. (See fig. 2.2.)

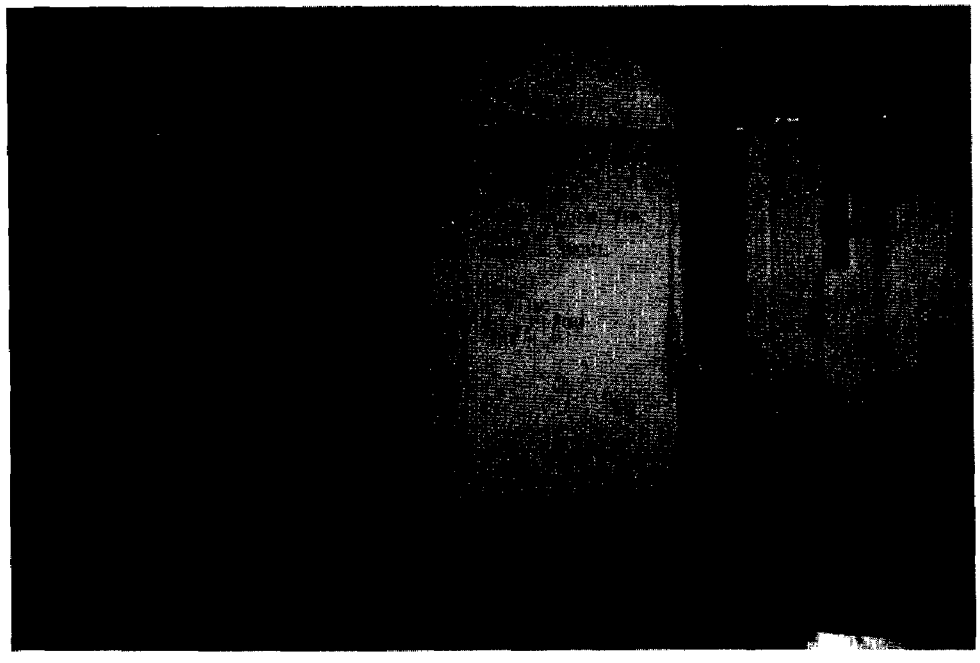
Figure 2.2: Excess Stock of Cold Weather Undershirts From 1952



According to DLA inventory records, 2,930 units of this item were on hand. DLA categorized this as a phaseout item in 1981. Although DLA officials said that customers could still requisition this undershirt, records indicate that only 1 requisition for 12 cold weather undershirts was received from February 1992 to 1993. Despite this low utilization, the inventory manager indicated that there has been no effort to dispose of this item.

In another instance, we identified 64 pallets, or approximately 7,680 pairs of size 8-wide obsolete combat boots that show packing dates between 1953 and 1958. (See fig. 2.3.)

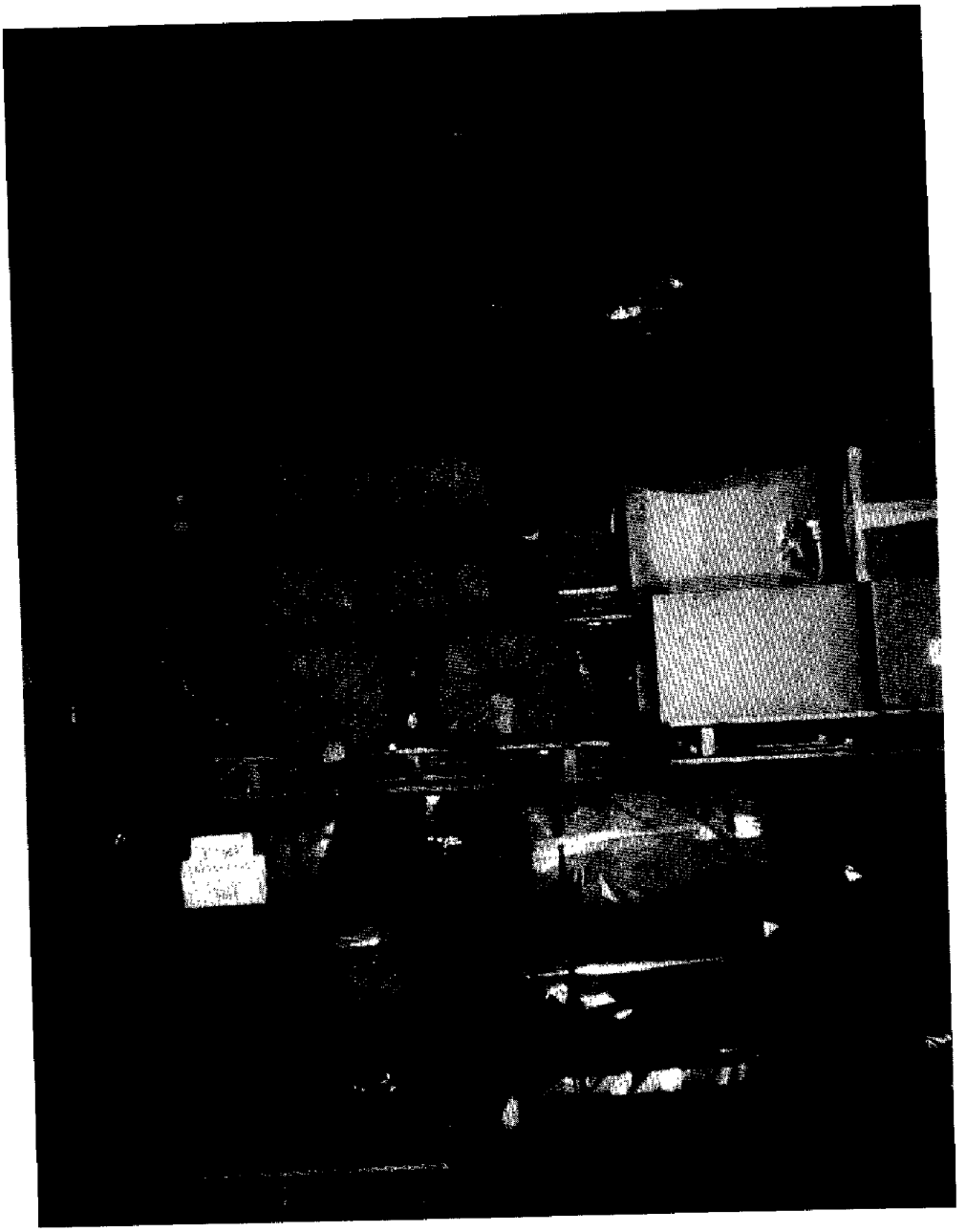
Figure 2.3: Excess Stock of Obsolete Combat Boots From 1953 to 1958



According to DLA records, these boots were valued at $68,600. This particular size had not been requisitioned since November 1991. DLA subsequently disposed of these stocks.

The Defense Distribution Depot, Columbus, Ohio, has stocks of wool cold weather shirts several decades old. The large size (NSN 8415-00-188-3798) has stock that was packed in the 1950s, 1980s, and 1990s. Based on average demand during 1992, this item had over 9-1/2 years of stock on hand. (See fig. 2.4.)

Figure 2.4: Excess Stock of Cold Weather Shirts Packed in the 1950s, 1980s, and 1990s



DLA is in the process of disposing of most of these wool shirts as they have been preserved with dichloro-diphenyl-trichloroethane (DDT) and are potentially unsafe to wear.

Factors Contributing to Large Inventories

DOD's C&T logistics system reflects its overall inventory management philosophy of holding sufficient levels of inventory to meet expected future needs. However, a range of factors causes DOD to hold larger than adequate inventories. DOD accumulates large inventories because it lacks visibility of retail-level assets and its procurement lead times are excessive. Additional contributing factors to inventory buildup include DOD's overly liberal retention policies, its practice of awarding short-term contracts, and its practice of issuing new clothing items before adequately depleting phaseout stocks.

Because DLA's inventory managers only have visibility of wholesale-level stocks, they do not include retail-level assets when calculating clothing and textile requirements. Consequently, they can determine a shortage exists and order new stock, even though the retail level may have excess stock.

DLA also takes an inordinately long time to buy replenishment C&T stocks. At the time of our review, DLA averaged almost 400 days lead time to acquire C&T stocks—97 days to determine requirements and negotiate a contract with a vendor and 294 days for the manufacturer to produce and deliver the materiel. To compensate for the long delivery time, DLA inventory managers order stock well before it is actually needed. If the expected demand for these items decreases or does not materialize, inventories may not be needed. DLA officials told us that it has been recently successful in reducing C&T lead times and has reduced the time it takes to establish a contract by 50 days.

DLA further compounds the problem of lengthy lead times by awarding short-term contracts. Because DLA wants to have short-term control over contracts, most of DLA's contracts have a duration of 1 year or less, forcing DLA to frequently repeat both the contract cycle and the long administrative lead times associated with soliciting bids and selecting a supplier. Further, because DLA cannot guarantee suppliers a steady level of business, suppliers are disinclined to maintain their production capacity after meeting contract requirements. As a result, suppliers must re-establish production capability each time they renew a contract, thus increasing production lead times.

Although DLA frequently introduces new versions of clothing items, it does not always adequately deplete stocks of the replaced and obsolete items. As previously discussed, almost 25 percent of DLA's C&T items are phaseout items that have become obsolete or replaced by newer items. In some instances, unnecessary inventory remains because the services start issuing replacement stocks before depleting phaseout stocks. In commenting on a draft of this report, DOD stated that this situation can occur when one size of old stock is depleted and the service decides that new stock will be issued in all sizes to maintain uniformity. DOD also noted that when a new clothing item represents an improvement in life support equipment, it will be fielded quickly.

Further compounding inventories is DLA's policy of retaining stocks in excess of 5 years supply. DPSC officials noted that once inventory reduction goals were achieved, they could support service requirements with $230 million of active stock. However, adherence to DLA's current retention policy would require DPSC to hold a total of $800 million in stock on hand.

Holding Costs for C&T Items Are High

DOD incurs large costs to maintain inventory, particularly items with low demand or years of supply on hand. Because its accounting systems cannot track the cost to hold inventory in depots, DLA is unable to estimate the actual costs associated with holding C&T stock. However, DOD has developed annual estimated holding cost rates for each commodity to use in calculating appropriate quantities to buy.

Holding costs include investment cost, or the cost of having funds tied up in inventory; storage costs; and obsolescence costs. DOD sets the holding cost rate for C&T items at 18 percent of the purchase price—investment at 10 percent, storage at 1 percent, and obsolescence at 7 percent. DPSC officials indicated that the 18-percent rate was very conservative and that the actual cost to hold depot stocks was probably much higher.

Applying this rate to DLA's C&T inventory at the end of fiscal year 1993 yields an annual carrying cost of $291 million. Since DLA turns C&T inventory only once every 2 years, the effective holding rate for an item moving through the wholesale system is actually double the annual rate, or 36 percent.

Even using the conservative 18-percent rate formulated by DOD, the cost to hold these items beyond 5 years exceeds the purchase price. For example, DLA has been holding 81,500 mattress covers (NSN 7210-00-171-1089) since

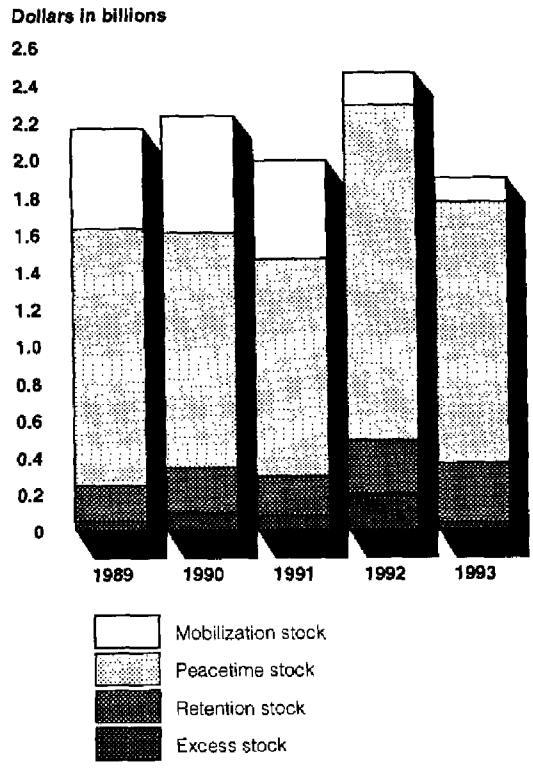
1987 without a known demand. The original purchase price was $9.44 per mattress cover, while the storage cost since 1987 has been $10.20. We estimate that 37 percent of the C&T inventory items have incurred holding costs over the purchase price.

To recover part of its operating costs, DLA charges users the cost of an item plus a surcharge, which covers supply center and depot operating expenses, inflation, and material-related expenses. In fiscal year 1992, DLA customers paid $250 million in surcharges to cover these costs for C&T items. DLA's fiscal year 1993 surcharge—added to the cost of the item when sold—was 26.8 percent for initial issue items and 19.6 percent for other items.

DLA Taking Steps to Reverse Inventory Growth

In 1989, DLA started studying how to reverse the trend in inventory growth and achieve savings. In November 1989, DOD announced Defense Management Report Decision 903, "Change Clothing and Textile Policies," with a goal of offsetting prior years' DLA C&T inventory growth by reducing future years' funding authority. In the January 1993 status report for the 903 decision, DOD stressed a one-time opportunity to use on-hand assets to satisfy peacetime customers' demands without replacing those assets as a way to achieve a large segment of the savings envisioned. One area of opportunity centered on making war reserve assets available for immediate use. Figure 2.5 shows the changes for these categories over the past 5 years.

Figure 2.5: C&T Inventory Stock Levels



DLA reduced the value of its reported stock level from $2.5 billion at the end of fiscal year 1992 to $1.8 billion by September 1993. Much C&T stock was shifted from mobilization stock to peacetime stock. For example, mobilization stock worth $538 million represented almost 25 percent of the $2.2 billion of C&T stocks in 1989 but only about 7 percent of the $1.8 billion C&T stocks in September 1993. As a result, peacetime stock available for immediate issue without replacement increased from 64 percent in 1989 to 74 percent in September 1993.

In addition, DLA reported an increase in the amount of its inventory available for disposal. In 1989, only $51 million, or 2.4 percent, of the $2.2-billion inventory was categorized as excess stock. By the end of fiscal year 1992, $187 million, or 8 percent of the $2.4 billion was classified as excess. As of September 1993, DLA reported that it had reduced its 1992 excess by 80 percent to $37 million.

Use of Private Sector Practices Could Benefit DOD

Unlike DLA's complex multilayered supply system, private sector firms have streamlined their inventory management operations by adopting leading-edge strategies that emphasize the efficient flow of goods from manufacturer to consumer. Some key techniques include establishing closer, longer-term relationships with suppliers; centralized distribution; and electronic communication with suppliers and customers. As a result, private sector firms that remain competitive in today's marketplace are able to hold less inventory, fill orders more quickly, turn over stock more frequently, and obtain replenishment supplies significantly faster than DLA's inventory system.

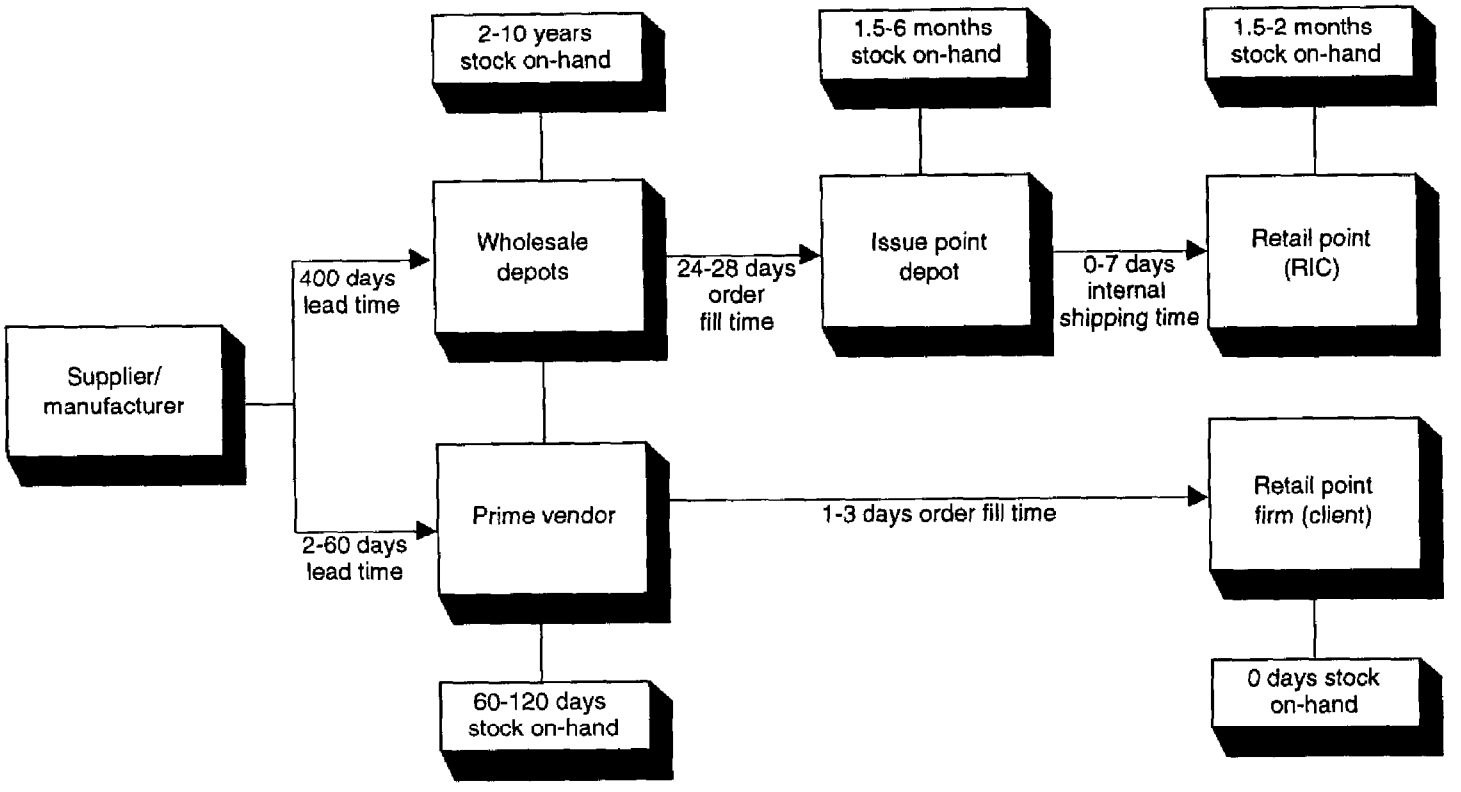
In addition, many commercial firms and federal agencies whose employees wear uniforms and other standard clothing items are using prime vendors to eliminate inefficiencies in their in-house inventory management systems or retail networks. Prime vendors assume the inventory management functions of their clients. The 14 RICs are an area of DOD's operations that appears to be highly compatible with this practice.

DLA and Private Sector Manage Inventory and Distribution Differently

The private sector offers a sharp contrast to DLA's methods of managing and distributing clothing inventories. Private sector companies have modified their management philosophy to reflect an increasingly competitive business environment and new technologies. Distributors procure more frequently, process orders faster, and deliver goods more quickly to consumers, while maintaining lower inventory and a higher turnover rate. In contrast, DLA's outmoded system results in added procurement and distribution time and increased inventory held.

Figure 3.1 compares DLA's normal movement of standard C&T items to a RIC with a typical prime vendor's flow of standard issue clothing items to a client. This flow of items shows that private sector distributors, or prime vendors maintain low inventories because they depend on suppliers delivering goods when they are needed.

Figure 3.1: How DLA and Prime Vendors Provide C&T Stocks to Users



Factors such as military-unique items and the size of the military make it difficult to make a direct comparison between DLA and the private sector. Another factor, as stated previously, is that DLA is unable to provide an estimate of the actual costs associated with holding C&T inventory. Table 3.1 contrasts prime vendors and DLA on several performance factors.

Table 3.1: DOD and Prime Vendor Inventory Performance Measures

Key performance measures	DOD	Prime vendor
Wholesale stock on hand	2-10 years	60-120 days
Retail stock held by clients	90-180 days	0 days
Stock turnover	1 x every 2 years	1.8-4 x every year
Standard order fill time	24-28 days	1-3 days
Percent of items declared excess	8	0.5-1
Procurement lead time	400 days	2-60 days
Asset visibility	Wholesale (partial)	Wholesale and retail (100 percent)

Private Sector Firms Adopt New Inventory Practices to Stay Competitive

An intensely competitive national and international business environment has forced private sector firms to pursue new technologies and new business concepts to cut costs while competing to provide superior customer service. In performance terms, companies have to fill orders faster while lowering capital investment and reducing inventory levels. Certain private sector firms have done this by adopting leading-edge inventory management strategies.

In addition to developing new strategies, more private sector firms are centralizing distribution to take advantage of increased speed, reliability, and economy of truck and rail transportation. Other inventory initiatives include on-line inventory management, storage of unfinished products, and made-to-order clothing. Advancements in both computers and communication technology have also played a crucial role in the clothing industry's successful adoption of these leading-edge practices.

Management Advances

Just-in-time and quick response are similar business strategies. Both feature tightly integrated supply chains and seek to streamline operations while improving quality and delivering the right product to the right place at the right time. Information is shared throughout the chain, sometimes extending all the way to suppliers and carriers. The success of companies using these philosophies depends on the responsiveness of both their suppliers and carriers. This pushes them to develop closer, longer term, and, to some extent, interdependent relationships with suppliers. These relationships become more like partnerships than traditional buyer-seller arrangements.

The just-in-time concept was introduced in the manufacturing field, where supplier delivery to assembly lines replaced inventory and on-time delivery was essential to production. Supplies are delivered just as they are needed and not before. The quick response concept originated as a link between manufacturers and the retail sector, where stores wanted to stock their shelves with just enough of the right item, in the right quantity. Quick response relies heavily on the efficiency resulting from electronic communication between retailers, wholesalers, and suppliers. Quick response is, to a great extent, a combination of the just-in-time philosophy and electronic technology. Both concepts have expanded to include the entire supply chain and are used as elements of comprehensive strategies to improve the management and flow of goods between manufacturers, retailers, and consumers.

From a technical standpoint, successful quick response programs use essential elements such as product codes and scanning devices throughout the distribution chain, including points-of-sale and distribution outlets, and, increasingly, electronic data interchange with carriers. From a management standpoint, key elements of a successful quick response program include cooperation by top-level managers from partnering firms and close partnerships with fewer numbers of suppliers.

Where high levels of inventory allowed departments and companies to operate independent of one another, low inventory levels have created interdependence between buyers and suppliers. This interdependence has led to the rapid flow of information, including sales information, between trading partners and within companies. Companies consider more than just low bids to select vendors. Their emphasis has shifted from using a large pool of suppliers as a bargaining tool to developing long-term mutually beneficial relationships with a few suppliers.

For example, Kmart's quick response program with suppliers is called "Partners in Merchandise Flow." Kmart considers this program a success because it unites buyers and suppliers and results in better customer service. Kmart executives meet with "supplier partners" to plan long-term strategy. As a result of this strategy, typical order ship time was reduced from 5 to 7 days to between 24 and 48 hours and stock turnover rates with one supplier increased from 5 to 25 times per year; some departments turn stock 40 or more times. The company is experiencing a 99-percent stock availability rate, with increasing sales and customer satisfaction.

Private sector companies are also shifting from multiple, geographically dispersed distribution centers to centralized distribution points. This shift resulted from deregulation of the trucking and rail industries in the 1980s, which has yielded lower prices and more reliable transportation. These transportation improvements have not only increased the efficiency of transporting goods over long distances, but have also allowed managers to hold less inventory. Companies making the transition to centralized distribution have reported lower inventory, overhead, and personnel costs. They have also indicated that existing inventory is better managed and controlled. For example, Lane Bryant, a division of The Limited, Inc., recently closed five of its six warehouses and centralized inventory and stock management in Columbus, Ohio. Company officials reported that this shift has enabled them to hold the lowest possible inventory and to maintain better control over existing inventory. The company is able to ship to customers within a 500-mile radius overnight. It can ship to anywhere in the country, except west of the Rocky Mountains, in 2 days.

Technological Advances

Better computer and communication systems offer inventory managers total visibility of products as they flow from supplier to consumer. Inventory managers have 100 percent visibility of stock held in warehouses, to and from warehouses, and at the retail level up to the point of sale. Staff ranging from order-entry clerks to company executives can obtain an item's status at any time. This capability enables them to forecast requirements, accurately plan the reorder of replenishment stock, and tightly manage and control inventory.

Electronic data interchange speeds purchase orders, bill payment, and shipping documents, as well as the rate at which inventory flows through distribution centers. For example, existing technology, such as bar codes and scanners, make the electronic transmission of point-of-sale information to inventory managers possible. These managers are then able to monitor goods passing through distribution centers. Accurate bar code systems help inventory managers locate goods in warehouses and eliminate the need to physically count inventory or manually keypunch inventory data. Point-of-sale information may also be shared with suppliers and carriers to enable them to better forecast their own requirements. Together, total asset visibility and electronic data interchange virtually eliminate the situation in which additional stock is ordered at the wholesale level while excess inventory is held at the retail level.

Emerging Use of Prime Vendors

Many commercial firms and federal agencies are turning to prime vendors to address inefficiencies in their uniform programs. A prime vendor is a company that manufactures or procures, warehouses, and distributes clothing and apparel for a client company. Some prime vendors also manage employee uniform allowance programs. In these cases, employees obtain uniforms directly from prime vendors.

Prime vendors have instituted unique and leading-edge practices that emphasize efficient flow of goods from manufacturer to consumer. They distinguish themselves from DLA's operation by storing as little inventory as possible, and turning it over quickly without keeping the customer waiting long periods to receive their order. Unlike DLA, companies acting as prime vendors store more unfinished products than finished products to save money, and by doing so, minimize their inventory levels.

When clothing is stored in pieces, it can be assembled to fit a range of sizes, meaning that total fewer pieces are needed, and fewer pieces are wasted at the end of the product's life. By maintaining lower inventory levels with less waste, companies are able to avoid higher upfront investment and additional cash outlays. DLA's outmoded system, on the other hand, keeps multiple items of finished merchandise on the shelf that might otherwise not be used or even needed—a practice that has proven very costly.

Advanced computer and communication systems help prime vendors obtain an item's status at any time, including the actual demand history for each individual, thus enabling them to better forecast requirements, accurately plan the reorder of replenishment stock, and tightly control inventories. Prime vendors generally use a centralized distribution point and take advantage of speedy, reliable, and economical transportation resources in getting its product to the customer in a timely manner.

For both commercial firms and federal agencies we contacted, the use of prime vendors has solved in-house inventory management or uniform program management problems. Commercial firms who use prime vendors found that they saved money, increased efficiency, and improved service. Federal agencies that shifted to prime vendors generally reported improved management and efficiency, but were, for the most part, unable to quantify specific cost savings.

Two commercial firms we visited, with over 100,000 uniformed employees between them, experienced in-house uniform program management

problems. These problems included numerous items on backorder, poor inventory management, inaccurate demand forecasting, inconsistent quality, inadequate customer service, and unreliable vendors. Both companies are so impressed with the success of their prime vendor clothing programs that they are considering expanding the prime vendor concept to other commodities. The following case studies show examples where two private sector firms and one federal agency successfully implemented prime vendor programs.

Case Study: Federal Express and R&R Uniform

Prior to 1988, Federal Express operated its own uniform program. Federal Express managed uniform production from design to distribution and issued uniforms from a central distribution center to its 20,000 employees at a cost of about $6 million a year. As the company grew, its uniform program became cumbersome. An internal study of Federal Express' in-house uniform program identified several problems, including unreliable demand forecasting, growing inventory levels, and slow order and delivery times. It filled only about 80 to 85 percent of orders from stock and took about 10 days from data entry to shipping to fill an order.

Local Federal Express centers reacted to the unreliable service by holding inventory that was "invisible" to the central distribution center. Inventory data used to project needs did not incorporate this "invisible" inventory and thus skewed needs estimates, resulting in unnecessary purchases. In addition, Federal Express determined that the internal management of its uniform inventory program diverted significantly from the company's mission. These findings led Federal Express to seek better services from an outside contractor.

Federal Express selected R&R Uniforms, Inc., as its prime vendor. R&R Uniforms issues about 70 different clothing items, including uniform coats, shirts, pants, ties, and hats to Federal Express employees. Approximately 1 million uniform items and accessories are issued to its 60,000 employees each year. Of these, 25 percent are initial, full uniforms for new employees and 75 percent are replacement items. R&R Uniform assumes the burden of forecasting demand and maintains a fill rate of over 98 percent. R&R also works with suppliers and customers in the design and development of new fabrics and uniforms.

With the help of an automated order-entry system and rapid deliveries to local centers where uniforms are distributed to employees, R&R can fill domestic orders within 24 hours. In addition, the increased level of

customer service means that local Federal Express centers no longer find it necessary to hold their own safety levels of inventory. R&R does hold contingency stock for Federal Express in the event of a disaster or labor interruption. R&R currently distributes from four warehouses, but plans to reduce the number to two.

Federal Express and R&R jointly plan which new items to buy. During phaseout periods, which begin when stock levels for the replacement items are low, new and phaseout items are available to employees concurrently. At the end of a phaseout period, Federal Express, not R&R, is liable for any phaseout items remaining in inventory.

R&R is also responsible for such quality control activities as inspecting finished clothing items. Goods damaged in shipping can be returned for credit or replacement. Goods produced and held in inventory are R&R's responsibility until purchased by Federal Express.

The contract between Federal Express and R&R Uniforms is currently in its second 5-year period. According to R&R officials, up-front investments in a contract like this preclude profit in the first year, which is why long-term contracts are critical. For example, R&R invested about $100,000 in the first year of the contract to make its computer system compatible with Federal Express' system. R&R prices were frozen during the first 2 years of the first 5-year contract period. After the second year of the contract, each item was reviewed annually, and two price increases have been approved.

According to Federal Express, using R&R Uniforms as its prime vendor for the past 6 years has reduced its employee uniform costs by about 10 percent. Additional savings were realized when the company reduced personnel involved with uniform distribution from 18 to 1.

Case Study: United Parcel Service and Riverside and Cintas

Until 1987, the United Parcel Service (UPS) outfitted its 60,000 uniformed drivers from geographically dispersed UPS-managed warehouses. Vendors supplied goods that were made with UPS-mandated fabric but used their own manufacturing specifications. Uniform items went out for bid annually. The company reported that vendors did not adhere to delivery schedules and quality was inconsistent. Warehouses were responsible for forecasting their own demand. In 1987, UPS warehouses held about $12 million worth of finished uniform items, of which $3.5 million was in sizes such as extra large and extra small. Communication and

coordination among the depots were poor. Demand was forecasted according to what was purchased in the previous year as opposed to what was actually used. Because the computer system was antiquated, warehouses had no on-line visibility of inventories, nor were they able to see turnover on line.

Because UPS considered the supply of uniforms and other standard issues of clothing critical, the company decided to contract out its uniform program to two prime vendors—Cintas and Riverside—that would provide overlapping services. The use of two vendors, each with two warehouses, guarantees the flow of uniforms if one company fails for some reason, such as fire, labor strike, or other catastrophe. These prime vendors operate differently, but both have been successful. Riverside is moving toward manufacturing all of its UPS items, while Cintas manufactures or subcontracts for all items it provides.

Initially, UPS required prime vendors to keep 90 days of stock on hand. However, when the prime vendors proved their ability to successfully provide uniforms and other clothing items, the required stock level was reduced to 60 days. Most customers focus on performance measures, such as backorder rates, not inventory levels, and allow vendors to determine inventory levels on their own. UPS stock in vendor warehouses turns eight times every 2 years. Because Riverside and Cintas own goods until they are ordered, it is in their interest to hold as little as possible.

A UPS official estimated that the transition to prime vendors saved UPS about $1 million in the first year and continues to save the company a significant, but undetermined amount. The UPS official believes that the use of prime vendors helped reduce capital investment, recycle used uniforms more efficiently, provide better quality control, increase customer satisfaction, and reduce excess inventory. The shift to prime vendors allowed UPS to close three of its seven warehouses.

Case Study: U.S. Department of Agriculture Forest Service and Lion Apparel, Inc.

Prior to 1986, uniformed employees of the U.S. Department of Agriculture's Forest Service were given annual allowances to purchase uniform items from an informal network of agency-approved retailers and manufacturers. Uniforms lacked consistency of appearance and quality. No internal controls existed to ensure that employees spent annual allowances on uniform items.

Dissatisfied with its uniform program, the Forest Service decided to contract its uniform program. After reviewing and analyzing several proposals, the Forest Service awarded a contract to Lion Apparel, Inc., to perform centralized manufacturing, warehousing, and distribution of its uniform program. The company supplies a total of 80 individual items to about 21,000 full-time and part-time uniformed Forest Service employees. The company manages or manufactures a total of about 5,000 individual items, or 46,000 total items when size ranges are considered.

Forest Service employees place orders directly. Employee allowances and profiles are currently managed by headquarters personnel through a central data base housed at their national finance center. Lion Apparel, Inc., receives up-to-date uniform allowance information on line from the Forest Service nightly. When an employee calls to order clothing items, order-entry clerks pull the employee's profile on screen and their order information is transmitted directly to the distribution center, where items are picked, packed, and sent within 3 days, if in stock. The cost of the item is automatically deducted from the employee's established allowance. Order-entry clerks have visibility of all stock in the distribution center as well as the status of stock due in.

Lion Apparel holds inventory in a single warehouse in Kentucky. Lion officials told us that due to advances in communication and transportation, efficiencies can be better realized with a single distribution center. According to Lion officials, this shift has improved customer service, lowered inventory management costs, and increased efficiency. Thus, the Forest Service's relationship with Lion Apparel takes advantage of both the prime vendor and centralized distribution concepts.

Lion Apparel owns all inventory until it is purchased by Forest Service employees. This creates an incentive for the company to accurately assess demand and hold just enough inventory. The turnover rate for government customers is 1.8 times per year. This rate is lower than that of commercial customers because government contracts require Lion to hold approximately 90 days of stock on hand. Lion and its clients work together when phasing out items. After completing a phaseout, Lion Apparel is liable for the remaining inventory.

Forest Service contracts are 1 year with 4 option-to-extend years. Although this presents a risk for Lion Apparel, Lion officials said they are confident that their service is good enough to keep contracts through the option years. The initial 1987 uniform contract was for $1.7 million. Based

on the $2 million allocated for uniforms the previous year, Forest Service officials estimated savings to be at least $300,000, or 15 percent of the total allocated. DOD spent $650 million on C&T contracts in fiscal year 1992. If DOD was able to achieve savings similar to the Forest Service's by using a prime vendor, the savings would be substantial.

DOD Pursuing Commercial Practices, but Progress Is Slow

DLA is seeking ways to adopt effective practices used in the private sector and has several promising initiatives underway or starting up. However, progress has been slow, and, ultimately, DLA's success will hinge, in part, on its ability to (1) enhance its automation capabilities, (2) overcome government procurement requirements that DOD officials believe inhibit the use of commercial practices, and (3) more consistently align its procurement policies and practices with the private sector. Nonetheless, there are opportunities for DLA to expand its application of commercial practices to C&T inventory management, such as using prime vendors.

DOD's Implementation of Commercial Practices Has Been Limited

DOD has directed the full-scale implementation of commercial business practices to reduce C&T inventories. In keeping with this directive, DLA is seeking ways to adopt commercial practices for its C&T items. In May 1990, the Under Secretary of Defense for Acquisition established a 10-point inventory reduction plan. One of the 10 points required DOD to actively seek out commercial initiatives, including direct vendor delivery, to reduce inventory and associated holding costs.

In January 1993, DOD issued a status report on the implementation of Defense Management Report Decision 903, which provided detailed recommendations to DLA and the services for saving $1.3 billion by fiscal year 1997. For example, the report estimated that between 45 percent and 65 percent of C&T orders could be filled by direct vendor delivery by the end of fiscal year 1997. The report also proposed more use of multiyear contracts, indefinite delivery and indefinite quantity contracts, and consideration of single contracts for non-sized C&T items. In March 1993, the Assistant Secretary of Defense for Production and Logistics endorsed the January 1993 status report recommendations and directed DLA and the services to implement the new business practices at a pace that will permit accomplishing the projected savings.

In April 1993, the Logistics Management Institute, under a contract with DOD, reported that based on its analysis of the revised Defense Management Report Decision 903, DLA could achieve the targeted $1.3 billion in savings by fully and expeditiously implementing the directed action and the improved business practices. The Institute reported that the improved business practices held the greatest potential for achieving the cost reductions envisioned by the report.

At present, DLA has at least 10 separate commercial initiatives underway or in the process of starting. These include procurement initiatives such as

best value contracting, commercial specifications development, long-term contracting, shared production agreements, and quick response initiatives, which, according to DPSC's definition, include electronic commerce/electronic data interchange and direct vendor delivery. DPSC is the pilot site for quick response.

Best value contracting, which involves selecting contractors on factors other than low bid, is the furthest advanced initiative, comprising 25 percent of C&T contracts in fiscal year 1992. Reducing the cost associated with military specifications is another promising area. As of October 1993, a working group had identified 400 separate C&T items currently procured using military specifications that could be procured commercially.

Fewer than 10 contracts (approximately 900 C&T contracts were awarded in fiscal year 1992) have been awarded for most of the remaining initiatives. The inventory reduction and cost savings associated with these and other initiatives remain to be seen. To date, under the Industrial Preparedness Demonstration Program (a shared production agreement initiative), 3 contracts have been awarded, and 16 proposals are being evaluated.

As of October 1993, DPSC reported six quick response contracts underway and plans eventually to award a majority of quick response contracts. However, requisitions under these contracts were still flowing in the traditional manner from RIC to DPSC, where they were transmitted electronically to one of the six pilot vendors who shipped directly to RIC. In our opinion, this system is not yet quick response. The length of time from requisition to delivery—over 20 days—is still too long and the continued dependence on the old requisition system, as opposed to point-of-sale data, prevents the six pilot contracts from being fully functional quick response contracts.

In commenting on a draft of this report, DOD stated that it had initiatives underway that will permit RICs to reduce the size of their clothing inventory. For example, DOD stated that the Lackland Air Force Base RIC, which currently maintains a 90-day supply of stock on hand, has installed a quick response system in which it will receive uniform items directly from three vendors. As a result, it expects to reduce delivery time from 8 days to 3 days. Also, DOD stated that DPSC is implementing an interim program to gain visibility of stock maintained at RICs. DOD anticipated that hardware

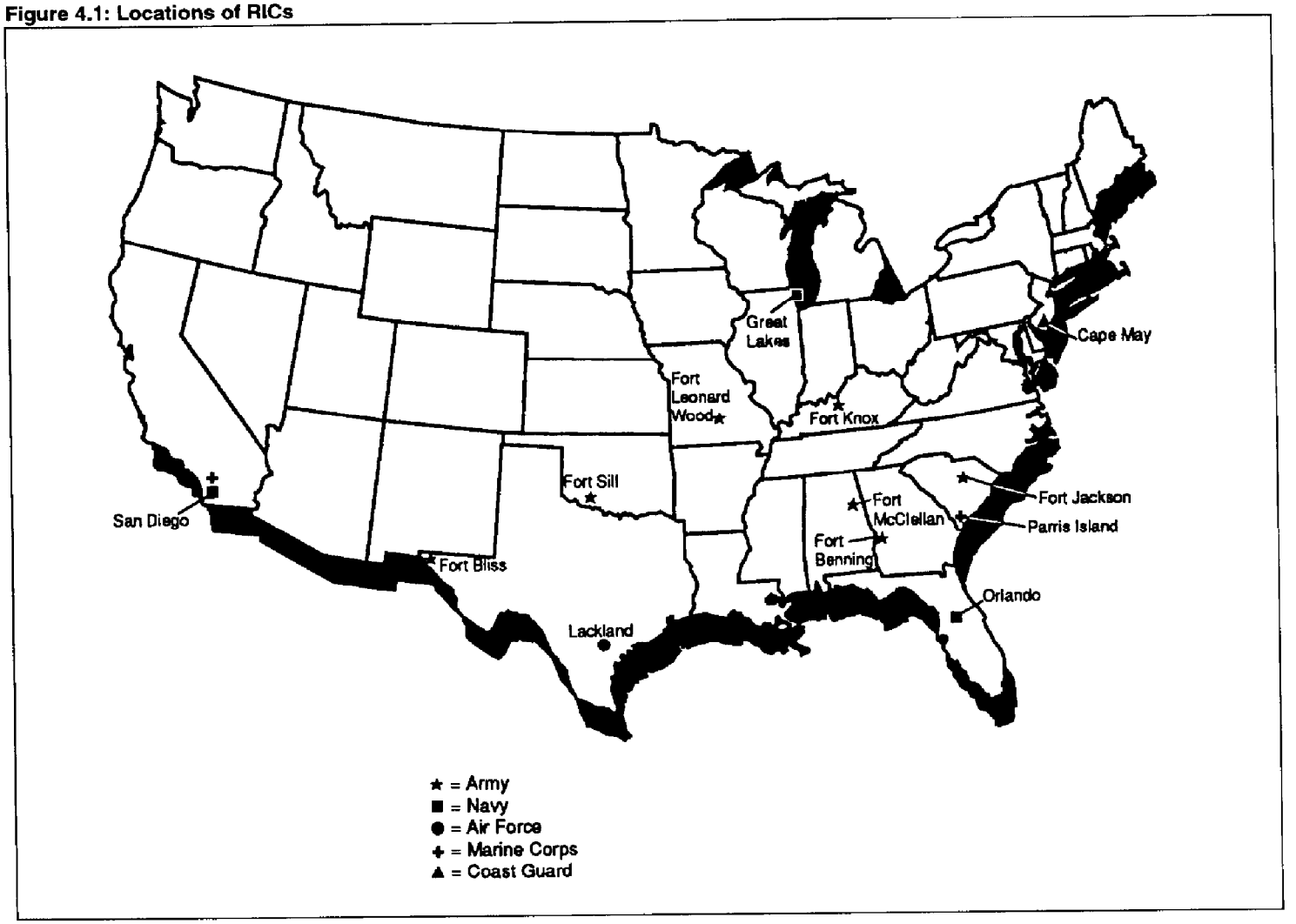
and software supporting this program will be in place at all Army, Air Force, and Marine Corps RICs by the spring of 1994.

Prime Vendor Concept Could Be Applied to RICs

One commercial practice for supplying C&T items that has a high potential application in DOD is the use of prime vendors. In particular, the military service RICs share many similarities with private sector firms and federal agencies that use prime vendors. Like these businesses and agencies, the RICs issue a standard set of clothing items to new recruits. Like the RICs, many private companies have groups or classes of new employees who are outfitted and trained together.

Currently, the 14 RICs have a continuous flow of high volume clothing inventory needs for new recruits. The Army has seven RICs; the Navy has three; the Marine Corps has two; and the Air Force has one. In addition, the Coast Guard, under the Department of Transportation, trains new recruits at its Cape May, New Jersey, RIC. Figure 4.1 shows the locations of the various RICs.

Figure 4.1: Locations of RICs



Note: The Defense Base Closure and Realignment Commission recommended, and Congress approved, closure of the naval training stations in Orlando and San Diego.

A number of prime vendors we met with that provide standard clothing items to private sector firms and federal agencies expressed interest in demonstrating the potential advantages of applying the prime vendor concept to RICs. However, DLA is not considering the use of prime vendors to provide high volume items to new recruits. Instead, DPSC recently initiated a modified version of the prime vendor concept to provide

expensive low demand and special order items, such as dress coats and Navy and Marine Corps skirts and slacks.

Automation Limitations Impair DOD's Use of Commercial Practices

Shortcomings in automation capability currently limit the extent to which DOD can apply commercial practices to C&T inventory management. Specifically, little computer and program compatibility exists between services and some basic capability is lacking within services. Few of the 14 RICs have bar code scanning equipment necessary for vendors that use electronic data interchange and direct delivery to achieve quick response objectives. In fact, the use of manual inventory management systems is not at all uncommon at the retail level.

As of October 1993, DPSC planned to install bar code scanners and software in the subsequent 6 months to transmit point-of-sale data to them and to vendors. Even when this equipment is installed, however, DPSC will not have visibility of the retail level stock on hand. Because the scanners will not be integrated with RIC inventory management systems, DPSC will not be any closer to having 100 percent asset visibility. In commenting on a draft of this report, DOD stated that, under the prime vendor demonstration project, the use of electronic data interchange transactions will enable it to obtain visibility of retail assets. DOD expects the initial results of this effort by the end of fiscal year 1994.

Constraints in DOD's Ability to Adopt Commercial Practices

The success of DOD's initiatives to improve inventory practices will depend, in part, on DOD's ability to overcome government procurement requirements that inhibit the use of commercial practices and to align its procurement process and practices with those of the private sector. There are several differences between private sector and government contracting requirements that may limit DOD's ability to adopt commercial practices. Current DOD initiatives, however, demonstrate that government procurement requirements can be satisfied while establishing new and more efficient commercial practices.

In part, DOD's difficulty stems from the government's procurement requirements, some of which are based on federal laws, that are intended to serve a variety of objectives, including support of social and economic programs, full and open competition, and the purchase of items at the lowest unit cost. The private sector places few, if any, restrictions on the sources a firm may use. For example, a commercial firm is not required to conduct competitions for its contracts and, if it does so, it may use

whatever process it deems appropriate. The government, on the other hand, must compete all contracts unless restrictions on competition have been justified. The government generally follows a formal, complex, and time-consuming process with which commercial firms are not familiar.

DOD's Advisory Panel on Streamlining and Codifying Acquisition Laws, known as the Section 800 Panel, identified more than 600 such laws affecting defense procurement. Although many of these laws, regulations, and policies were developed to ensure fairness in the procurement system and protect the government's interest in response to past abuses, many may be inconsistent with private sector practices, and therefore, may be barriers for commercial firms that want to do business with the government.

Despite the additional burdens these requirements sometimes create, DOD has begun to incorporate commercial practices in its operations. For example, DOD has established a prime vendor program for medical supplies at over 40 military hospitals that closely emulates practices pioneered by the private sector. DPSC developed a business plan, including a study of existing government procurement requirements, to determine how a prime vendor arrangement could work for medical supplies. This effort suggests that DOD can satisfy government procurement requirements as it establishes new and more efficient inventory management practices.

In addition, there are currently a number of legislative proposals pending to reform the government procurement system. A major objective of these proposals is to enhance the acquisition of commercial items and make the government more accessible to the commercial marketplace by alleviating some of the inconsistencies between government and commercial contracting. Enactment of legislation addressing these objectives could make it easier for DLA to implement commercial practices.

In commenting on a draft of this report, DOD stated that, as part of a pilot program authorized by the fiscal year 1991 Defense Authorization Act, Congress may waive or limit the applicability of existing laws to pilot program acquisitions. DOD added that DPSC's participation in the pilot would allow it to demonstrate how statutory and regulatory waivers could provide further benefits and lead to increased efficiency.

Conclusions

DOD has begun to pursue commercial business practices as a way to reduce its inventory levels and minimize its logistics costs. DOD has

implemented several initiatives involving best value contracting, quick response, direct vendor delivery, and, just recently, started a limited prime vendor pilot project to provide expensive and low demand and special order items. DOD's plans are commendable and will help reduce depot inventory levels. DOD faces a variety of impediments to applying commercial practices to its management of C&T items. Some of these, such as procurement laws and regulations, are not entirely within DOD's control and will understandably take longer to work out. Other impediments, such as hardware and software shortcomings, are controllable and will respond to DOD's immediate attention.

DOD has not adequately pursued other leading-edge commercial initiatives. In particular, DOD has not sought to use prime vendors to supply high volume C&T items. RICs, where new recruits are issued standard clothing items, seem especially suited to benefit from this use of a prime vendor, and the agency could miss an opportunity to provide high volume items more easily at a lower cost. Private sector firms and other federal agencies have found that this concept improves inventory management significantly, and several prime vendors have expressed interest in working with DOD.

In spite of this demonstrated commercial success, DLA has modified the concept, and is, instead, limiting its prime vendor pilot to expensive, low demand items and special order items. Because of this modification from the commercial norm, the agency misses an opportunity to obtain these items more easily at a lower cost.

Recommendations

In addition to current modified prime vendor demonstration efforts to obtain low volume and special order items, we recommend that the Secretary of Defense direct the Director of DLA to conduct a pilot project to demonstrate whether the prime vendor concept is beneficial in providing high usage uniform items, such as items that are currently a part of DPSC's quick response initiatives, to RICs. We further recommend that the Secretary of Defense direct the Director of DLA to (1) determine the number of prime vendors, items, military services, and RICs to include in the project to measure the cost benefit potential and (2) use the pilot project as an opportunity for testing ways to overcome other impediments such as software and hardware incompatibilities within DOD and inconsistencies between DOD and commercial sector procurement practices.

Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD officials generally agreed with the findings and recommendations and stated that DLA has already begun testing prime vendor arrangements for difficult-to-obtain C&T items, such as low-usage, high-cost skirts and slacks for Navy and Marine Corps recruits as well as dress coats and special measurement clothing. DOD stated that, by June 1994, it will direct DLA to take the recommended action. DOD felt that the results of these tests need to be evaluated before it expands these programs to high-volume items and that the evaluation include an assessment of costs, benefits, and impact on readiness.

We agree that such an approach can provide lessons learned regarding the mechanics and evaluative techniques for testing the prime vendor concept on high-volume items. We believe, however, if DOD's evaluation shows that the modified prime vendor project is not cost-beneficial, DOD should not abandon future tests of the cost-benefits that could be gained by adopting a prime vendor arrangement for other items, particularly high usage uniform items provided to RICs. We continue to maintain that the use of prime vendors could be particularly suitable for items, such as battle dress uniforms, where volume is high and demand is more predictable.

DOD also commented, while it agreed with most of the report, greater recognition should be given to the extent that DOD has initiated the use of commercial practices in business operations. DOD mentioned it has already implemented a wide range of business strategies, such as electronic commerce, shared production, and the prime vendor concept, that are providing significant benefits. It stated further, that it has initiatives underway or planned that are intended to reduce procurement lead time, assess storage costs as a component of distribution costs, and improve visibility of stock maintained at RICs. DOD stated that it expected the total C&T inventory to be reduced from $1.8 billion to about $800 million by 1997.

We have modified our report to address some of DOD's concerns. However, we still believe that progress in adopting commercial practices, as it relates to clothing and textile items, has been slow up to this point. Although we commend DOD for the initiatives it has developed and encourage it to pursue them further, most of the initiatives are in the early stages of development, and therefore, it is too soon to evaluate whether they will have the desired outcomes.

Comments From the Department of Defense

Note: GAO comments supplementing those in the report text appear at the end of this appendix.

OFFICE OF THE UNDER SECRETARY OF DEFENSE

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14 FEB 1994

ACQUISITION AND TECHNOLOGY

(L/MRM)

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "COMMERCIAL PRACTICES: Use of Leading-Edge Practices Can Help DoD Better Manage Clothing and Textile Inventories," Dated November 24, 1993 (GAO Code 398118/OSD Case 9579). The DoD generally concurs with the report.

While the DoD agrees with most of the report, greater recognition should be given to the extent that the Department has initiated the use of commercial practices in business operations. For example, the DoD has already implemented a wide range of business strategies--such as electronic commerce, shared production, and the prime vendor concept--that are providing significant benefits. In addition, the Department has awarded several contracts to test the Quick Response strategy for clothing and textiles. Formerly, it required an average of 26 days from the receipt of an item to release of the shipment from stock in the depot. Using Quick Response, it only takes an average of 8 days from the receipt of an order by the manufacturer to receipt of the item by the customer.

The DoD agrees with the GAO recommendation to conduct a pilot project of the prime vendor concept for high usage items at recruit induction centers. Pilot projects for low demand items are already underway and results of those efforts should be evaluated before initiating projects for high demand items. That evaluation must include an assessment of costs, benefits, and the impact on readiness. Once those evaluations are completed, the prime vendor arrangements can then be expanded to include higher usage items at recruit induction centers.

The detailed DoD comments on the report findings and recommendations are provided in the enclosure. The Department appreciates the opportunity to comment on the draft report.

Sincerely,

Roy R. Willis
Principal Assistant Deputy Under
Secretary of Defense (Logistics)

Enclosure

GAO DRAFT REPORT - DATED NOVEMBER 24, 1993
(GAO CODE 398118) OSD CASE 9579

"COMMERCIAL PRACTICES: USE OF LEADING-EDGE PRACTICES CAN HELP DOD BETTER MANAGE CLOTHING AND TEXTILE INVENTORIES"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A**: **The DoD Logistics System**. The GAO observed that the Defense Personnel Support Center--an activity of the Defense Logistics Agency--acquires and manages the clothing and textile inventory needed for the Military Services. The GAO explained the Defense Personnel Support Center purchases clothing and textile stocks from a variety of clothing manufacturers and fabric mills that deliver their goods to designated Defense Logistics Agency depots. The GAO found that the Defense Logistics Agency holds larger clothing and textile stocks for longer periods of time than the private sector. The GAO explained that the differences in inventory levels largely reflect contrasting approaches to meeting needs of customers. The GAO noted that the DoD system--which operates with wholesale and retail inventory storage levels--attempts to satisfy customer demands by having large stocks readily available.

  The GAO pointed out that, in contrast, commercial firms rely on quick order and delivery systems to satisfy customer demands, relieving the need for large inventories and helping to avoid items deteriorating or becoming obsolete before they are used. The GAO further pointed out that carrying large inventories is expensive--the cost to hold some items for long periods can exceed the cost to buy them. (pp. 4-5, pp. 10-11/GAO Draft Report)

  DOD RESPONSE: Partially concur. The DoD agrees that "just in time" and other commercial practices can reduce inventories of clothing and textile items within the Department. However, differences between commercial concerns and the DoD exist and comparisons between the public and the private sectors must reflect all the relevant differences. For example, commercial firms have no requirement to maintain contingency stocks for use in

Now on pp. 3-4 and 10-11.

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wartime. Commercial firms liquidate slow-moving inventories, even when they must do so at a loss. The DoD does not have as much flexibility to sell inventory at a loss.

The DoD has already implemented a wide range of leading-edge commercial practices. Business strategies already in use in the DoD include electronic commerce, shared production (also known as dual integrated production), and the prime vendor concept.

The DoD implementation of electronic commerce at the Defense Personnel Support Center is closely modeled on the apparel industry strategy of Quick Response--direct delivery of items produced on demand in response to point-of-sale information that is transmitted electronically from the retailer to the manufacturer. The strategy exploits electronic data interchange to the maximum through the transmission of every transaction, from purchase order to receipt acknowledgement document, to electronic transfer of funds.

The DoD use of shared production employs partnerships between the Government, its producers, and the commercial customers of those producers in order to maintain the capability to rapidly increase the production of items at a minimum of expense to the Government. At the time of mobilization, the commercial customers forego production of their clothing items in favor of those needed by the DoD.

Prime vendor arrangements in the Department are being used to solve long-standing problems with items that are difficult to obtain, such as women's dress uniform components and unusual sizes of garments.

- **FINDING B: Multi-layered Supply System Leads to Large Clothing and Textile Inventories.** The GAO reported that the DoD stores large amounts of clothing and textile inventory at a number of wholesale and retail activities in the U.S. The GAO noted 26 percent of the clothing and textile items that the Defense Logistics Agency stocks was enough inventory on hand to last 10 years or more, based on current demand. The GAO observed that the recruit induction centers it reviewed had stock on hand for initial issue to new recruits, ranging from 90 to 180 days, based on current demand. The GAO found that a considerable amount of clothing and textile inventory held in the Defense Logistics Agency depots and at the recruit induction centers is fur-

Now on pp. 16-18.

ther duplicated by inventories held at Military Service exchange stores. The GAO also found that the wholesale and retail warehouses store additional inventories of some clothing items categorized as war reserve stock. The GAO concluded that the multi-layered system leads to large clothing and textile inventories. (pp. 18-20/GAO Draft Report)

DOD RESPONSE: Partially concur. For certain items, large inventories were acquired to meet previous threat scenarios. It should be recognized, however, that now that the threat has changed and the United States is reducing the size of its military forces, the DoD is drawing down inventory levels by deferring follow-on acquisitions, disposing of inventory in excess of established levels, offering phase-out items at reduced prices, promoting the use of direct vendor delivery, and increasing its use of electronic commerce. Similarly, although the report accurately reflects the levels of inventory at recruit induction centers at the time of the GAO review, it does not reflect initiatives now underway that will permit recruit induction centers to reduce the size of their clothing inventories.

The Lackland Air Force Base Recruit Induction Center currently maintains 90 days of stock on hand to meet demand levels and accessions. However, with the introduction of the Quick Response system now installed at the Air Force Recruit Induction Center, the Center will be receiving uniform items directly from three vendors. Delivery times from the vendors will initially be eight days, although delivery time is expected to be reduced to three days. The Lackland Air Force Base Recruit Induction Center has also begun using bar code scanning on shipments that have bar code labels affixed to them. That change will improve the inventory management practices at the Center.

The Military Services have been working with the Defense Logistics Agency to improve the management of clothing and textile items in order to increase standardization and eliminate the numbers of sizes in DoD inventories. Similarly, there has been increased standardization of research and development for clothing and textiles, and the DoD Components are disposing of outdated stockage or items for which there is no longer any demand.

In addition, the Defense Personnel Support Center is implementing an interim program to gain partial visibility of the stock being maintained at recruit induction centers. It is anticipated that hardware and software supporting that

interim program will be in place at all Army, Air Force, and Marine Corps recruit induction centers by the spring of 1994. The Defense Personnel Support Center also intends to export its electronic commerce initiatives to the military exchange systems by the first quarter of Fiscal Year 1995. Stocks held by the military exchange systems are based on separate demands.

Finally, the maintenance of an inventory of war reserve stocks is a requirement that is peculiar to the DoD and has no counterpart in commercial inventory management operations. The draft report focuses on the extent to which the DoD can and should adopt commercial practices. In that context, the finding should exclude the management of war reserve inventories. Commercial inventory practices are not directly applicable to the management of war reserve inventories.

- **FINDING C: The Defense Logistics Agency System Is Characterized by Large Item Buildup and Aging Clothing Stock.** The GAO found that the Defense Logistics Agency turnover of clothing and textile stocks is slow. The GAO explained that the turnover rate is expressed as the ratio of sales to average inventory--and is a measure of how efficiently a business uses its inventory investment. The GAO concluded that, as a result of slow inventory turnover, the Defense Logistics Agency had built up unnecessarily large stocks of many items it currently issues to its customers. The GAO pointed out the Defense Logistics Agency inventory includes many phaseout and low demand items that have been in the DoD supply system for decades. The GAO further concluded that the old and seldom used clothing inventory represents a burden to the supply system, because it wastes warehousing resources--often in the absence of any substantial requirements by end users. (pp. 21-24/GAO Draft Report)

Now on pp. 19-23.

DOD RESPONSE: Concur. As noted in the DoD response to Finding B, the current DoD business strategies are designed to reduce the need for large inventories and to preclude stockpiles of aging clothing. The Quick Response system will result in the direct delivery of an item in response to an actual demand. Shared production will replace, at least in part, the stockpiles of war reserve items previously maintained. Prime vendor arrangements will minimize excesses of low demand sizes by effectively eliminating minimum procurable quantity considerations for those sizes.

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Finally, past experience has shown that items which are in low demand in peacetime can become high-demand items in the event of a contingency or a civil emergency. That factor must be taken into consideration during the inventory reduction process.

- **FINDING D: Factors Contributing to Large Inventories.** The GAO concluded that the DoD accumulates large inventories because (1) it lacks visibility of retail level assets and (2) its procurement lead times are excessive. The GAO further concluded that additional contributing factors to inventory buildup include the DoD liberal retention policies and the practice of issuing new clothing items before adequately depleting phaseout stocks.

  The GAO asserted that the Defense Logistics Agency takes an inordinately long time to buy replenishment clothing and textile stocks. The GAO contended that, to compensate for the long delivery time, the Defense Logistics Agency orders stock before it is actually needed. The GAO pointed out that, if the expected demand for the items decreases or does not materialize, inventories may not be needed. The GAO concluded that the Defense Logistics Agency further compounds the problem of lengthy lead times by awarding short-term contracts. The GAO found that, because the Defense Logistics Agency ties its contracts to the annual budgeting process, most of the contracts are less than one year--forcing the Defense Logistics Agency frequently to repeat both the contract cycle and the long administrative lead times associated with soliciting bids and selecting a supplier. The GAO also concluded that unnecessary inventory remains because the Military Services start issuing replacement stocks before depleting phaseout stocks. (pp. 24-26/ GAO Draft Report)

  DOD RESPONSE: Partially concur. The DoD has initiatives underway to reduce procurement lead times for clothing and textile items. However, the DoD effort is restricted by requirements imposed by statute and the Federal Acquisition Regulation.

  Quick Response procedures will address many of the problems associated with large inventories and eliminate procurement lead time as a factor in determining stock levels. The availability of the right item at the right place at the right time will make it unnecessary for customers to maintain large stock levels. Production on demand, rather than on the basis of long-range forecasting, will also help to eliminate the procurement of unnecessary items. Because

Now on pp. 23-24.

the Quick Response contracts will be linked to long-term arrangements (typically three years in duration), and because succeeding contracts will be awarded during the term of the previous contract, there will be no accumulation of inventory as the result of procurement lead time. During the term of each contract, orders will be placed on the basis of actual demand.

The Defense Logistics Agency must limit its total contract awards to meet annual obligation targets. However, that is not the reason that many contracts for items not yet managed on a Quick Response basis are limited to less than a one year stock level. Rather, the economic order quantity--after due consideration of costs to order and hold--results in limitations on the size of each reorder so that it is economically appropriate to meet anticipated customer demands. As discussed in the DoD response to Finding C, the DoD is instituting Quick Response procedures which will result in the establishment of multi-year contract against which orders will be placed at the time that customer needs have been identified.

The draft report describes procurement lead times in the DoD as excessive. Generally, lead times such as those cited in the report represent dollar-weighted lead times for all clothing items, including military-unique long lead time items such as chemical protective suits. The lead times for such items are not comparable to lead times in effect in the private sector for the procurement of commercial items.

The GAO conclusion that the Military Services issue replacement stocks before depleting stocks of items that are being phased out is only partially correct. Under DoD Regulation 4140.1, dated January 1993, a Military Service that proposes to introduce a replacement item must develop a phase-in schedule for the new item, as well as an inventory reduction plan for the residual stocks of the old item while the new item is being procured. That plan must be coordinated with the Defense Logistics Agency. The Defense Logistics Agency has the prerogative of recommending alternative dates for the introduction of new items. The Office of the Secretary of Defense reviews proposals on which the Military Services and the Defense Logistics Agency are not in agreement. Whenever the value of the residual assets of the old item are expected to exceed $450,000 at the time the new item will become available in the supply system, the Defense Logistics Agency is obligated to notify the Office of the Secretary of Defense. The Office of the Secretary of Defense can, and has, delayed the introduction of the new item in such circumstances.

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In many cases, the recruit induction center begins to issue replacement stocks when specific sizes of an item are no longer available in phase-out stocks. Since some sizes are depleted sooner than others, in order to maintain uniformity of appearance, the Centers begin issuing replacement items in all sizes when the inventories of the first sizes of the phase-out items have been depleted.

In some instances, a new clothing item represents an improvement in life support equipment. In those circumstances, the Military Services attempt to quickly field the best available equipment to the uniformed personnel who will be using it.

The report cites the lack of visibility of retail assets as a cause of large inventories. Efforts to improve the compatibility of Military Service and Defense Logistics Agency inventory systems--which are expected to enhance visibility of retail inventories--are discussed in the DoD response to Finding L.

- **FINDING E: Holding Costs for Clothing and Textile Items Are High.** The GAO concluded that the DoD incurs large costs to maintain inventory, particularly items with low demand or years of supply on hand. The GAO found that, because the accounting systems cannot track the cost to hold inventory in depots, the Defense Logistics Agency is unable to provide an estimate of the actual costs associated with holding the clothing and textile stock. The GAO noted that the DoD, therefore, developed annual holding cost rates for each commodity to use in calculating appropriate quantities to buy. The GAO explained that holding costs include (1) investment costs (or the cost of having funds tied up in inventory), (2) storage costs, and (3) obsolescence costs. The GAO noted that, currently, the DoD sets the holding cost rate for clothing and textile items at 18 percent of the purchase price. The GAO calculated that, using the 18 percent holding cost factor, the cost to hold items beyond 5 years exceeded the purchase price. The GAO estimated that 37 percent of the clothing and textile inventory items have incurred holding costs in excess of the purchase price. (pp. 26-27/GAO Draft Report)

Now on pp. 24-25.

DOD RESPONSE: Partially concur. The Defense Logistics Agency, during Fiscal Year 1993 alone, processed over $275 million worth of clothing and textile materiel for disposal. The Defense Logistics Agency plans to reduce the levels of materiel returns. Additionally, the Defense Logistics Agency will attempt to adjust economic retention levels using methods similar to those used for spare parts. The

current economic retention levels were based on a study performed in 1986. A revised study has now been completed, and Defense Logistics Agency efforts are underway to apply the methodology from that spare parts-oriented study to the clothing and textile commodity. As a result, within the next 180 days, a plan of action will be developed which will address what near term actions can be taken to implement shorter retention limits when it is clear that the items are no longer required in quantities permitted by current criteria.

In addition, by the first quarter of Fiscal Year 1995, the Defense Logistics Agency plans to reduce the level of materiel returned for credit from three years to two years. New operations research studies will also be conducted to determine future enhancements.

See comment 1.

The Department does not concur with the conclusion that the Defense Logistics Agency is unable to compute the cost to hold clothing and textile items. During an ongoing study, the Defense Logistics Agency recently determined that it currently costs $44.5 million annually to store items of clothing. The GAO report, using the cost-to-hold portion of the economic order quantity calculation, concluded that the DoD annually incurs a $312 million carrying cost for its clothing and textile inventory. Because the GAO used an economic order quantity formula for a purpose for which it was neither designed nor intended, the GAO arrived at a total holding cost which was a multiple of the actual storage costs incurred by the DoD for holding items of clothing. Consequently, the conclusion that 37 percent of the clothing and textile items in the DoD inventory have incurred holding costs in excess of their purchase price is incorrect because it is based on a holding cost that greatly exceeds the actual carrying costs experienced by the DoD.

The 18 percent holding cost cited by the GAO refers to the rate that is used in computing economic order quantities. The holding cost rate was established for use in economic investment decisions such as the computation of economic order quantities. The use of the same holding cost factor for other purposes is inappropriate, since it does not reflect the cost to hold inventory, particularly excess inventory.

The 18 percent holding cost rate that is used in economic order quantity computations has three main components:

a. Cost of Capital (10 percent). The cost of capital is the cost to the private sector to have money tied up in investments in the public sector. There is no actual

interest or opportunity cost associated with the rate. More importantly, it cannot be applied to excess inventory as a holding cost. If the DoD disposed of excess inventory, it could not recoup 10 percent per annum of the value of the inventory.

b. Obsolescence Rate (7 percent). The obsolescence rate portion of the economic order quantity holding cost is included as a deterrent to prevent the acquisition of stock that might otherwise end up as excess. Excess inventory is already "obsolete." Therefore, the DoD cannot continue to charge seven percent per annum against it.

c. Storage Cost (1 percent). The storage cost represents the average cost to store one dollar's worth of inventory for one year. It is essentially the total depot storage cost divided by the total inventory value. Unlike the other two cost components, it is an actual cost, but it is an average that covers all commodities. Because storage costs cannot be broken out among all the commodities sharing a depot, there is no specific storage cost available for clothing and textiles.

- **FINDING F: The Defense Logistics Agency Is Taking Steps To Reverse Inventory Growth.** The GAO reported that, in November 1989, the DoD announced the Defense Management Report Decision 903--with a goal of offsetting prior years clothing and textile inventory growth by reducing future years funding authority. The GAO found that more clothing and textile stock was shifted from mobilization stock to peacetime stock. The GAO pointed out that, consequently, peacetime stock available for immediate issue without replacement increased from 64 percent in 1989--to 72 percent in June 1993. The GAO also found that the Defense Logistics Agency increased the amount of inventory available for disposal. The GAO reported that, as of June 1993, the Defense Personnel Support Center had disposed of 20 percent of the $262 million of excess clothing and textile stocks. (pp. 27-28/GAO Draft Report)

Now on pp. 25-26.

DOD RESPONSE: Concur. Since 1991, the total inventory investment in clothing and textiles has been reduced by $271 million. By complying with DoD guidance that calls for cessation of the protection of war reserve assets which were not acquired with direct appropriations, and by limiting safety levels to a maximum of two months, it is expected that, by 1997, the depot inventory of approximately $1.8 billion can be reduced to approximately $800 million.

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Historically, the Defense Logistics Agency used direct vendor deliveries for non-stocked items and high priority requisitions. However, the use of direct vendor delivery has been expanded as a result of (1) the introduction of the Defense Business Operations Fund, (2) the issuance of Defense Management Report Decision 903 regarding clothing and textile policies, (3) the mandate to reduce inventory levels consistent with the downsizing of the military forces, and (4) a desire to implement Quick Response procedures for items of clothing and individual equipment. expanded.

The draft report states that, as of June 1993, the Defense Personnel Support Center had disposed of 20 percent of the $262 million of excess clothing and textile stocks. Actually, the Defense Personnel Support Center had disposed of 74 percent of that $262 million inventory of potential excess stocks by June 1993.

- **FINDING G: The Defense Logistics Agency and Private Sector Manage Inventory and Distribution Differently.** The GAO observed that the Defense Logistics Agency clothing and textile management structure began to take shape in the early 1950s, when the Army began managing clothing and textiles for all the Military Services. The GAO further observed that the outmoded system resulted in additional steps that added to procurement and distribution time and increased the amount of inventory held.

  The GAO further observed that, on the other hand, private sector companies have modified their management philosophy to reflect an increasingly competitive business environment and new technologies. The GAO explained that distributors (1) procure more frequently, (2) process orders faster, and (3) deliver goods more quickly to consumers--while maintaining lower inventory and a higher rate of stock turnover. The GAO concluded, however, that factors such as military-unique items and the size of the Military make it difficult to make a direct comparison between the Defense Logistics Agency and the private sector. The GAO noted that another factor is that the Defense Logistics Agency is unable to provide an estimate of the actual costs associated with holding clothing and textile inventory. (pp. 29-31/GAO Draft Report)

  DOD RESPONSE: Concur. The types of customers being served and the predictability of demand vary greatly between the Military Services and commercial enterprises. In the Federal Government, a procurement action involves additional steps and many regulatory requirements, including mandatory

Now on pp. 27-29.

sources, that are not required of commercial enterprises. As a result, the DoD purchasing process is inherently more difficult and costly.

The Defense Logistics Agency is developing a mechanism to assess and charge storage costs as a component of distribution costs. That proposal is targeted for implementation in Fiscal Year 1995.

- **FINDING H: Private Sector Firms Adopt New Inventory Practices to Stay Competitive.** The GAO observed that the competitive national business environment forced the private sector to pursue new technologies and new business concepts to cut costs, while competing to provide superior customer service. The GAO acknowledged that, as of October 1993, the Defense Personnel Support Center reported six Quick Response contracts underway and plans to award a majority of Quick Response contracts. The GAO pointed out that, requisitions under those contracts were still flowing in the traditional manner from the recruit induction centers to the Defense Personnel Support Center, where they were transmitted electronically to one of the six pilot vendors who shipped directly to the recruit induction centers. The GAO concluded that the system is not yet Quick Response. The GAO added that the length of time from requisition to delivery -- over 20 days -- is still too long and the continued dependence on the old system (as opposed to point-of-sale data) prevents the six pilot contracts from being fully functional Quick Response contracts. (pp. 5-6, pp. 31-35/GAO Draft Report)

Now on pp. 29-31 and 39.

DOD RESPONSE: Partially concur. The DoD recognizes the need to adopt successful private sector business practices, while simultaneously contending with the factors which differentiate the military logistics process from the private sector and still comply with applicable laws and regulations. The DoD is adopting those innovative commercial practices which contribute to efficient accomplishment of the military mission for specific commodities. In fact, the Defense Personnel Support Center--which manages clothing and textiles for the DoD--was included in a 1992 benchmarking study conducted by a private sector firm. In the study, the DoD compared favorably with participating commercial firms.

See comment 2.

The Department does not concur that the interval between requisition and receipt under the Quick Response pilot projects is still too long, due to the manner in which requisitions are processed from the recruit induction centers to the pilot vendors through the Defense Personnel

Support Center. The length of time from requisition to delivery actually has greatly improved relative to earlier GAO observations. After the Defense Personnel Support Center places an order with a vendor, it takes an average of 8 days, and a maximum of 15 days, to obtain delivery. It is anticipated that an experienced vendor will be capable of delivering items within 72 hours of receipt of an order. The DoD should be able to reach that goal under the pilot projects by the third quarter of Fiscal Year 1994.

See comment 3.

Achieving pure Quick Response within the DoD is not a realistic expectation, due to the manner in which customer funds must be controlled under applicable regulations. Pure Quick Response would remove decision-making functions involving the obligation of funds from military commanders and give those functions to contractors. That would result in an unacceptable loss of control over funds.

- **FINDING I: Emerging Use of Prime Vendors.** The GAO reported that many commercial firms and Federal agencies are turning to prime vendors to address inefficiencies in their uniform programs. The GAO explained a prime vendor is a company that manufactures or procures, warehouses, and distributes clothing and apparel for a client company. The GAO noted that some vendors also manage employee uniform allowance programs--where employees obtain uniforms directly from prime vendors.

  The report includes a discussion of three case studies where two private sector firms and one non-Defense Federal agency successfully implemented prime vendor programs. The GAO explained that, for both the commercial firms and the Federal agencies it contacted, the use of prime vendors had solved in-house inventory management or uniform program management problems. The GAO noted that commercial firms using prime vendors found they saved money, increased efficiency, and improved service. With regard to the Federal agencies, the GAO noted that, although the agencies generally reported improved management and efficiency, they were unable to quantify specific cost savings. (pp. 35-41/GAO Draft Report)

Now on pp. 32-37.

DOD RESPONSE: Concur. It should be recognized, however, that prime vendors are commercial firms that buy or manufacture, store, and distribute a full line of supplies within a specific industry. The prime vendor contracts used by the DoD do not obligate the contractors to supply the full line of clothing and textile items managed by the Department. Instead, they are providing only specific items (e.g., the recruit issue dress skirts and slacks for the

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Navy and Marine Corps which are already on contract, or the dress coats and special measurement clothing for which the award of a contract is expected soon). It is important, therefore, to distinguish the prime vendor initiatives in use by the DoD from the strategies used by the Forest Service, Federal Express, and United Parcel Service.

The prime vendor concept must be tested in the DoD before the present infrastructure is dismantled. Any evaluation of the prime vendor concept in the DoD should address costs and benefits, as well as the implications for readiness, and give due consideration to the magnitude and complexity of military clothing requirements.

- **FINDING J: The DoD Implementation of Commercial Practices Has Been Limited.** The GAO found that, in response to a May 1990 directive, the Defense Logistics Agency is seeking ways to adopt commercial practices for the clothing and textile items. The GAO also found that, in March 1993, the then Assistant Secretary of Defense (Production and Logistics) endorsed the January 1993 Defense Management Report Decision 903, which provided recommendations to the Defense Logistics Agency and the Military Services for achieving $1.3 billion in savings by FY 1997. The GAO noted the March 1993 memorandum directed the Defense Logistics Agency and the Services to implement new business practices at a pace that will permit accomplishing the projected savings. The GAO acknowledged that the Defense Logistics Agency had at least 10 separate commercial initiatives underway or in the process of starting.

  The GAO also acknowledged that, as of October 1993, the Defense Personnel Support Center reported six quick response contracts underway. The GAO found, however, that requisitions under the contracts were still flowing in the traditional manner from the recruit induction centers to the Defense Personnel Support Center, where the contracts were transmitted electronically to one of the six pilot vendors--who then shipped directly to the recruit induction centers. The GAO asserted that the system, therefore, is not yet a quick response operation. The GAO concluded that the time from requisition to delivery is still too long and the continued dependence on the old system prevents the six pilot contracts from being fully quick response. (pp. 6-7, pp. 42-44/GAO Draft Report)

Now on pp. 38-40.

See comment 2.

DOD RESPONSE: Partially concur. The DoD agrees that at least ten separate commercial initiatives were underway at the Defense Logistics Agency. The DoD also agrees that the requisitioning process has not been adjusted for clothing

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See comment 3.

and textile Quick Response contracts. However, the actual delivery times for Quick Response clothing and textile contracts have been reduced from an average of 26 days (receipt of the requisition to release of shipment from depot stock) to an average of eight days (from the receipt of an order at the manufacturer's site to receipt of the item by the customer), with a first year contract goal of turning orders around in 72 hours.

The release of requisitions is the means by which a recruit induction center obligates its funds for the acquisition of materiel. The requisition process, therefore, is not subject to change as long as the recruit induction centers are required to maintain control over their respective obligation rates.

The DoD does not agree that the clothing and textile Quick Response initiatives are not Quick Response because customer orders are processed through the Defense Personnel Support Center en route to the vendors. As the designated commodity manager for clothing and textile items in the DoD, the Defense Personnel Support Center serves as a clearinghouse for requirements, inter-Service billing, vendor payments, and contract management, as well as final reconciliation and closure. The future role of the Defense Personnel Support Center as an electronic gateway to direct delivery vendors is consistent with industry practice and should not interpose delays.

- **FINDING K: Prime Vendor Concept Could Be Applied to Recruit Induction Centers.** The GAO concluded one commercial practice for supplying clothing and textile items that has a high potential application in the DoD is the use of prime vendors. The GAO pointed out that, in particular, the Military Service Recruit Induction Centers share many similarities with private sector firms and Federal agencies using prime vendors. The GAO explained that, like those businesses and agencies, the Induction Centers issue a standard set of clothing items to new recruits and the businesses and agencies also have groups or classes of employees who are outfitted and trained together. The GAO noted that the 14 Induction Centers have a continuous flow of clothing inventory needs for new recruits. The GAO also noted that many of the prime vendors it reviewed expressed interest in demonstrating the potential advantages of applying the prime vendor concept to the Recruit Induction Centers. The GAO found that, however, the Defense Logistics Agency is not considering the use of prime vendors to provide high volume items to new recruits. The GAO explained that the Defense Personnel Support Center instead

Now on pp. 40-41.

recently initiated a modified version of the prime vendor concept to provide expensive, low demand, and special order items--such as dress coats and Navy and Marine Corps skirts and slacks. (pp. 44-45/ GAO Draft Report)

DOD RESPONSE: Concur. As explained in the DoD response to Finding I, the differences between military requirements and operations and those of commercial enterprises and other Federal agencies make it imperative that the prime vendor concept be thoroughly evaluated in the DoD before the existing infrastructure is dismantled. The Defense Personnel Support Center is currently testing modified prime vendor arrangements in several ways. Awards are either in place or anticipated with firms that are either manufacturers or pure distributors. All recruit issue skirts and slacks for the Navy and Marine Corps are currently on contract, and awards for such items as dress coats and special measurement clothing are expected in the near future.

The reasons for the DoD decision to defer extending the prime vendor concept to high-demand items at recruit induction centers until after the pilot projects with the use of low-demand clothing items have been evaluated are discussed in the DoD response to Recommendation 1.

- **FINDING L: Automation Limitations Impair the DoD Use of Commercial Practices**. The GAO reported that shortcomings in automation capability currently limit the extent to which the DoD can apply commercial practices to the clothing and textile inventory management. The GAO explained that little computer and program compatibility exists between the Military Services--with some basic capability even lacking within the Services. The GAO noted that the use of manual inventory management systems is not at all uncommon at the retail level. The GAO observed that, even when the Defense Personnel Support Center installs bar code scanners and software in the next 6 months, it will still not have visibility over the retail level stock on hand. The GAO concluded that, because the scanners will not be integrated with the recruit induction centers inventory management systems, the Defense Logistics Agency will not be any closer to having total asset visibility. The GAO also noted that the Defense Personnel Support Center is installing the point-of-sale information, without integrating it with the recruit induction centers software systems and without integrating the systems with each other. The GAO concluded that, once installed, the Military Services and the recruit induction centers will be no closer to obtaining on-line inventory visibility. (p. 7, pp. 45-46/GAO Draft Report)

Now on pp. 4 and 42.

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DOD RESPONSE: Partially concur. The current DoD initiatives will provide visibility of only those retail stocks that are located at recruit induction centers covered by the prime vendor demonstration contracts. Contrary to the GAO report, however, the electronic data interchange transactions under the demonstration contracts will allow the DoD to obtain visibility of all retail assets for the items covered by the demonstration contracts at the direct vendor delivery site. Such retail information would be received and updated on the basis of issue and receipt transactions. The results of the first phase of the demonstration program are expected by the end of Fiscal Year 1994.

- **FINDING M**: **Constraints on the DoD Procurement Limit Adoption of Commercial Practices**. The GAO discussed significant differences between private sector and Government contracting requirements that may hamper the ability of the Defense Logistics Agency to adopt commercial practices, as follows:

  - the Competition in Contracting Act requires Government contracts to be awarded on the basis of full and open competition, unless restrictions on competition have been justified;
  - the Government use of detailed specifications;
  - the risk of liquidated damages or other adverse consequences of just-in-time deliveries;
  - the proviso of equal opportunity to all potential contracts and the promotion of small and minority business opportunities; and
  - the Truth in Negotiations Act, which ensures that the Government pays reasonable prices.

  The GAO pointed out there are more than 600 such laws affecting Defense procurement that may be barriers to commercial firms wanting to do business with the Government. The GAO noted that there are legislative proposals pending to reform the Government procurement system to make the Government more accessible to the commercial marketplace by alleviating some of the inconsistencies between the Government and commercial contracting. The GAO concluded that the enactment of that legislation could simplify the Defense Logistics Agency implementation of commercial practices. (pp. 46-48/GAO Draft Report)

Now on pp. 42-43.

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DOD RESPONSE: Concur. The DoD has nominated six programs to participate in the Defense Acquisition Pilot Program authorized by Section 809 of the FY 1991 Defense Authorization Act. If approved, one of those programs would be conducted by the Defense Personnel Support Center.

The Defense Personnel Support Center has already demonstrated some of the expected economies and efficiencies resulting from changes in processing routines under the new business strategies demonstration program (e.g., shared production, Quick Response, and electronic data interchange). So far, those efforts have concentrated on streamlining practices and procedures within the restrictions of existing statutes and regulations. However, as part of the pilot program authorized by the FY 1991 Defense Authorization Act, the Congress may waive or limit the applicability of existing laws to pilot program acquisitions. Participation in the pilot program would allow the Defense Personnel Support Center to demonstrate how statutory and regulatory waivers could provide further benefits and lead to increased efficiency.

The DoD has selected those items that were considered the best targets of opportunity in order to test the objectives of the pilot program. Participation in the Section 809 pilot program has the potential to allow the DoD to provide its clothing and textile customers with better service.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1**: The GAO recommended that the Secretary of Defense direct the Director, Defense Logistics Agency, in addition to current modified prime vendor demonstration efforts to obtain low volume and special order items, to conduct a pilot project to demonstrate whether the prime vendor concept is beneficial in providing high usage uniform items--such as items currently part of the Defense Personnel Support Center Quick Response initiatives--to the recruit induction centers. (p. 7, p. 49/GAO Draft Report)

Now on pp. 5 and 44.

DOD RESPONSE: Concur. As explained in the DoD responses to Findings I and K, the Defense Logistics Agency has already begun testing prime vendor arrangements for clothing and textile items in several ways. The test includes a contract for all recruit issue skirts and slacks for the Navy and the Marine Corps. Contract awards are also anticipated by the third quarter of Fiscal Year 1994 to test dress coats and special measurement clothing. The Defense Logistics Agency

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will continue to test the prime vendor concept as one of its business strategies. The effort will include an evaluation of the factors described previously which must be considered before full implementation of prime vendor and dismantling of the existing system.

One of the most critical aspects of managing clothing and textiles in the DoD is the importance of ensuring 100 percent availability of essential clothing items for recruits. The repercussions of any failure to provide new recruits with clothing as they begin their basic training would likely include harsh criticism from the Congress. Testing an unproven program at this time on high volume items that are issued at the recruit induction centers would create an unacceptably high risk of failure for the basic mission.

Once the pilot programs with prime vendor arrangements for clothing and textile items have proven capable of satisfying requirements in a less risky environment, the prime vendor arrangements can then be expanded to include items which are issued in greater volume by recruit induction centers.

- **RECOMMENDATION 2**: The GAO recommended that the Secretary of Defense direct that the Director, Defense Logistics Agency, determine the number of prime vendors, the items, the Military Services, and the recruit induction centers to be included in the pilot project--in a manner to best measure the cost benefit potential of the concept. (p. 7, p. 49/GAO Draft Report)

Now on pp. 5 and 44.

DOD RESPONSE: Concur. By June 1994, the Office of the Secretary of Defense will direct the Defense Logistics Agency to determine the number of prime vendors, the items, the Military Services, and the recruit induction centers to be included in the ongoing pilot project. The Defense Logistics Agency will be expected to make those determinations by August 1994.

- **RECOMMENDATION 3**: The GAO recommended that the Secretary of Defense direct that the Director, Defense Logistics Agency, use the pilot project as an opportunity for testing ways to overcome other impediments, such as (a) software and hardware incompatibilities within the DoD and (b) inconsistencies between the DoD and commercial sector procurement practices. (p. 7, p. 49/GAO Draft Report)

Now on pp. 5 and 44.

DOD RESPONSE: Concur. By June 1994, the Office of the Secretary of Defense will direct the Defense Logistics Agency to use the pilot project to test means of overcoming

other impediments, such as software and hardware incompatibilities, and inconsistencies between procurement practices used by the DoD and those employed by the commercial sector.

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The following are GAO's comments on the Department of Defense's (DOD) letter dated February 14, 1994.

GAO Comments

1. DOD did not agree that it was unable to compute the cost to hold clothing and textile (C&T) items. We continue to be convinced that DOD's accounting system is unable to capture holding costs. After we completed our work, the Defense Logistics Agency (DLA) determined that it cost about $44.5 million annually to store C&T inventories based on a cost per square foot of occupied storage space. However, these costs, in our opinion, reflect only those costs associated with actual depot storage. Holding costs involve other additional expenditures in managing inventories, such as administrative, delivery, and handling costs. The 18-percent rate is considered to be a conservative estimate by some private sector firms that stated such costs can range from 25 percent and up. We merely used DOD's rate as a rough approximation of its costs.

2. DOD stated that it currently takes an average of 8 days and a maximum of 15 days from the time the Defense Personnel Support Center (DPSC) places an order with the vendor until the material is received. We disagree with DOD's analysis. Assuming that the 8-day and 15-day figures are accurate, DOD's analysis only measures the time from when DPSC places an order with the vendor to delivery to the customer. It does not measure the time required for the customer to initiate the requisition, transmit it to DPSC, and then for DPSC to process the requisition and issue a material release order to the vendor. We believe that this requisitioning process time should be included as part of DOD's analysis.

Further, DOD stated that it has reduced delivery times for quick response contracts from 26 days to 8 days. However, DOD's 26-day estimate measures the interval from the receipt of a requisition at DPSC to the release of the material from the depot, whereas the 8-day estimate measures the time from when a vendor receives an order to when the customer receives the material. In our opinion, these estimates reflect entirely different segments of the ordering and shipping process, and therefore, are not comparable. While DOD seems to be reducing the time for the requisitioning and delivery processes, it is difficult to ascertain the actual progress being made from the data included in DOD's comments.

3. The type of quick response system we believe DLA should begin moving toward would not require a requisitioning intermediary—that is, an additional level where material requests flow—a role DPSC currently has.

Under "pure" quick response, the vendor keeps track of the customer's needs and responds to those needs directly, primarily through electronic communication systems. This process works even better when vendors and users develop close, long-term business relationships with one another. We agree that even under this kind of quick response arrangement, DPSC would still maintain oversight of certain functions, such as centralized bill paying authority and contract administration. DOD stated that achieving pure quick response is not a realistic expectation due to the manner in which customer funds must be controlled under applicable regulations.

However, DPSC seemed to overcome this problem under the prime vendor program for medical supplies. For example, when a hospital places an order with the prime vendor, the hospital electronically notifies DPSC of the dollar value and order number. Once the prime vendor sends an invoice to DPSC electronically, DPSC automatically transfers funds to the prime vendor's account—a completely paperless process from order to payment.

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