

GAO

October 1986

NAVY SUPPLY

Intermediate Inventories Can Be Reduced



131624

037409



United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-224708

October 28, 1986

The Honorable John F. Lehman
The Secretary of the Navy

Dear Mr. Secretary:

This is our report on the Navy's management of intermediate inventories. We found that the Navy could substantially reduce total inventories without increasing supply response times by (1) eliminating intermediate inventories that are collocated with wholesale inventories, (2) eliminating intermediate inventories that duplicate consumer inventories, and (3) using average rather than maximum inventory levels to compute intermediate inventory requirements.

The report contains recommendations to you on pages 17 and 25. As you know, 31 U.S.C. §720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs no later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We are sending copies of this report to the Chairmen, House Committee on Government Operations, Senate Committee on Governmental Affairs, and House and Senate Committees on Appropriations and on Armed Services; the Secretary of Defense; and the Director, Office of Management and Budget.

Sincerely yours,

Frank C. Conahan
Assistant Comptroller General

Executive Summary

Purpose

At the end of fiscal year 1985, the Navy maintained intermediate inventories of consumable material in the United States worth an estimated \$729 million. GAO evaluated whether these inventories were needed for prompt response to customer demands.

Background

The Navy has three inventories: consumer inventories to fill demands from one activity, intermediate inventories to fill requisitions from several activities in a geographic area, and wholesale inventories to fill requisitions worldwide. For the most part, consumer inventories are located at a using activity and therefore provide the quickest response to supply requests. Intermediate and wholesale inventories often are positioned together at supply centers and other stock points.

Results in Brief

The Navy could substantially reduce total inventories without increasing supply response times by

- eliminating intermediate inventories that are collocated with wholesale inventories,
- eliminating intermediate inventories that duplicate consumer inventories, and
- using average rather than maximum inventory levels to compute intermediate inventory requirements.

The Navy also could reduce supply response times without increasing inventories by (1) exerting more control over the requisition priority system and (2) improving systems for reviewing and processing requisitions and for updating inventory records.

Principal Findings

Duplicate Inventories

Because the Navy bases both wholesale and intermediate inventory levels on the same demand data and places some of the inventories at the same stock points, at least \$81.2 million of the intermediate inventories is unneeded. Wholesale material should be available to fill the same demands that are filled with intermediate inventories.

At five intermediate inventory locations, aviation repair parts are stocked for use by a single consumer. In many cases, the consumer

stocks the same items in its own inventory. The Navy could continue to achieve similar supply response times with smaller total inventories by consolidating these items into one consumer inventory. At one of the five locations, GAO estimates that consolidation would reduce inventories by \$3.3 million. Similar savings could be possible at the other four locations.

Overstated Requirements

The Navy overstated intermediate inventory requirements by \$46.3 million because the Aviation Supply Office and the Ships Parts Control Center erroneously used maximum inventory levels to set requirements. Average inventory levels should have been used because this method more accurately reflects actual conditions. This method assumes that on the average only 50 percent of operating stocks are on hand at any one time. After GAO brought this matter to the Navy's attention, the Naval Supply Systems Command told inventory control points to revise their procedures to use average levels for computing requirements. However, these revisions have not been completed.

The above inventory reductions may not be cumulative. For example, if the intermediate inventories that duplicate wholesale inventories are eliminated, some of the duplication with consumer inventories also may be eliminated.

Priority System Abuses

Navy activities continue to exceed guidelines on the percentage of requisitions that should be designated as high priority. Priority system abuses slow response times on other requisitions by causing personnel to unnecessarily spend time expediting requisitions instead of managing materials and to unnecessarily make separate procurements to fill requisitions that are assigned a higher than appropriate priority.

Handling Requisitions

Reliable and complete information on actual supply response times is needed to determine whether readiness objectives are being achieved, evaluate efforts to improve response times, and identify activities that do not meet Department of Defense goals. Response time data is only collected for up to 53 percent of all issues of Navy material to shore activities, and the data that is collected does not provide managers with information that shows where unnecessary delays are occurring. GAO did not evaluate response time data from ships.

GAO tests showed that Navy shore activities consistently exceed Defense-prescribed limits on the time it should take to (1) get requisitions to a stock point and (2) post receipts to inventory records when requisitions are filled. Days spent processing paperwork add to the time required to obtain supplies and hence add to inventory levels.

Recommendations

GAO recommends that the Secretary of the Navy

- eliminate intermediate inventories that duplicate wholesale or consumer inventories;
- base intermediate inventory requirements on average inventory levels instead of maximum inventory levels;
- ensure that activities comply with instructions on assigning high priority requisitions and curb abuses of the priority system; and
- ensure accurate and detailed reporting of supply response information, identify activities that exceed time standards, and correct the causes of delays.

Agency Comments

The Department of Defense provided written comments on a draft of this report. The Department generally agreed with GAO's findings and recommendations and outlined its plans for implementing the recommendations. (See app. I.)

Contents

Executive Summary		2
--------------------------	--	---

Chapter 1		8
Introduction	How the Navy Formulates Its Intermediate Inventory Requirements	8
	Objectives, Scope, and Methodology	9

Chapter 2		12
Some Intermediate Inventories Could Be Eliminated	Some Intermediate Inventories Duplicate Wholesale Inventories	12
	Some Intermediate Inventories Duplicate Consumer Inventories	14
	Intermediate Inventory Requirements Not Correctly Calculated	15
	Conclusions	17
	Recommendations	17
	Agency Comments	17

Chapter 3		20
Improvements Needed in Assigning Priorities and Handling Requisitions	Priority System Abuses Should Be Eliminated	20
	Systems for Processing Paperwork Should Be Improved	22
	Complete and Reliable Response Time Data Needed	23
	Conclusions	24
	Recommendations	25
	Agency Comments	25

Appendix	Appendix I: Comments From the Assistant Secretary of Defense (Acquisition and Logistics)	26
-----------------	--	----

Tables	Table 1.1: Intermediate Inventories of Consumables at the End of Fiscal Year 1985	9
	Table 2.1: Consumable Material Supporting Naval Air Rework Facilities	14
	Table 2.2: Comparison of Requisition Objective to Average Funded Investment Level	16
	Table 3.1: High Priority Requisitions by Shipyards	21
	Table 3.2: High-Priority Requisitions by Supply Centers	21

Table 3.3: Navy-Wide High Priority Requisitions, 1983-1985

21

Abbreviations

DOD Department of Defense
GAO General Accounting Office
NAVSUP Naval Supply Systems Command

Introduction

The Navy maintains three inventories: consumer, intermediate, and wholesale. Consumer inventories are held by using activities for their own use. Intermediate inventories are used to fill requisitions from selected using activities in the same geographic area, while wholesale inventories are used to fill requisitions from customers worldwide. Intermediate and wholesale inventories are located at Navy stock points, such as supply centers and depots, and on resupply ships. In the United States, intermediate inventories are located at 15 stock points, most at the 8 naval supply centers.

The Navy states that intermediate inventories are needed to reduce supply response time which, in turn, enhances the readiness of operational units and improves the efficiency of the depot maintenance facilities that overhaul ships, aircraft, and other systems. Supply response time, which the Navy calls average customer waiting time, is measured from the date a user requisitions an item to the date the user updates its inventory records to reflect receipt of material.

Navy intermediate inventories include two types of material: consumables and repairables. Consumables are individual parts or assemblies that are disposed of when replaced. Repairables are components or assemblies that are returned to the supply system to be repaired when replaced. At the end of fiscal year 1984, consumables made up 81 percent of the value of Navy intermediate inventories in the United States.

The amount of consumable material stocked in Navy intermediate inventories is based on either historical demand rates (past requests by users) or on other factors such as estimated usage rates which are determined by an inventory manager. At the end of fiscal year 1985, about 89 percent of the Navy's intermediate inventory of consumable material in the United States was demand based.

How the Navy Formulates Its Intermediate Inventory Requirements

In determining its inventory levels, the Navy considers three factors: operating level, lead time level, and safety level. The operating level is the amount needed to meet demand between successive replenishment shipments and is equal to the replenishment quantity when assets reach the reorder level. The lead time level is the amount needed to meet normal demand during the time required to fill a replenishment requisition. The safety level is the amount needed to meet fluctuations in demand and lead times. The three levels are provided for in wholesale and intermediate inventories and in some consumer inventories. For

wholesale inventories, however, the Navy uses the term “economic order quantity” instead of “operating level.”

Stock points determine requirements for intermediate inventories and report them to one of three Naval Supply Systems Command (NAVSUP) organizations for review and budget purposes. The Aviation Supply Office handles Navy requirements for aviation inventories; the Ships Parts Control Center handles ship inventories; and the Fleet Material Support Office handles inventories that are owned by the Navy but managed by the Defense Logistics Agency, the General Services Administration, or another service. The Navy does not have precise information on the value of the demand-based intermediate inventories of consumable material in the United States. However, based on information the Navy supplied, we estimate that the value was \$729 million at the end of fiscal year 1985, as shown in table 1.1.

Table 1.1: Intermediate Inventories of Consumables at the End of Fiscal Year 1985

Dollars in Millions	
Organization	On hand and on order
Aviation Supply Office	\$101.7
Ships Parts Control Center	51.4
Fleet Material Support Office	576.2
Total	\$729.3

Objectives, Scope, and Methodology

Our objectives were to evaluate the need for and management of demand-based intermediate inventories of consumable material at naval stock points in the United States. We performed this review because earlier audit work had shown that identical items often were stocked in consumer, intermediate, and wholesale inventories within the same geographic area. In addition, the wholesale and intermediate inventories of these items often were located at the same naval supply center.

Between January 1985 and May 1986, we held discussions and collected information at Department of Defense (DOD) and Navy headquarters, NAVSUP, the Aviation Supply Office, the Ships Parts Control Center, the Fleet Material Support Office, naval supply centers, and various naval activities in the Charleston, South Carolina, and Oakland, California, areas. We reviewed the Navy’s system for setting supply performance goals and for translating these goals into inventory requirements. Taking into account the Navy’s rationale for positioning stocks, we also

reviewed alternative ways to improve supply performance without increasing inventories.

To evaluate whether intermediate inventories duplicate wholesale inventories, we analyzed automated inventory records maintained by the Aviation Supply Office and the Ships Parts Control Center. We identified the stock numbers for all Navy materials containing intermediate inventories. We then obtained wholesale and intermediate inventory data for these stock numbers. To evaluate whether intermediate inventories duplicate consumer inventories, we analyzed automated inventory records maintained by the Oakland Naval Supply Center and Alameda Naval Air Rework Facility.

Essentially, we used the same reports, records, and statistics the Navy uses to manage inventories, make decisions, and determine requirements. Therefore, we accepted the demand information and formulas that are used to compute wholesale and intermediate inventory levels.

We performed our review in accordance with generally accepted government auditing standards.

Some Intermediate Inventories Could Be Eliminated

At the end of fiscal year 1985, the Navy had invested \$153.1 million in demand-based intermediate inventories of aviation and ship consumable material. According to the Navy, these intermediate inventories were needed to reduce supply response times. We found that the Navy could reduce its consumable inventories by millions of dollars without increasing response times.

- Eliminating intermediate inventories that duplicate wholesale inventories would reduce total inventories by up to \$116.9 million.
- Eliminating intermediate inventories that duplicate consumer inventories at one location where we did review work would reduce total inventories by \$3.3 million.
- Using average rather than maximum inventory levels to compute intermediate inventory requirements would reduce intermediate inventories by \$46.3 million.

These reductions may not be cumulative. For example, if the intermediate inventories that duplicate wholesale inventories are eliminated some of the duplication with consumer inventories also may be eliminated.

Some Intermediate Inventories Duplicate Wholesale Inventories

The Navy had up to \$116.9 million more inventory than needed at the end of fiscal year 1985 because it (1) counted the same demands twice, once to determine wholesale inventory levels and again to determine intermediate inventory levels, and (2) placed wholesale and intermediate inventories at the same stock points. In such cases, intermediate inventories are not needed because wholesale materials should be available to directly fill user demands.

The same demands that are used to calculate wholesale inventory levels are used to calculate intermediate inventory levels. When a using activity submits a requisition to a stock point, a demand is (1) recorded in the stock point's data base for its intermediate inventory calculations and (2) reported to the Aviation Supply Office or the Ships Parts Control Center for its wholesale inventory calculations. Similar to intermediate inventories, wholesale inventory levels include safety and lead time levels and a quantity to cover current demands. Therefore, sufficient wholesale material should be available to cover demands.

According to the Navy, intermediate inventories are needed to provide faster response times than are possible with only wholesale inventories. As of September 1985, however, about \$116.9 million of the Navy's

intermediate inventories was located at stock points already designated to receive wholesale inventories of the same items. Often both inventories were placed in the same bin. In cases where wholesale and intermediate inventories are collocated, the Navy need not have separate inventories because demands can be filled from a single inventory. Stock point and NAVSUP officials agreed that in collocation situations, intermediate material was not issued faster than wholesale material and therefore it did not shorten response time.

The following examples at the Oakland Naval Supply Center are illustrative of intermediate inventories that are collocated with wholesale inventories.

- Oakland had metallic tubes (NSN 4710-00-926-4169) costing \$27.50 each on hand in both its intermediate and wholesale inventories. In addition to lead time and operating levels, the intermediate inventory of 227 tubes included a safety level of 89 tubes, and the wholesale inventory of 1,154 tubes included a safety level of 236 tubes. The same demands were used to calculate both inventory levels. Eliminating Oakland's intermediate inventory would reduce total inventories of this item by \$6,242.
- Oakland had filter elements (NSN 1660-00-826-6115) costing \$13 each on hand in both its intermediate and wholesale inventories. The intermediate inventory of 108 elements included a safety level of 21 elements, and the wholesale inventory of 2,811 elements included a safety level of 12 elements. The same demands were used to calculate both inventory levels. Eliminating Oakland's intermediate inventory would reduce total inventories of this item by \$1,404.
- Oakland had kits for overhauling valves (NSN 2915-00-083-1317) costing \$97 each on hand in both its intermediate and wholesale inventories. The intermediate inventory of 18 kits included a safety level of 3 kits, and the wholesale inventory of 417 kits included a safety level of 10 kits. The same demands were used to calculate both inventory levels. Eliminating Oakland's intermediate inventory would reduce total inventories of this item by \$1,746.

NAVSUP officials indicated that the entire \$116.9 million may not be duplicative because wholesale material is not always located at wholesale stock points designated to receive this material. This is because wholesale inventory managers are unable to keep up with shifting demand patterns and do not reposition material from wholesale stock points that have more than needed to stock points that have less than needed. Other supply officials stated that repositioning does not take

place because the Navy wants to minimize the amount of material in transit.

If material was being repositioned, the maximum amount of additional wholesale material needed to fill demands while material was in transit from wholesale stock points with more than they needed to stock points with less than they needed would be no more than \$35.7 million. This figure is well below the \$116.9 million of intermediate inventories that are unnecessarily located at stock points that already should have the material in their wholesale inventories. Therefore, eliminating the duplicate intermediate inventories and using repositioned wholesale inventories would result in a reduction of at least \$81.2 million (\$116.9 million less \$35.7 million) in total inventory requirements.

Some Intermediate Inventories Duplicate Consumer Inventories

The Navy has millions of dollars more intermediate inventory than it needs because some intermediate inventories duplicate consumer inventories. Five of the 15 stock points that maintain intermediate inventories reserve aviation consumables for one customer—the nearest naval air rework facility. The five customers also carry aviation material in their consumer inventories—in many cases the same items that are already stocked as intermediate inventory at their associated stock points. Both inventories include operating, lead time, and safety levels. Consolidating the material into one inventory would reduce total inventories for the rework facilities and associated stock points because it would eliminate one operating level and reduce the total lead time and safety levels.

The estimated value of consumable aviation parts in the five pairs of intermediate and consumer inventories as of September 1985 is shown in table 2.1.

Table 2.1: Consumable Material Supporting Naval Air Rework Facilities

		On hand and on order	
		Intermediate	Consumer
Stock point	Rework facility		
Jacksonville	Jacksonville	\$13.0	\$8.6
Norfolk	Norfolk	30.8	64.3
Oakland	Alameda	13.0	43.4
Pensacola	Pensacola	9.8	19.0
San Diego	North Island	11.1	11.6
Total		\$77.7	\$146.9

We analyzed September 1985 inventory records for the Oakland Naval Supply Center and the Alameda Naval Air Rework Facility, which are in close proximity to each other, and found that about 48 percent of Oakland's intermediate inventory was duplicated in Alameda's consumer inventory. For example, Oakland had 96 tail fin guides (NSN-1560-00-834-3152) on hand for Alameda's use, including an operating level of 59, a lead time level of 7, and a safety level of 30. At the same time, Alameda had 168 guides on hand, including an operating level of 51, a lead time level of 45, and a safety level of 72.

Consolidating Oakland's intermediate inventories with Alameda's consumer inventories would have the following effects:

- Oakland's \$4.3 million operating level for the 48 percent duplicated in both inventories would become unnecessary because Oakland's intermediate material would not be needed to fill Alameda's requisitions. According to NAVSUP, an average of half the operating level is on hand at any given time. Thus, overall inventory would be reduced by \$2.1 million.
- Except for the added time required to receive material from a wholesale inventory rather than from an intermediate inventory, Oakland's intermediate inventory lead time level for those items would also become unnecessary. The remaining lead time, estimated at 13 days, includes time to process requisitions, post receipts, and store materials—functions that are duplicated at Alameda. We estimate that reducing this lead time would reduce overall inventory by \$1.2 million.
- The safety level would be reduced by an undetermined amount.

Because we analyzed data at only one supply center and one consuming activity, we cannot project our results to all locations. However, similar inventory reductions could be possible at the other four stock points linked to a single air rework facility.

Intermediate Inventory Requirements Not Correctly Calculated

The Navy's intermediate inventory requirements were overstated by \$46.3 million at the end of fiscal year 1985 because the Aviation Supply Office and the Ships Parts Control Center had erroneously set requirements using maximum inventory levels.

According to the Deputy Comptroller for the Navy Stock Fund, intermediate inventory requirements should be calculated using average rather than maximum inventory levels. The Fleet Material Support Office computes its intermediate inventory requirements using "average funded

investment levels,” and officials told us this method more accurately reflects actual conditions. This method assumes that on the average only 50 percent of the operating level is on hand at any one time.

Contrary to this method, the Aviation Supply Office and the Ships Parts Control Center use requisition objectives to determine their intermediate inventory requirements. The requisition objective is the maximum quantity of an item to be on hand and on order at any point in time. The requisition objective includes an item’s safety, lead time, and entire operating levels.

By using maximum inventory levels, the Aviation Supply Office and the Ships Parts Control Center overstated their intermediate inventory requirements for stock points in the United States by \$46.3 million at the end of fiscal year 1985, as shown in table 2.2.

Table 2.2: Comparison of Requisition Objective to Average Funded Investment Level

Dollars in Millions			
Navy material	Requisition objective	Average level	Difference
Aviation	\$118.5	\$89.7	\$28.8
Ship	68.9	51.4	17.5
Total	\$187.4	\$141.1	\$46.3

Although our review concentrated on intermediate inventories in the United States, we noted that maximum inventory levels were used to set Navy requirements for intermediate inventories at 3 stock points overseas. Intermediate inventory requirements at the three overseas stock points were overstated by \$8.7 million. We also noted that maximum inventory levels were used to set requirements for consumer inventories at 13 naval air stations in the United States. Supply officials stated that average levels should have been used.

In an October 1985 letter, the Deputy Comptroller for the Navy Stock Fund agreed with us that average levels should be used to calculate intermediate inventory requirements. In an April 1986 letter, NAVSUP advised the inventory control points that it would no longer budget to the requisition objective but rather would budget to the average level. NAVSUP officials told us in July 1986 that the inventory control points were in the process of developing implementing procedures.

Conclusions

The Navy can reduce intermediate inventories by millions of dollars without adversely affecting supply response times. Because the Navy bases both wholesale and intermediate inventory levels on the same demand data and also places some of the inventories at the same stock points, at least \$81.2 million of the collocated intermediate inventories is unneeded. Wholesale material should be available to fill the same demands that are filled with intermediate inventories.

Many aviation repair parts in intermediate inventories at five locations are stocked for use by a single activity that already stocks the material in its consumer inventory. The Navy could continue to achieve similar average response times with smaller total inventories by consolidating these items into one consumer inventory. At one of the five locations, Oakland Naval Supply Center, we estimate that consolidation would reduce inventories by \$3.3 million.

The Navy could further reduce intermediate inventories of aviation and ship repair parts by using average inventory levels, rather than maximum inventory levels, to compute requirements. This recalculation would reduce intermediate inventory requirements by \$46.3 million for stock points in the United States. Additional reductions could be made in overseas intermediate and U.S. consumer inventory requirements.

Recommendations

We recommend that the Secretary of the Navy direct the Commander, NAVSUP, to

- eliminate intermediate inventories that are collocated with wholesale inventories,
- eliminate intermediate inventories maintained for single customers that stock the same items in their consumer inventories, and
- base intermediate inventory requirements on average funded investment levels instead of on maximum inventory levels.

Agency Comments

DOD agreed with our recommendations and outlined the Navy's plans for implementing them. (See app. I.)

DOD stated that modernization efforts are underway to correct shortcomings in the requirements determination and distribution systems. New automated data processing systems will be phased in at the inventory control points and stock points beginning in the 1989 timeframe. The new systems will allow the Navy to develop techniques to determine

inventory levels based upon user demands and establish a single wholesale level of inventory for those activities that currently have collocated wholesale and intermediate inventories. The Navy will eliminate those intermediate inventories that are located at the same stock points as wholesale inventories and do not provide better response time to the users.

With regard to our recommendation on eliminating intermediate inventories maintained for single customers, DOD stated that the Navy has begun a study to determine the extent to which intermediate and consumer inventories are in close proximity to each other and to assess the marginal return and cost benefits of establishing and maintaining intermediate inventories. Based upon the results of this study, scheduled to be completed in September 1987, the Navy will take action to optimize intermediate inventories in support of consumer inventories and eliminate inventories for which there is inadequate marginal return.

DOD stated that the Navy is developing automated data processing changes that will base intermediate inventory requirements on average funded investment levels. The Navy also is making an assessment to determine if the changes can be made prior to phasing in the new automated data processing systems in 1989.

Improvements Needed in Assigning Priorities and Handling Requisitions

The Navy could reduce response times without additional inventories by improving supply management at consumer activities and inventory stock points. Specifically, the Navy needs to (1) exert more control over the requisition priority system and (2) improve systems for reviewing and processing requisitions and for posting receipt of materials.

Additionally, the Navy needs to improve the information it collects on response times. This information should be sufficiently complete and detailed to allow managers to identify activities that are unnecessarily slowing response times and to monitor the effects of efforts to minimize response times.

Priority System Abuses Should Be Eliminated

Priority system abuses slow requisition response time by distracting inventory managers and delaying procurement actions. The prevalence of priority abuse in the Navy was documented by our 1983 report (GAO/PLRD-83-89, July 1, 1983) and more recently by a DOD study group. Navy statistics show that activities continue to exceed guidelines for high-priority requisitions.

DOD's Uniform Material Movement and Issue Priority System establishes priorities ranging from 1 to 15. High-priority requisitions, priorities 1 through 8, are supposed to be filled faster than routine requisitions, priorities 9 through 15. Each activity is authorized to use specific priorities based on the relative importance of its mission. Activities assign one of their authorized priorities to each requisition according to the item's relative importance to their mission. Abuses of the priority system occur when activities assign a higher than appropriate priority to a requisition.

In 1983 we reported that Navy shipyards were abusing the issue priority system. While some corrective action was taken, Navy statistics, as shown in table 3.1, indicate that in July 1985 all eight naval shipyards exceeded a Navy guideline (OPNAV Instruction 4614.1F) that no more than 50 percent of shipyard requisitions should be categorized as high priority. We did not assess the reasonableness of the Navy guideline.

Chapter 3
Improvements Needed in Assigning Priorities
and Handling Requisitions

Table 3.1: High Priority Requisitions by Shipyards

Shipyard	Percentage assigned a high priority		
	Guideline	August 1983	July 1985
Norfolk	50	72.4	79.6
Portsmouth	50	51.1	75.0
Long Beach	50	81.2	65.4
Mare Island	50	79.3	63.8
Pearl Harbor	50	(a)	57.9
Philadelphia	50	71.7	56.6
Charleston	50	66.5	55.5
Puget Sound	50	(a)	54.5

^aDid not exceed guideline

Statistics show that other activities also exceeded Navy guidelines. For example, six naval supply centers exceeded the maximum 15-percent high-priority guideline set for them, as shown in table 3.2.

Table 3.2: High-Priority Requisitions by Supply Centers

Shipyard	Percentage assigned a high priority		
	Guideline	August 1983	July 1985
Charleston ^a	15	44.4	53.1
Jacksonville	15	(b)	25.8
Oakland	15	51.9	24.0
Puget Sound ^a	15	21.8	23.9
Norfolk	15	21.1	22.1
Pearl Harbor	15	(b)	19.4

^aAccording to the Navy, these centers are authorized exceptions to the guidelines for fleet ballistic missile program replenishment requisitions.

^bDid not exceed guideline

Finally, table 3.3 shows that the percentage of high-priority requisitions for all Navy issues has not decreased since 1983.

Table 3.3: Navy-Wide High Priority Requisitions, 1983-1985

Period	Percent high priority
July 1983	47.4
July 1984	50.1
July 1985	48.3

Officials from DOD's Logistics Systems Analysis Office told us they had recently documented several cases of priority system abuse. The officials told us that, for example, one shipyard had inappropriately

upgraded all requisitions for a ship overhaul to priority 3, about 60 days before the ship was to arrive. Generally, shipyards are not authorized to use priority 3, but when they are, they should use it only to clear an existing work stoppage. Our audit also revealed several other examples of inappropriate priorities assigned to requisitions.

Excessive use of high-priority requisitions slows the response time for other requisitions because the high-priority requisitions often require manual processing at an inventory control point. Six supervisors of inventory managers at the Ships Parts Control Center and the Aviation Supply Office told us that abuses generally slowed response times by causing their staffs to spend time expediting requisitions instead of managing material.

Furthermore, a procurement official told us that abuse of the priority system causes contracting personnel to make unnecessary "spot buys" (ad hoc procurements of small quantities) to fill requisitions. As noted in our 1983 report, when high-priority requisitions cannot otherwise be filled, inventory control points often make spot buys to assure timely delivery of material. Spot buys can cost more than regular procurements because of smaller purchase quantities.

Systems for Processing Paperwork Should Be Improved

Navy activities consistently exceed DOD-prescribed limits on the time it should take to get their requisitions to a stock point (requisition submission time) and to post their receipts to inventory records when their requisitions are filled (receipt take up time). Days spent processing paperwork add to the time required to obtain and record supplies and hence add millions of dollars to lead time inventory levels.

DOD has a 2-day standard for routine requisition submission time. At the Charleston and Mare Island Naval Shipyards, the average requisition submission times were 6 and 12 days, respectively. At the Alameda Naval Air Rework Facility, the average requisition submission time was 6 days.

At the Oakland Naval Supply Center, we found that requisition submission time averaged about 7 days in September 1985. The average amount of on-order material that Oakland added to its intermediate inventory for each day of lead time was \$398,000 at the end of fiscal year 1985. Had Oakland met the 2-day standard, lead time levels could

have been reduced by about \$2 million. A limited examination of requisitions from the Puget Sound Naval Supply Center suggests potential reductions of \$1.6 million.

Requisition submission times likely could be shortened if stock points implemented an automated system similar to the one the San Diego Naval Supply Center used. According to supply officials, San Diego uses an automated requisition review system, developed by a contractor, and reviews and submits its requisitions in 1 day.

When material is received, DOD expects inventory records to be updated within 3 days. A 1985 Fleet Material Support Office report states that updating often does not take place until 7 to 10 days after material is received. Our limited examination of receipts at the Charleston Shore Intermediate Maintenance Activity in August 1985 indicates the posting time there was 6 to 12 days. During the same month, receipt posting times at the Alameda Naval Air Rework Facility ranged from 2 to 18 days and averaged 6 days.

At the using activities we visited, the reasons for slow submission and posting times varied. The Supply Department's Administrative Assistant at the Charleston Naval Shipyard attributed delays to poor organization and lack of management attention. However, he stated that Charleston had recently revised its paperwork flow and believes the shipyard is now meeting DOD's time standards. The Material Department Director at the Alameda Naval Air Rework Facility said a lack of training contributed to delays at Alameda. For example, production shops submitted many requisitions that had to be returned because they were prepared improperly.

Complete and Reliable Response Time Data Needed

The Navy needs reliable and complete information on actual supply response times to (1) determine whether readiness objectives are being achieved, (2) measure the impact of efforts to improve response times, and (3) identify activities that do not meet DOD goals. The Navy has implemented a Requisition Response Time Management Information System and other systems to collect response time data, but

- response time data is only collected for up to 53 percent of all issues of Navy material to shore activities, and
- the data that is collected is not detailed enough to identify activities that are causing unnecessary delays.

NAVSUP Publication 437 requires that Navy activities report the date inventory records are updated to reflect receipt of material. The Navy Requisition Response Time Management Information System uses this information to determine how fast requisitions are filled. However, we found that activities did not report the information for many requisitions. For example, supply department officials at the Charleston and Mare Island Naval Shipyards told us that they do not report to the inventory control points the date they post their inventory records. An April 1985 Fleet Material Support Office report indicates that Navy systems only collect receipt information on up to 53 percent of all issues of Navy material to shore activities.

Not only is data not collected for many requisitions, but the information that is collected does not provide managers with information that shows where response time delays are occurring. For example, according to the Fleet Material Support Office report, the date materials were actually received was not provided for about 90 percent of all cases for one group of customers. As a result, the Navy does not have the information necessary to identify which activities exceed DOD's 3-day limit for posting receipt of material to inventory records.

In May 1985, we asked the Navy to provide response times for intermediate and wholesale inventories over the last several years. In June 1985, the Navy responded, "The limitations of existing data processing systems do not provide the data needed to respond to your question." According to the Navy, however, overall the data is sufficiently accurate for use in assessing policy alternatives and performing other comparative analyses.

Conclusions

Supply management weaknesses at consumer activities and inventory stock points slow down the flow of supplies from intermediate and wholesale inventories. We do not know how fast requisitions could be processed if these weaknesses were eliminated; however, faster response times would improve readiness and result in smaller inventories. Activities and stock points slow requisition response times by (1) abusing the priority system and (2) not processing paperwork promptly. The Navy needs to exercise more control over the requisition priority system by better educating requisitioners on the assignment of priorities and re-emphasizing supervisory review responsibilities at all levels.

The Navy also needs accurate response time information to identify impediments to achieving supply performance goals and evaluate the

impact of actions taken to improve response time. Currently, the Navy does not know how fast its requisitions are being filled because response time information is not collected in sufficient detail and on all requisitions. Without detailed and comprehensive information, the Navy cannot identify activities that unnecessarily delay response times.

Recommendations

We recommend that the Secretary of the Navy direct the Commander, NAVSUP, to

- take steps to ensure that consumer activities and inventory stock points comply with Navy instructions on assigning high priority requisitions, determine the reasons why some activities substantially exceed percentage guidelines set by the Navy, and take appropriate actions to curb abuses of the issue priority system; and
- require Navy activities to comply with the NAVSUP Publication 437 requirement that they report the date material receipts are posted to inventory records and the date they actually receive the material. Using this data, as well as other requisition processing data, identify activities that exceed DOD time standards, ascertain the reasons for delays, and correct the causes of these delays.

Agency Comments

DOD agreed that actions must be taken to curb abuses of the issue priority system. DOD stated that, while our recommendation is directed only at the Navy, DOD is currently reviewing the Logistics Systems Analysis Office's recommendations for improving priority discipline throughout DOD. Based upon this review, by June 1987 DOD plans to issue revised policy and procedural guidance to strengthen management controls and bring about greater priority discipline.

With regard to response time information, DOD stated that NAVSUP will collect the data necessary to identify activities that exceed time standards and will take action to correct the causes of the delays at activities over which NAVSUP has jurisdiction. NAVSUP also will identify other problem activities to other systems commands and will request that they take appropriate action. These actions are estimated to be completed in December 1987.

Comments From the Assistant Secretary of Defense (Acquisition and Logistics)



ACQUISITION AND
LOGISTICS
L/SD

ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-8000

30 SEP 1988

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

Dear Mr. Conahan:

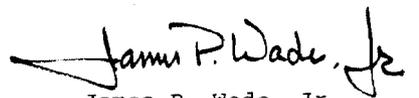
This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "NAVY SUPPLY: Intermediate Levels Can Be Reduced," dated August 8, 1986 (GAO Code 394076, OSD Case 7093).

The Department agrees with the GAO's findings that some items are being stocked unnecessarily at the Navy's intermediate supply level. The Navy is in the process of developing changes to its supply system to correct the problems that the GAO cited.

The Department also agrees that the priority requisitioning system needs better management controls and discipline. Policy and procedural guidance will be changed to improve the Navy system, as well as those of the other Services.

The DoD appreciates the opportunity to comment on the draft report.

Sincerely,


James P. Wade, Jr.

Enclosure

Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)

GAO DRAFT REPORT - DATED AUGUST 8, 1986
(GAO CODE 394076) - OSD CASE 7093

"NAVY SUPPLY: INTERMEDIATE INVENTORIES CAN BE REDUCED"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

FINDING A: Some Intermediate Inventories Duplicate Wholesale Inventories. The GAO reported that the Navy has three types of inventories of consumable materials in the United States: (1) consumer inventories to fill demands from one activity; (2) intermediate inventories to fill requisitions from several activities in a geographic area; and (3) wholesale inventories to fill requisitions worldwide. The GAO found, however, that in some cases the Navy (1) counted the same demands twice, once to determine wholesale inventory levels and again to determine intermediate inventory levels, and (2) placed the wholesale and intermediate inventories at the same stock points. The GAO reported that, according to the Navy, intermediate inventories are needed to provide faster response times than are possible with only wholesale inventories. The GAO found, however, that as of September 1985, about \$116.9 million of the intermediate inventories were located at stock points already designated to receive wholesale inventories of the same items. While noting that some of this inventory was necessary to meet repositioning requirements, the GAO estimated that at least \$81.2 million of the two inventories are duplicative. The GAO concluded that in such cases, intermediate inventories are not needed because wholesale materials should be available to directly fill user demands. (pp. 2-3 and 15-18, GAO Draft Report)

DOD RESPONSE: Partially concur. The Department allows the Services to stock an intermediate level of supply according to the provisions of DoD Directive 4140.44, "Supply Management of the Intermediate and Consumer Levels," DoD Instruction 4140.45, "Standard Stockage Policy for Consumable Secondary Items at the Intermediate and Consumer Levels of Inventory," and DoD Instruction 4140.46, "Standard Stockage Policy for Repairable Secondary Items at the Intermediate and Consumer Levels of Inventory." These policy Issuances do not specifically preclude stockage of the same item at both the wholesale and intermediate supply levels. The Department agrees, however, that counting the same demand twice in determining wholesale and intermediate levels results in overstating stockage quantities.

The purpose of an intermediate stock level is to provide better support to the user than could be provided using only a wholesale level for resupply. The Navy's intermediate levels are based on a computation that assumes that resupply time from the

low on pp. 2, 12, 13, and 14.

**Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)**

intermediate level is faster than that from the wholesale level. This would not actually occur, however, if the intermediate level is at the same stock point as the wholesale level.

Although the GAO audit addressed only consumable items, the Department realizes that these problems may extend to reparable items as well. The Navy plans to correct system shortcomings with modernization efforts currently underway. See the Department's response to Recommendation 1.

The GAO draft report does not contain enough information for the Department to either agree or disagree with the estimated value of the duplication.

FINDING B: Some Intermediate Inventories Duplicate Consumer Inventories. The GAO found that five of the 15 stock points that maintain intermediate inventories reserve aviation consumables for one customer--the nearest Naval Air Rework Facility. The GAO further found, however, that the five customers also carry aviation material in their own inventories, which in many cases are the same items stocked at the intermediate inventory points. The GAO analyzed the inventory records of the Oakland Naval Supply Center intermediate inventory and the customer inventory at the Alameda Naval Air Rework Facility and found that about 48 percent of Oakland's inventory was duplicated by Alameda. The GAO concluded that consolidating the material into one inventory would reduce total inventories by eliminating one of the operating levels and reduce total lead time and safety levels, which in this case would reduce total inventories by \$3.3 million. (pp. 4 and 18-20, GAO Draft Report)

Now on pp. 2, 3, 14, and 15.

DOD RESPONSE: Partially concur. Demand-supported items may be stocked at both the intermediate and consumer levels of supply, but according to the directive and instructions cited in the DoD response to Finding A, there must be a balance between supply performance and economy. In most cases, intermediate inventories that fill requisitions from only one activity are not cost-effective and do not satisfy this requirement. The Department agrees that, in most of these cases, material should be consolidated into one inventory, either at the consumable or at the intermediate level. An intermediate level in support of one or more consumer inventories on ships or other deployable units may be desirable, however, to provide rapid response time given scheduling constraints.

The Department cannot assess the accuracy of the GAO's estimated value of the duplicative inventory. A multi-echelon supply computation should be used to ensure that the optimal mix of material is stocked at each echelon of supply in order to achieve weapon system support goals. Eliminating the intermediate level of inventory may not equate to savings equal to the value of that inventory, however, because consumer level inventories may increase when intermediate levels are eliminated in order to provide adequate support to the user.

Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)

FINDING C: Intermediate Inventory Requirements Not Correctly Calculated. The GAO reported that, according to the Deputy Comptroller for the Navy Stock Fund, intermediate inventory requirements should be calculated based on average rather than maximum inventory levels. The GAO found, however, that contrary to this method, both the Aviation Supply Office and the Ships Parts Control Center use requisition objectives to determine inventory requirements, reflecting maximum rather than average levels. As a result, the GAO concluded that the Aviation Supply Office and Ships Parts Control Center overstated their intermediate inventory requirements for CONUS stock points by \$46.3 million at the end of FY 1985, with a possible additional overstatement at stock points overseas. The GAO noted that as of July 1986, the Naval Supply Systems Command (NAVSUP) was in the process of developing procedures to reflect average inventory levels rather than requisition objectives. (pp. 4-5 and 21-22, GAO Draft Report)

DOD RESPONSE: Concur. The Navy is developing automated data processing changes that will reflect the correction. See the Department's response to Recommendation 3.

FINDING D: Priority System Abuses. The GAO reported that abuses of the requisition system occur when activities assign a higher than appropriate priority to their requisitions. According to the GAO, such priority system abuses slow the requisition response time on other requisitions by distracting inventory managers. In addition, the GAO reported such abuses possibly increase procurement costs by necessitating separate procurement actions. The GAO noted that the prevalence of priority abuse in the Navy was documented previously in a 1983 GAO report (GAO/PLRD-83-89) (OSD Case 6234). Although recognizing that some corrective action was taken, the GAO found that as of July 1985, Navy statistics indicated that shipyards and supply centers continued to abuse the issue priority system. The GAO noted that the DoD's Logistics Systems Analysis Office (LSAO) also recently documented cases of priority system abuse, citing as an example the inappropriate upgrading by a shipyard of all requisitions for a ship overhaul. The GAO concluded that the Navy needs to exert more control over the requisition priority system. (pp. 5 and 25-28, GAO Draft Report)

DOD RESPONSE: Concur. The Department agrees that abuses of the requisition system occur when activities assign a higher than appropriate priority to their requisitions. It is also true that unnecessary resources are expended and that excessively high priorities tend to dilute the capability of the logistics system to respond to legitimate urgent requirements. The principal purpose of the Uniform Materiel Movement and Issue Priority System (UMMIPS) is to serve as a resource rationing tool so that materiel and services are provided to a customer commensurate with that activity's relative importance within the DoD and the urgency of need of the specific requirement. The Department recognized that a problem existed and tasked the LSAO to conduct

Now on pp. 3, 15, and 16.

Now on pp. 3, 20, 21, and 22.

Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)

a comprehensive study of UMMIPS to determine if the system is satisfying its intended purpose and to make recommendations for improvement as appropriate. The findings in the GAO effort were also identified by the LSAO study which covered all of DoD. See the DoD Response to Recommendation 4.

FINDING E: Better Requisition Processing and Information Needed. The GAO found that Navy activities consistently exceed the DoD-prescribed limits on the time to get requisitions to a stock point and post receipts to inventory records. The GAO pointed out that such delays in paperwork processing add to the time required to obtain and record supplies and thus add millions of dollars to lead time inventory levels. The GAO also found that requisition response time data being collected, as required by NAVSUP Publication 437, does not include up to 53 percent of all issues of Navy materiel to shore activities, and is not detailed enough to identify the activities causing unnecessary delays. The GAO pointed out that the Navy believes the overall data is sufficiently accurate for assessing policy alternatives. The GAO concluded, however, that more reliable and complete information on actual response times is needed to determine whether readiness objectives are being met, to evaluate efforts to improve response times, and to identify activities that do not meet DoD goals. Without such information, the GAO further concluded, the Navy cannot identify the activities that unnecessarily delay response times. (pp. 5-6 and 29-33, GAO Draft Report)

Now on pp. 3, 4, 22, 23, and 24.

DOD RESPONSE: Concur. The Navy recognizes that delays in requisition response time are occurring and that more data are needed to adequately assess the problem. The examples cited in the audit, however, are consumer level inventories, which are not calculated based upon lead times. Release 11, dated 1 October 1983, of the Shipyard Material Management System, provided Navy shipyards with the capability to generate a D6S material receipt acknowledgment card as prescribed in NAVSUP Publication 437. In June 1985, NAVSUP directed all activities to report receipt processing time in accordance with NAVSUP Publication 437. This information provides some of the requisition response time data needed to evaluate actual response times and to identify activities that unnecessarily delay response times. Not all activities are required to report the date inventory records are updated to reflect receipt of materials, however. NAVSUP will collect any additional data needed to evaluate actual response times and instigate corrective actions. See the DoD response to Recommendation 5.

RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of the Navy direct the Commander, NAVSUP to eliminate intermediate inventories that are collocated with wholesale inventories. (p. 24, GAO Draft Report)

Now on p. 17.

DOD RESPONSE: Concur. Inefficiencies in current systems, which were designed over twenty years ago, have not allowed the Navy to model the requirements determination and distribution systems in the most efficient manner. As a consequence, the Navy has found it necessary to establish intermediate inventories to sustain and improve support.

Given the Navy's current Automated Data Processing (ADP) capabilities, fleet readiness would deteriorate if these levels were completely eliminated without remodeling the requirements determination and distribution systems. The Navy will correct the system shortcomings through ADP modernization efforts currently underway. Resystemization of the Inventory Control Points (ICPs) and the Stock Point ADP Replacement Project will allow the Navy to develop techniques to determine levels based upon user demands and establish a single wholesale level of inventory for those activities that currently have collocated wholesale and intermediate levels. The Navy will eliminate those intermediate consumable and reparable stock levels that are located at the same stock point as wholesale level stocks and which do not provide better response time to the user than could be provided with wholesale level stocks alone. This will also improve the efficiency of administrative processing as well as eliminate unnecessary inventory. The new systems will be phased in beginning in the 1989 timeframe at ICPs and Naval Supply Centers.

RECOMMENDATION 2: The GAO recommended that the Secretary of the Navy direct the Commander, NAVSUP to eliminate intermediate inventories maintained for single customers that stock the same items in their consumer inventories. (p. 24, GAO Draft Report)

Now on p. 17.

DOD RESPONSE: Concur. The Navy has begun a study to determine the extent that inventories have been established that are similar in nature or that are the same line items at two or more shore retail levels (one of which is an intermediate level activity) in close proximity to each other, and will assess the marginal return and cost benefits of establishing and maintaining intermediate levels of inventory. The estimated completion date of the study is September 30, 1987. Based upon the results of this study, action will be taken to optimize intermediate inventories in support of consumer shore inventories, including elimination of inventories for which there is inadequate marginal return.

Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)

Now on p. 17.

RECOMMENDATION 3: The GAO recommended that the Secretary of the Navy direct the Commander, NAVSUP to base intermediate inventory requirements on average funded investment levels instead of maximum inventory levels, due to be phased in beginning in the 1989 timeframe. (p. 24, GAO Draft Report)

DOD RESPONSE: Concur. Implementation of the changes will occur when the necessary ADP changes are made. The workload impact is currently being assessed to determine if the changes can be made prior to Resystemization and Stock Point ADP Replacement Project.

Now on p. 25.

RECOMMENDATION 4: The GAO recommended that the Secretary of the Navy direct the Commander, NAVSUP to take steps to ensure that consumer activities and inventory stock points comply with Navy instructions on assigning high priority requisitions, determine the reasons why some activities substantially exceed percentage guidelines set by the Navy, and take appropriate actions to curb abuses of the issue priority system. (p. 33, GAO Draft Report)

DOD RESPONSE: Partially concur. The Department agrees that appropriate actions must be taken to curb abuses of the issue priority system. The recommendation is directed at only the Navy, however, and assumes that current Navy instructions and guidelines are adequate to curb abuses. The Department is currently reviewing the recommendations for improving priority discipline throughout the DoD contained in the LSAO study. Based upon this review and a determination of the most cost effective approach, the Department will revise the policy and procedural guidance contained in DoDI 4410.6, "Uniform Materiel Movement and Issue Priority System" to strengthen the management controls and bring about greater priority discipline. The target date for the reissuance of DoDI 4410.6 is June 1987. See the Department's response to Finding D.

Now on p. 25.

RECOMMENDATION 5: The GAO recommended that the Secretary of the Navy direct the Commander, NAVSUP to require that Navy activities comply with the NAVSUP Publication 437 requirement that they report the date material receipts are posted to inventory records and add a provision requiring that Navy activities also report the date they actually receive the material. The GAO further recommended that the Commander, NAVSUP, using this data, as well as requisition processing data, identify activities that exceed DoD time standards, ascertain the reasons for delays, and correct the causes of these delays. (pp. 33-34, GAO Draft Report).

DOD RESPONSE: Concur. Publication 437 already requires reporting of the date material is received for those activities that stock intermediate levels of supply. These activities are complying with the guidance. NAVSUP will collect the response time data necessary to identify activities that exceed total processing time standards (material receipt and posting to inventory records) and will take action to correct the causes of the delays at activities over which NAVSUP has jurisdiction.

Appendix I
Comments From the Assistant Secretary of
Defense (Acquisition and Logistics)

NAVSUP will identify other problem activities to other Systems Commands who will be requested to take appropriate action. If shipyards are causing delays, Naval Sea Systems Command will be requested to take action to correct the problem. Estimated date of completion of these actions is December 1987.

Requests for copies of GAO reports should be sent to:

U.S. General Accounting Office
Post Office Box 6015
Gaithersburg, Maryland 20877

Telephone 202-275-6241

The first five copies of each report are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use \$300

Address Correction Requested

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100