

BY THE COMPTROLLER GENERAL

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# Report To The Congress

OF THE UNITED STATES

## Opportunities Still Exist For The Army To Save Millions Annually Through Improved Retail Inventory Management

GAO reported to the Secretary of Defense in November 1975 that the Army could save tens of millions of dollars annually through improved retail inventory management. DOD agreed and advised GAO of several corrective actions that the Army would take to bring about the desired improvements. GAO found that the Army has made little progress in resolving the previously disclosed retail inventory management problems and that opportunities for savings of \$126 million exist.



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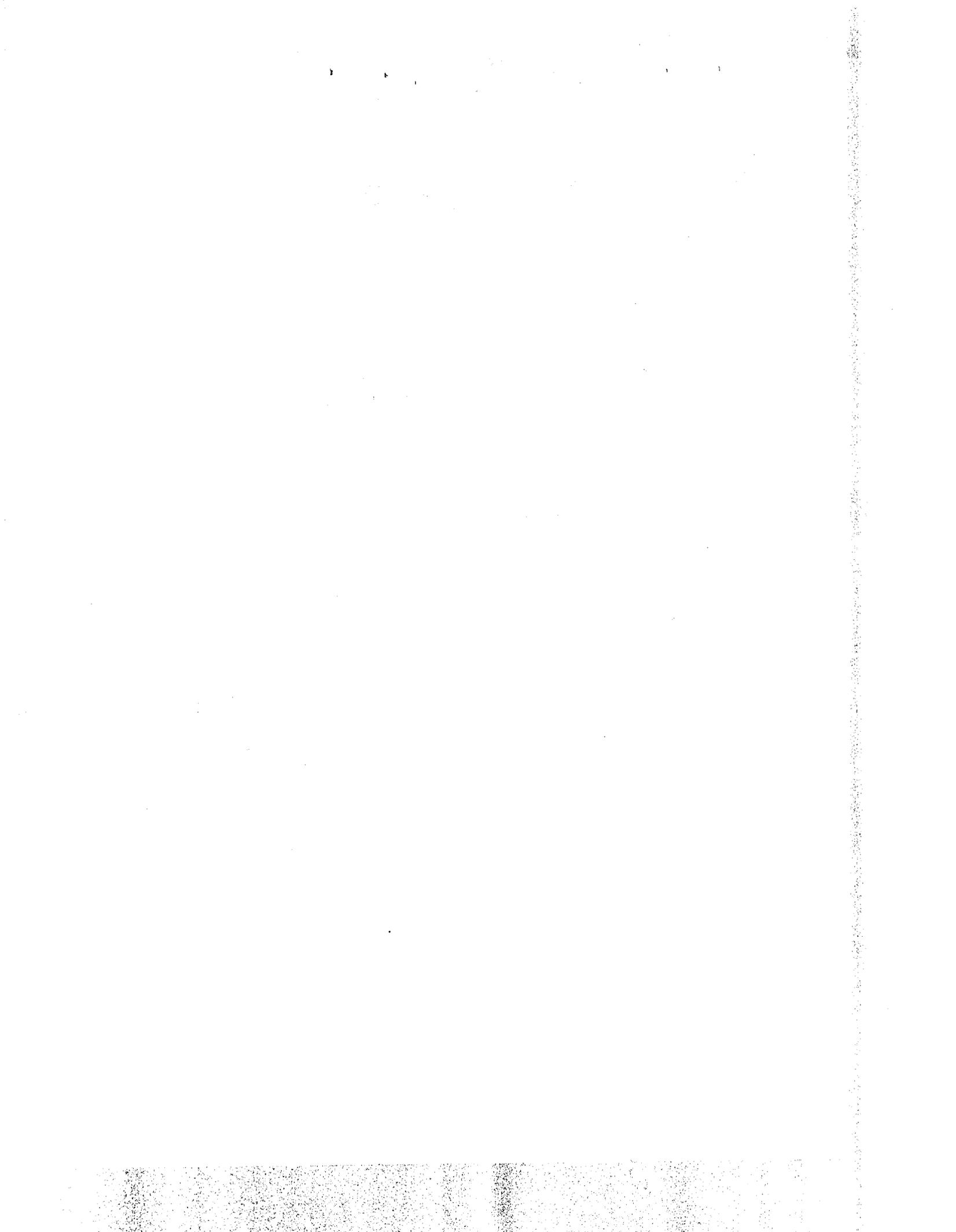
To the President of the Senate and the  
Speaker of the House of Representatives

This report shows that opportunities still exist for the Army to save millions annually through improved retail inventory management.

We conducted this review to determine the effectiveness of actions taken by the Army to correct previously identified problems and to determine whether additional opportunities for savings existed.

We are sending copies of this report to the Director, Office of Management and Budget; the Secretary of Defense; and the Secretary of the Army.

*Paul B. Atch*  
Comptroller General  
of the United States



COMPTROLLER GENERAL'S  
REPORT TO THE CONGRESS

OPPORTUNITIES STILL EXIST FOR  
THE ARMY TO SAVE MILLIONS  
ANNUALLY THROUGH IMPROVED  
RETAIL INVENTORY MANAGEMENT

D I G E S T

GAO reported to the Secretary of Defense in November 1975 that the Army could save tens of millions of dollars annually through improved management of inventories at installations and divisions (called retail inventories). The Department of Defense (DOD) agreed and advised GAO of a number of corrective actions that the Army would take to bring about the desired improvements. GAO found that the Army has made little progress in resolving the previously disclosed retail inventory management problems and that opportunities for savings of \$126 million exist. For example, GAO found that:

- Army retail supply activities continue to hold for prolonged periods tens of millions of dollars of stock excesses which are critically needed elsewhere. (See ch. 2.)
- Army installation, division, and corps supply activities annually lose visibility and thus control over the prompt recovery of tens of millions of dollars of inoperable but economically reparable items. (See ch. 3.)
- Army installation, division, and corps supply activities overstate stock requirements and inflate budget requests for procurement funds and spending authority by millions of dollars annually because of inaccuracies in ordership-time, inventory record, and materiel demand data used in requirements computations. (See ch. 4.)

These problems continue to exist because prescribed policies and procedures are either inadequate or are not being observed and because of inadequacies in computerized logistics systems.

The Army can save substantially in retail supply operations, while at the same time enhance supply readiness, by:



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### ABBREVIATIONS

DOD	Department of Defense
GAO	General Accounting Office
RO	requisitioning objectives
SIMS-X	Selected Item Management System-Expanded

- Improving policy, procedures, automated programs, and practices for controlling stock excesses. (See ch. 2.)
- Strengthening prescribed policy and procedures for controlling and accounting for the recovery of inoperable, reparable items. (See ch. 3.)
- Improving the accuracy of ordershiptime, inventory record, and materiel demand data used in determining stock requirements. (See ch. 4.)

Therefore, GAO recommends that the Secretary of Defense direct the Army to take a series of actions to correct the conditions described in this report. (See chs. 2, 3, and 4.)

A draft of this report was forwarded to the Secretary of Defense for comment. GAO did not receive an official reply in the time prescribed by law for inclusion in the report.

## CHAPTER 1

### INTRODUCTION

The Army's 40 installations, 16 combat divisions, and 5 corps support commands in the continental United States and overseas are authorized stockage of \$833 million of stock-funded and appropriation-funded secondary item inventories (repair parts, subassemblies, consumables). Army policy governing the management of these inventories is primarily set forth in Army Regulation 710-2.

In fiscal year 1980, retail supply activities were authorized \$2.1 billion of stock funds to purchase secondary item inventories. Also, \$455.3 million of funds were appropriated for procurement of secondary item inventories in fiscal year 1980.

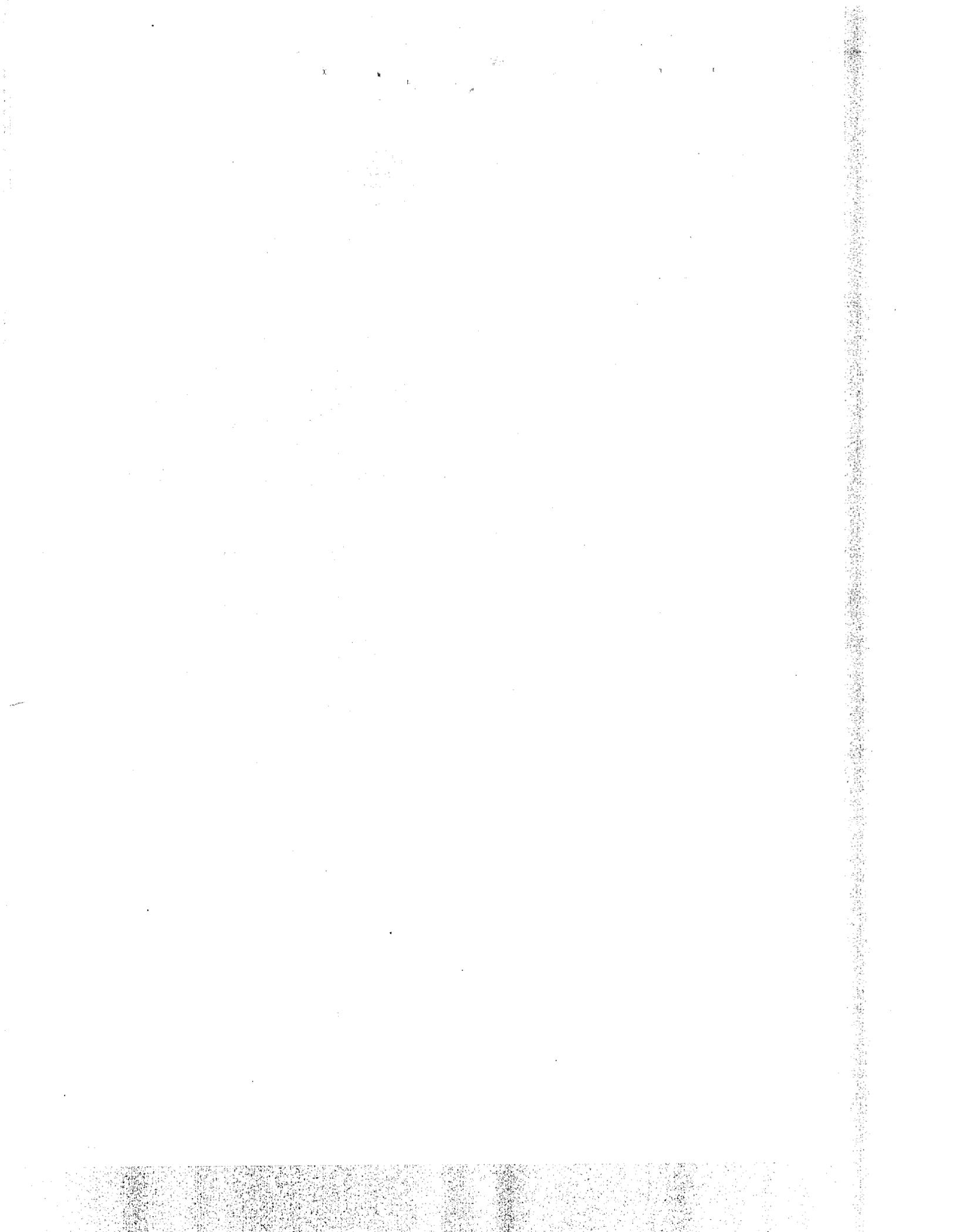
Army installation and corps supply activities use a standard automated logistics system known as SAILS (Standard Army Intermediate Level System) to manage their inventories. Army divisions are equipped with a standard automated logistics system known as DLOGS (Division Logistics System).

### OBJECTIVES, SCOPE, AND METHODOLOGY

In November 1975 we reported to the Secretary of Defense (LCD-75-205) that the Army could save tens of millions of dollars annually through improved retail inventory management. Specifically, we found that the policies, procedures, automated logistics programs, and practices in effect at Army installation and division supply activities did not (1) insure that only valid recurring demands were used in computing requirements, (2) provide for timely and accurate identification and cancellation or redistribution of stock excesses, (3) insure the prompt recovery, repair, and reissue of inoperable but economically repairable items, and (4) insure that acceptable levels of inventory record accuracy were achieved and sustained.

The Department of Defense (DOD) agreed with our findings and with the intent, but not all the specifics, of our recommendations. Also, DOD advised us of several corrective actions that the Army would take to bring about the desired improvements.

The objectives of this followup review were to determine the effectiveness of actions taken by the Army to correct previously identified problems; to decide whether additional opportunities for improvement existed, and if so, to pinpoint the specific improvements needed; and to quantify the extent



--Headquarters, 4th Infantry Division and Fort Carson,  
Fort Carson, Colorado:

Installation Supply Division

4th Infantry Division:

Division Materiel Management Center

--Headquarters, U.S. Army Support Command, Hawaii,  
Fort Shafter, Hawaii:

Installation Supply Division

--Headquarters, 25th Infantry Division, Schofield  
Barracks, Hawaii:

Division Materiel Management Center

--Headquarters, 2d Support Command, Stuttgart,  
West Germany:

800th Materiel Management Center

--Headquarters, 1st Armored Division, Ansbach,  
West Germany:

Division Materiel Management Center

We also visited the Office of the Deputy Chief of Staff, Logistics, Department of the Army; Headquarters, U.S. Army, Europe; Headquarters, VII Corps; Headquarters, U.S. Army Computer Systems Command; and the Army Logistics Center.

We conducted exit interviews with officials at all audit sites. On September 30, 1980, we sent a draft of this report to the Secretary of Defense for comment. A reply was not submitted to us in the 30-day time frame as required by Public Law 96-226.

to which economies can be achieved through improved management techniques for establishing and maintaining optimum stock levels.

We examined Army policy, procedures, and automated logistics programs relative to the management of stock-funded and appropriation-funded secondary item inventories at Army installation, division, and corps supply activities. Also, we examined the implementing procedures and practices for inventory management at 9 of the Army's 61 installation, division, and corps supply activities. We also reviewed Army audit reports dealing with retail inventory management. We chose these activities because they represent all elements of Army retail supply operations both in the continental United States and overseas.

The Army's Office of Deputy Chief of Staff for Logistics compiled the Army worldwide inventory statistics cited in chapter 2. At the nine activities audited, we made a reliability assessment of this data by (1) using our DLY260 computer data retrieval program to extract data on inventory requirements and excesses from the activities' automated logistics systems and (2) analyzing and randomly verifying inventory record accuracy as revealed by physical inventories and related stock record adjustments made by the audited activities over a 1-year period.

As pointed out in chapter 4, acceptable levels of inventory record accuracy were not being achieved or sustained at the audited activities, resulting in understated inventory balances. Accordingly, statistics on Army worldwide inventory excesses and our related projection of savings presented in chapter 2 are conservative estimates.

Our detailed fieldwork was conducted during August 1979 through July 1980 at the following locations:

--Headquarters, XVIII Airborne Corps and Fort Bragg,  
North Carolina:

Installation Supply Division

1st Corps Support Command:

2d Support Materiel Management Center

82d Airborne Division:

182d Division Materiel Management Center

In response to our recommendation, DOD stated that the Army was in the process of implementing a comprehensive world-wide reporting system for wholesale-level, intensively managed items, known as SIMS-X (Selected Item Management System - Expanded). Under this system, Army wholesale managers would periodically provide retail supply activities with updated listings of intensively managed critical items. The retail supply activities would be required to report monthly asset data for the intensively managed items in their possession. Also, wholesale managers would be provided the automated capability to use this data and refer critical requirements through command channels to retail supply activities for supply action. DOD believed that this system encompassed and exceeded our recommendation.

RETAIL SUPPLY ACTIVITIES CONTINUE TO HOLD FOR  
PROLONGED PERIODS MILLIONS OF DOLLARS OF STOCK  
EXCESSES WHICH ARE CRITICALLY NEEDED ELSEWHERE

Despite the corrective actions promised by DOD and the Army, retail supply activities continue to hold for prolonged periods tens of millions of dollars of stock excesses which are critically needed to satisfy Army-wide shortages. Since our prior review, this condition has been aggravated due to (1) unwarranted changes in Army retail stock retention policy, coupled with an ineffective redistribution system for critical items, and (2) inadequacies in retail supply activities' practices for identifying and canceling or redistributing onhand and onorder stock excesses.

Unwarranted changes in retail stock retention  
policy, coupled with an ineffective redistribution  
system for critical items, aggravated problem

In November 1975 the Army changed its retail stock retention policy, increasing from 1 to 3 years the supply of stocks that retail supply activities were authorized to retain in excess of current needs. Also, the Army deleted the requirement that retail supply activities periodically identify and report to wholesale managers for redistribution instructions, stocks of wholesale-level, intensively managed items exceeding their RO.

According to Army officials, the increase in the retail level excess stock retention limit to 3 years was to prevent retail activities from prematurely disposing of stocks which were not needed at the wholesale level. Army auditors criticized this action in August 1976 on the basis that it was done without benefit of documented analysis and substantially increased the potential for unnecessary retention of a larger volume of excess stocks at the retail level.

## CHAPTER 2

### NEED TO IMPROVE POLICY, PROCEDURES, AND PRACTICES FOR CONTROLLING STOCK EXCESSES

The Army can save an estimated \$55 million or more in procurement and repair costs for secondary item inventories (repair parts, subassemblies, consumables). This can be accomplished and supply readiness enhanced by improving policy, procedures, and practices for controlling stock excesses.

In November 1975 we reported <sup>1/</sup> to the Secretary of Defense that retail supply activities held for prolonged periods millions of dollars of stock excesses which could have been used to fill critical Army-wide shortages. This occurred because Army procedures and automated programs did not provide for timely and complete identification and cancellation or redistribution of onorder and onhand stock excesses.

At the time of our prior review, Army policy required installation retail supply activities to identify and return to wholesale supply depots repair parts and other items which exceeded their requisitioning objectives (RO) and which were needed elsewhere to fill critical Army-wide requirements. The RO then was a 3-month supply based on past usage. For other than wholesale-level, intensively managed items, Army installation supply activities were required to periodically identify and report to wholesale managers for redistribution instructions, stocks exceeding the authorized retention level--more than a 1-year supply based on past usage.

Our prior review showed that procedures and automated programs at installation supply activities provided only for identifying and reporting of stocks exceeding a 1-year retention level, regardless of whether the item was designated for intensified management at the wholesale level.

We recommended that the automated logistics systems at installations be reprogramed to identify, each month, wholesale-level, intensively managed items with onhand assets exceeding RO and that installations be required to report such onhand excesses to wholesale managers for disposition instructions.

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<sup>1/</sup>"Improved Inventory Management Could Provide Substantial Economies for the Army," (LCD-76-205, Nov. 21, 1975).

As shown above, 23.7 percent of the stocks on hand and on order exceeding RO were needed to fill critical Army-wide shortages as evidenced by their designation as wholesale-level, intensively managed items. On this basis, we estimate that \$55 million of the \$290 million of stock excesses at Army worldwide retail activities could have been used in place of new procurements to satisfy critical Army-wide shortages. The \$55 million procurement savings is computed as follows.

<u>Amount</u>	
\$202.0 million	Onhand or onorder stocks over RO in ready-for-issue condition
<u>X0.237</u>	Weighted average
<u>\$47.87 million</u>	Onhand or onorder stocks over RO in ready-for-issue condition needed to satisfy critical Army-wide shortages
\$88 million	Onhand stocks over RO in need of repair
<u>X0.237</u>	Weighted average
\$20.85 million	Onhand stocks over RO in need of repair which could be used to fill Army-wide shortages
<u>X0.55</u>	Ratio of procurement to repair costs based on FY 1979 recurring demands received by wholesale managers to wholesale procurement and repair costs
<u>+\$11.46 million</u>	Value of onhand stocks in need of repair after consideration of repair costs which could be used to fill Army-wide shortages
<u>\$59.33 million</u>	Value of onhand or onorder stocks exceeding RO at retail supply activities that could be used in place of procurement or repair to fill Army-wide shortages
<u>X0.065</u>	DOD standard ratio of packing, crating, and transportation costs to acquisition value
<u>-\$3.85 million</u>	Value of packing, crating, and transportation costs that would be incurred for returning critically needed excesses to wholesale depots
\$55.48 million	Estimated procurement cost savings

The requirement for periodically identifying and reporting excess stocks which are intensively managed at the wholesale level was rescinded because the Army believed that implementation of the worldwide retail monthly reporting system for wholesale-level, critical items would provide for adequate redistribution of these excess stocks.

We found that the increase in the retail excess stock retention limit resulted in a substantial buildup of excess stocks held for prolonged periods at retail supply activities. For example, in November 1975 Army installations in the continental United States had on hand \$25 million of stocks excess to their RO, based on a 1-year retention limit. As of September 1979 these installations had on hand \$66 million of stocks exceeding their RO, based on a 3-year retention limit. As of September 1979, on a worldwide basis, \$290 million of secondary item stocks on hand or on order at 45 installation and corps supply activities exceeded the RO of these activities.

To determine how much of the \$290 million of stock excesses was needed to fill critical Army-wide shortages but was not available because of the 3-year retention limit, we compared excess stocks on hand and on order at the five audited installation and corps supply activities with lists of items designated for intensified management at the wholesale level due to critical Army-wide shortages. The results of our analysis are presented below.

<u>Audited installation or corps supply activity</u>	<u>Value of stocks on hand/on order over RO</u>	<u>Value of stocks over RO for which critical Army-wide shortages exist</u>	<u>Dollar ratio of total stocks over RO to those needed to fill Army- wide shortages</u>  (percent)
Fort Carson	\$ 2,283,299	\$1,533,411	67.2
Fort Bragg and 1st Corps Support Command	12,790,455	1,284,116	10.0
Army Support Command Hawaii	1,930,213	846,183	43.8
2d Support Command VII Corps	<u>3,043,458</u>	<u>1,089,406</u>	<u>35.8</u>
Total	<u>\$20,047,425</u>	<u>\$4,753,116</u>	a/23.7

a/Weighted average = total value of stocks over RO to those needed to fill Army-wide shortages.

At installation and corps supply activities, procedures and programs generally provide for (1) automated weekly identification and cancellation of onorder stocks exceeding RO and (2) automated monthly identification and reporting to the appropriate wholesale manager for disposition instructions of onhand stocks exceeding authorized retention limits (3 years' supply above RO). At these activities, manual controls can be imposed to prevent automated cancellation of onorder stock excesses or reporting of onhand stock excesses. However, these controls are supposed to be applied sparingly.

The installation, corps, and division supply activities audited had \$19.5 million of onorder stocks exceeding requisitioning objectives or onhand stocks over authorized retention levels. No action was taken to cancel, report, or redistribute \$10.3 million (\$2.4 million on order), or 53 percent of these excesses because one or more of the following practices employed at the audited activities circumvented prescribed procedures.

- Manual controls were imposed to prevent automated cancellation of orders or excessing of stocks knowingly procured in excess of needs.
- No attempt was made to cancel onorder stock excesses if they were within retention levels established for onhand stocks.
- No attempt was made to promptly cancel or redistribute onorder or onhand stock excesses if they were related to items authorized for stockage.
- No attempt was made to redistribute onhand stock excesses because of low priority assigned to this task.

Our analysis showed that \$2 million of the \$10.3 million stock excesses could have been used to fill Army-wide shortages.

Manual controls imposed to prevent automated cancellation or excessing

The Fort Bragg Installation Supply Activity took no action to cancel \$923,723 of onorder excesses in September 1979 because it had imposed manual controls to prevent automated identification and cancellation of items knowingly purchased in excess of needs. According to Fort Bragg officials, they had received authority to spend these funds, and they spent them before the end of the year rather than leave their fiscal year stock fund allocation unexpended. Our analysis showed that \$338,285 of these onorder excesses were related to critical Army-wide shortages.

SIMS-X, the Army's worldwide monthly retail reporting system, was fully implemented by June 1977. Although SIMS-X was to provide for adequate redistribution of critical stock excesses, none of the retail supply activities audited had redistributed critically needed stocks even though, at the time of our review, these activities had about \$5 million of such stock excesses. Because the reporting system was ineffective, the Army scrapped it in August 1979.

During our review, the Army began a pilot program at Fort Carson's installation supply activity to determine the desirability of reducing the retail level excess stock retention from 3 years to 1. As of July 1980 this pilot program had resulted in a 42-percent decrease in excess retention of wholesale-level, critically needed items.

In our opinion, applying a retail excess stock retention criteria to wholesale-level, critically needed items is unwarranted and uneconomical. As demonstrated previously, this policy has resulted in retail supply activities accumulating and holding for prolonged periods tens of millions of dollars of stock excesses which are needed at the wholesale level to satisfy critical Army-wide shortages. Additionally, there is little likelihood that in the absence of an excess stock retention policy, retail supply activities would prematurely dispose of excess stocks of wholesale-level, critically needed items. In this respect, retail supply activities would receive a 100-percent funding credit from wholesale managers for returns of stocks which are stock-funded. Also, the wholesale manager would pay transportation costs for returns of such stocks.

Inadequacies in retail supply practices for identifying and canceling or redistributing stock excesses

Millions of dollars of stock excesses which are critically needed to fill Army-wide shortages are being accumulated and held for prolonged periods at retail supply activities because prescribed procedures are not being followed.

At division supply activities, automated programs provide for monthly identification of onorder stocks exceeding RO (approximately a 90-day supply) and onhand stocks exceeding authorized retentions levels (twice the requisitioning objective). These activities are supposed to immediately cancel onorder stock excesses and turn in onhand stock excesses to the nearest higher retail supply level (corps or installation).

Onhand excesses not reported or redistributed  
due to low priority assigned to this task

For about 8 months, the VII Corps' 2d Support Command took no action to report and redistribute onhand stock excesses because of low priority assigned to this task. As of February 1980 the supply activity had onhand stock excesses totaling \$1.6 million. Our analysis showed that \$447,893 of these excesses were needed to fill Army-wide shortages.

During the last quarter of fiscal year 1979, the 2d Support Command experienced a zero balance condition for 39 percent of its authorized stockage items due to a funding shortfall of \$1.2 million. This condition, which adversely affected supply readiness, could have been substantially alleviated had onhand stock excesses been returned promptly to the wholesale system for funding credits. For example, the wholesale system would have provided 100-percent credit for the return of the \$447,893 of stock excesses which were needed to fill Army-wide shortages.

CONCLUSIONS AND RECOMMENDATIONS

Army retail supply activities continue to accumulate and hold for prolonged periods tens of millions of dollars of stock excesses which are critically needed to fill Army-wide shortages. Since our 1975 review, unwarranted and uneconomical changes in Army retail stock retention policy and yearend purchases of unneeded items have further aggravated the problem.

In our opinion, the Army can save millions of dollars annually and increase supply readiness by improving its policies, procedures, and practices for controlling stock excesses. Therefore, we recommend that the Secretary of Defense direct the Army to take the following corrective actions:

- Reprogram installation and corps logistics systems to provide for automated monthly identification, reporting, and return of stocks of wholesale-level, intensively managed items exceeding RO.
- Strengthen policy and controls to prevent Army installations from purchasing nonstocked items for which there are no funded orders from supported units.
- Have major commands reemphasize to their installation, corps, and division supply activities the importance of adhering to the prescribed policy and procedures for

We found that, at the end of the year, the Fort Bragg installation spent at least \$3.1 million for nonstocked items for which there were no orders from supported units. As of February 1980, \$731,551 of these stocks were still on hand in excess of needs. Again, no action had been initiated to report or redistribute these stocks because of manual controls imposed on the automated excessing program.

Although manual controls were imposed to prevent automated excessing of the \$3.1 million of stocks purchased at the end of the year, we found that some stocks were being manually excessed or earmarked for disposal. For example, Fort Bragg spent \$392,100 for parachutes in anticipation of future sales to the 82d Airborne Division. However, Fort Bragg ordered the wrong type of parachutes and the division could not use them. Additionally, parachutes of another type were purchased for \$22,326 and were returned to the wholesale system in January 1980 for a fund credit of \$27,572.

Due to time constraints, we did not attempt to determine the total stock funds obligated at the end of the year by Army installation supply activities on unneeded items specifically to exhaust their stock fund allocations. However, we believe it was considerable. For example, during the final weeks of fiscal year 1980, the installations received authority to obligate \$27 million.

Onorder excesses not promptly canceled if  
within retention limits or if related to items  
authorized for stockage

The 1st Armored Division's retail supply activity took no action to cancel onorder stock excesses totaling \$600,727 as of February 1980 because of a longstanding practice of not canceling onorder excesses if they were within the retention limit established for onhand stocks. Our analysis showed that \$299,490 of the onorder stock excesses were for items needed to fill Army-wide shortages. In 1978 Army auditors criticized the 1st Armored Division for this practice.

Also, the 82d Airborne Division's supply activity was identifying onorder excesses monthly. However, no immediate action was taken pending a quarterly review board's decision as to what items to add to or delete from authorized stockage. As a result of this practice, it was too late to attempt cancellation of \$258,007 of \$310,179 of onorder excesses which were identified in September 1979. Our analysis showed that \$154,610 of the onorder excesses not canceled were needed to fill Army-wide shortages.

### CHAPTER 3

#### IMPROVEMENTS NEEDED TO INSURE

#### PROMPT TURN-IN, REPAIR, AND REISSUE

#### OF INOPERATIVE, ECONOMICALLY REPARABLE ITEMS

Army installation, division, and corps supply activities annually lose visibility and control over the prompt recovery of tens of millions of dollars of inoperable but economically reparable items which are needed to satisfy Army-wide requirements. This condition exists because of the lack of an effective system at retail supply activities for monitoring and controlling the timely turn-ins of inoperable, reparable items due-in from supported units in exchange for replacement issues.

As a result, inoperable, reparable items which are needed to satisfy Army-wide requirements are being held in excess of needs, erroneously disposed of, or otherwise unaccounted for. Also, Army units are taking advantage of the lack of controls to obtain unauthorized stocks.

In our November 1975 report, we found the same conditions mentioned above. We recommended that automated logistics systems at installation and division supply activities be modified to identify replacement issues of economically reparable parts, as well as the age and quantity of inoperable parts due in from using units in exchange for these replacements. We also recommended that actions be taken to insure that installation and division supply activities adhere to the prescribed procedures for accounting and controlling the timely turn-in of economically reparable parts.

We further recommended that

- the Army require a report of survey for inoperable parts valued at \$200 or more which were not turned in within 1 month of the replacement issue date and
- installation and division supply activities be required to independently validate using units' certifications that reparable items could not be turned in at the time of replacement but would be turned in later.

In response to our recommendations, DOD said that Army policy had been strengthened by requiring unit commanders to certify what actions are being taken regarding the disposition of inoperable, reparable items which are not available

periodically identifying and canceling or redistributing onhand and onorder stock excesses. Also, have major commands and the Army Audit Agency monitor compliance with prescribed policy and procedures as part of their periodic supply reviews.

be maintained in a suspense file by the issuing supply activity and used as a followup to insure that the inoperable, reparable items are promptly turned in.

The ordering unit is supposed to return its recoverable item control card to the installation or corps supply activity within 30 days with disposition action annotated: inoperative items turned in, citing turn-in document number; turn-ins not required because ordered items were for initial allowances not for replacements; or inoperative items lost and a report of survey started to relieve accountability for the loss. If the ordering units do not return the control cards within 30 days, installation and corps supply activities are supposed to make a written followup inquiry requesting disposition action.

Division supply activities have established a manual system for monitoring and controlling issues and turn-ins of recoverable items. At these activities, a listing of stocked recoverable items is maintained and screened against items ordered by supported units. If the item ordered is a recoverable item, evidence of turn-in (citation of turn-in document number on reverse side of requisition) or written certification of other disposition action by the unit commander must be furnished with the requisition. If so, an advice code will be entered on the requisition so that it will be automatically processed by the division logistics system. If not, the requisition will be rejected. A manual due-in suspense file is maintained of certifications that inoperable, reparable items will be turned in as soon as the replacements are received and installed. This due-in suspense file is supposed to be monitored to insure prompt recovery of inoperable, reparable items for which a later turn-in has been certified.

PRESCRIBED POLICY AND IMPLEMENTING PROCEDURES  
ARE EITHER INADEQUATE OR ARE NOT BEING FOLLOWED

Army studies show that during the past 3 years accountability has been lost for \$65 million of inoperable, reparable items which retail supply activities should have returned to wholesale depots for repair and reissue. These studies conclude that, as a result, the Army has absorbed significant losses in procurement funds and that this condition has contributed to deterioration in supply availability with an adverse impact on readiness.

Our review showed that the above condition exists because of the continuing lack of an effective system at Army installation, corps, and division supply activities for monitoring and controlling the timely turn-ins of inoperable, reparable items from supported units in exchange for replacement issues.

for turn-in at the time replacements are issued. DOD also stated that the Army had begun a vigorous program to publicize the revised policy and to improve implementation.

#### PREScribed POLICY AND IMPLEMENTING PROCEDURES

To hold inventory investments to a minimum and to preclude critical shortages of needed parts, the Army supply system relies on the prompt recovery, repair, and reuse of economically reparable parts.

At the installation, corps, and division levels, recoverable items are stocked and issued by two sources. The larger number of these items are stocked and issued by installations' and corps' general supply support units and by divisions' direct supply support units. A fewer number of recoverable items are stocked and issued by direct exchange activities at each of these three levels. For a recoverable item to be stocked and issued by a direct exchange activity, it must be reparable at that activity and have sufficient repetitive demands to warrant continuous stockage.

Before issuing economically reparable items, supply units are required to either obtain evidence from their customers that the inoperable, reparable items being replaced have been turned in (identification of turn-in document number) or written certifications from unit commanders that (1) the inoperable items will be turned in when the replacement items are received and installed, (2) turn-ins are not required because the requested items are to satisfy initial allowances rather than as replacements, or (3) required turn-ins are being accounted for as a loss for which a report of survey has been prepared to relieve accountability.

Installation, corps, and division supply activities are required to maintain a due-in suspense file to account for outstanding inoperable, reparable items owed by their customers in exchange for previously issued replacement parts. At direct exchange activities the requirements are more stringent. Generally, no exceptions are allowed at these activities to the simultaneous turn-in of an inoperable reparable item at the time a replacement is issued.

The standard automated logistics system at installation and corps supply activities automatically identifies issues of recoverable items and produces a dual set of cards, known as recoverable item control cards, for each issue. These cards identify the recoverable item, quantity issued, date of issue, and the unit to which the issue was made. One of the control cards is supposed to be sent to the requesting unit at the time the ordered item is delivered. The other card is to

Army-wide requirements were either held in excess of needs at a local level, erroneously disposed of, or were otherwise unaccounted for. Also, units frequently took advantage of the lack of controls to obtain unauthorized stocks. Examples of these conditions at some of the activities reviewed are discussed below.

#### 82d Airborne Division supply activity

In July 1977 this activity established a manual suspense system for monitoring turn-ins of inoperable, repairable items. Our review of the system showed that as of June 28, 1979, 816 inoperable, repairable items valued at \$913,197 were due-in from supported units in exchange for replacement issues. The outstanding turn-ins ranged in age from 8 to 554 days; the average was 271 days. The division's procedures and practices did not provide for followup to determine the disposition of outstanding, inoperable, repairable items due-in.

At our request, the 82d Airborne Division supply activity attempted to reconcile the outstanding turn-ins of the 816 inoperable items with the responsible units. However, this proved to be a futile exercise because of the age of the outstanding turn-ins. Consequently, the activity wrote off all 816 inoperable items valued at \$913,197. Our analysis disclosed that 96 of the 816 outstanding inoperable parts written off were designated as wholesale-level, intensively managed items for which there were critical Army-wide shortages. For example, the activity had 25 rotary wing blades valued at \$7,041 each due-in from 106 to 553 days from supported units in exchange for previously issued replacements. One of the blades had been due-in since December 22, 1977. These blades appeared on two separate lists of items designated for intensive management at the wholesale level because of critical shortages.

We tested the adequacy of controls exercised by the activity over recoverable item issues for an ongoing period of 5 days. During this period, 95 recoverable item issues were made. For seven of these issues the requesting unit submitted written certifications that the items were needed to fill authorized increases in allowances, not as replacements, and therefore, no turn-ins of inoperable items were necessary. We found, however, that in six of the seven cases, the certifications were invalid because no increases in allowances had been authorized.

For 66 of the 95 recoverable item issues, the requesting units cited turn-in document numbers as evidence that the inoperable items had been turned in before the replacement issue. We tested the validity of the turn-in certifications

None of the nine installation, corps, and division supply activities audited had adequate procedures or controls to insure the timely recovery of reparable items owed by supported units. This condition occurred because prescribed policy and implementing procedures for monitoring and controlling turn-ins of inoperable items either were not adequate or were being circumvented.

Of the four divisions audited, none were monitoring their manual suspense files of outstanding inoperable items due in, and therefore, were not taking followup action to obtain timely recovery. The procedures followed by these divisions generally provided that turn-ins of inoperable items should be made within 1 week after the replacement issue. However, neither the Army's prescribed policy nor the activities' implementing procedures provided for periodic followups to insure that later turn-in certifications were honored by supported units. One of the divisions audited did not require its customers to provide a turn-in document or certification of later turn-in before issuing replacements.

At the corps level, neither of the two supply activities reviewed was maintaining the required suspense file, and therefore, was not following up within 30 days as required by its procedures to insure that turn-ins were made or that other disposition action was accounted for.

Also, at the installation level, two of the three supply activities reviewed were not monitoring turn-ins of reparable items nor were they following up within 30 days to determine disposition action on outstanding items. The other installation reviewed did maintain a suspense file of outstanding turn-ins of inoperable, reparable items but frequently failed to follow up within 30 days to determine disposition action.

Our review also disclosed that direct exchange activities at all three levels were not following the requirement that they obtain turn-ins of inoperable, reparable items at the time replacement issues were made. These activities were issuing recoverable items on an offline basis and not recording the issue until the inoperable item was turned in. The direct exchange activities also were not following up to obtain timely recovery of the inoperable items outstanding.

Moreover, the prescribed policy and procedures followed by all nine of the retail supply activities audited did not provide for verification of validity of turn-in documents or certifications of later turn-ins or other disposition action.

As a result of these inadequacies in policy, procedures, and practices, inoperable, reparable items needed to fill

As a result of our review, the 25th Infantry Division supply activity has revised its procedures for monitoring and controlling the turn-ins of inoperable, repairable items. The revised procedures require turn-ins of inoperable items concurrent with replacement issues for all items except aviation items. Turn-ins of aviation items are required within 2 days after the replacement issues. Also, the revised procedures require the activity to follow up with responsible units every 2 weeks to account for outstanding turn-ins of inoperable items.

#### 1st Armored Division supply activity

This activity, similar to other division supply activities, has a preedit program for screening requisitions to preclude a recoverable item being requisitioned without providing the proper turn-in documentation or certification of reason for not turning in an inoperable item. If proper documentation is furnished with a requisition for a recoverable item, a document control clerk inserts an advice code on the requisition so that it can be automatically processed.

Our test of all requisitions received by this activity for an ongoing period of 3 days showed that 236 requisitions were for recoverable items. We found that the division's automated system rejected 160 of these requisitions because the activity did not include an advice code showing that proof of turn-in of an inoperable item or other certification had been furnished. Instead of returning these requisitions to the responsible units for resubmission with proper turn-in documentation or other certification, the document control clerk arbitrarily assigned the required advice code to these requisitions and reentered them for automated processing.

The clerk also assigned the required advice code to 15 other requisitions for recoverable items for which evidence of an inoperable item turn-in or other certification was not furnished. We were informed that these requisitions were from a maintenance unit that was excluded from the preedit check program. In this respect, we learned that the activity's preedit program allows 14 maintenance units to requisition recoverable items without providing turn-in documentation or other certification.

After we brought these matters to activity management's attention, the preedit program was revised so that all requisitions for recoverable items would be rejected if not accompanied by the proper turn-in documentation or other certification.

for 23 items and found that in 3 cases no turns-in had been made.

### 25th Infantry Division supply activity

In May 1979 this activity established implementing procedures and a manual suspense system for identifying and controlling outstanding turn-ins of inoperable, reparable items. Division procedures stipulate that requesting units turn in recoverable items reparable at the depot level within 2 days after receiving replacements and that the units turn in all other inoperable items within 5 days. However, the procedures do not require periodic followups to insure that inoperable items are turned in within these time frames.

We found that the activity has not followed up with supported units to account for outstanding turn-ins of inoperable items. As of March 10, 1980, division documents showed that 1,763 inoperable, reparable items valued at an estimated \$779,246 were due-in from units in exchange for replacement issues. The outstanding turn-ins ranged from 28 to 436 days and had an average of 176 days. Our analysis showed that approximately 14 percent of the outstanding inoperable items due-in, valued at approximately \$116,478, were needed to fill critical Army-wide shortages.

As a result of our interest, the supply activity attempted to account for the large backlog of outstanding turn-ins of inoperable items. After 1-1/2 months of concerted followup with responsible units, the activity still was not able to account for the disposition of 655 inoperable items.

On a limited basis, we tested the validity of responses given by the responsible units to account for the disposition of the outstanding inoperable items due-in. In several instances, we found that the units erroneously cited the same turn-in document number for more than one replacement issue. For example, a turn-in document for a quantity of one item was applied against three requisitions with a total quantity of four.

We also made limited examinations into the disposition action taken on outstanding turn-ins of inoperable items for which the responsible units had not yet responded to follow-up inquiries by the division supply activity. We found six instances in which a unit had erroneously disposed of outstanding inoperable items. These items could have been repaired at a nearby installation activity and reissued to fill local requirements.

inoperable item turn-ins from receiving any further issues of identical items.

### Fort Bragg Installation Supply Activity

Fort Bragg's suspense file of outstanding inoperable, reparable items due-in showed that, as of July 17, 1979, 154 inoperable item turn-ins valued at \$142,015 were outstanding for periods ranging up to 2-1/2 years with an average age of 3 months. The activity frequently did not follow up in 30 days as required to determine the disposition of outstanding inoperable item turn-ins.

Our analysis disclosed that Fort Bragg had unfilled high-priority orders for 94 of these items which could not be filled because of an out-of-stock condition. Additionally, critical Army-wide shortages existed for 20 of these items. We found several instances where outstanding inoperable item turn-ins could have been repaired locally in a matter of hours or days and reissued to fill priority requirements. For example, on June 7, 1979, the Signal Maintenance Company, 5th Special Forces Group, ordered and was issued 10 modulators/demodulators costing \$4,010. The ordered modulators were needed as replacements for modulators which had become inoperable through use. The Signal Maintenance Company did not turn in the inoperable modulators which the installation maintenance activity could have repaired in about 6 hours. On June 9, 1979, the same unit submitted a high-priority order for 10 more modulators. This order was passed to the wholesale system because installation supply was out of stock.

We tested the adequacy of controls exercised by Fort Bragg over recoverable item issues for an ongoing period of 5 days. During this period, 57 recoverable item issues were made. In 22 cases, the customers certified that the ordered recoverable items were needed to fill initial allowances not as replacements, and therefore, turn-ins of inoperable items were not required. We tested the validity of eight of these certifications and found that seven were invalid. In the seven cases, the customers were not authorized an initial allowance of these items.

In 22 other cases, the customers cited a turn-in document number as evidence that the related inoperable items had been turned in. Our tests of the validity of the proof of turn-in for 13 issues revealed that, in one case, no turn-in was made. In 10 other instances, the customers did not return the recoverable item control cards citing proof of turn-in or other certification within 30 days, as required. Also, the installation supply activity did not follow up as required to determine why the cards were not returned in a 30-day period.

1st Armored Division Direct Exchange  
Activity (common items)

At direct exchange activities, recoverable items are both stocked and repaired. These activities are not supposed to issue recoverable items without first obtaining turn-ins of related inoperable items. This activity was circumventing this requirement by issuing recoverable items offline and by not recording the issue until the related inoperable item was turned in.

Locally established procedures allowed for 5-day temporary loans of recoverable items to units pending turn-ins of the related inoperable items. Units receiving these temporary loans signed a hand receipt document which was held in suspense pending turn-in of the inoperable item. This activity was supposed to monitor its suspense file and periodically check on outstanding turn-ins by followup letters.

As of August 1, 1979, the activity's suspense file showed 34 outstanding turn-ins ranging in age from 6 to 211 days. The activity had not submitted any followup letters on outstanding turn-ins for the past 8 months. Within 10 days of our inquiries, all 34 recoverable items were turned in, including 6 that had been outstanding over 6 months. Of the six recoverable items, two valued at \$395 and \$561 each were in operable condition and were needed to satisfy critical Army-wide shortages as evidenced by their designation as wholesale-level, intensively managed items.

1st Armored Division Direct Exchange Activity (major assemblies)

This activity also circumvented the requirement that supported units turn in inoperable items before being issued a replacement. The activity was issuing recoverable items offline on a 7-day temporary loan basis and not recording issues until the inoperable items were turned in. The activity maintained a suspense file of temporary loans but did not follow up to obtain recovery of outstanding turn-ins.

As of August 15, 1979, the suspense file showed 76 outstanding turn-ins of major inoperable items with an estimated value of \$456,000 ranging in age from 8 to 100 days. Of the 76 outstanding inoperable items due in, 11 were needed to satisfy critical Army-wide shortages. Within a week following our inquiries, 46 of the outstanding inoperable items were turned in.

As a result of our findings, the activity began a more stringent policy which will prevent customers with overdue,

## CHAPTER 4

### NEED FOR THE USE OF MORE ACCURATE

#### DATA IN DETERMINING REQUIREMENTS

Army installation, division, and corps supply activities overrequisition millions of dollars worth of materiel annually. Additionally, these activities' annual requests for procurement funds and spending authority are inflated by millions. The Army can save an estimated \$71 million, while at the same time enhance supply effectiveness, by improving the accuracy of ordershiptime, inventory record, and materiel demand data used in determining retail level requirements.

#### NEED FOR THE USE OF MORE ACCURATE ORDERSHIPTIME DATA

The Army can save an estimated \$9 million by improving the accuracy of ordershiptime data used in determining retail level requirements.

Ordershiptime is the interval between ordering and receiving stocks and is a major factor in the formula for computing retail item stockage requirements. The use of too much ordershiptime in the requirement formula results in excessive inventory investment and unnecessarily ties up warehouse space and funds.

Army regulations require that average actual ordershiptime days for routine, nonbackordered replenishment receipts be used to compute item stockage requirements. The regulations also specify that, where feasible, activities will use automated capability to accumulate and update average ordershiptime days for each item authorized for stockage. Activities that do not have automated capability are permitted to use a 6-month moving average actual ordershiptime which is published monthly by the Army's Logistics Control Activity. All supply activities receive this monthly publication which shows their individual average actual ordershiptime experience by class of items (i.e., class IX--repair parts) for both the past month and the past 6 months. Activities may also manually compute an average ordershiptime for each authorized stockage item. The computation is to be based on the ordershiptime of the six most recent replenishment receipts for each item.

#### Impact of inaccurate ordershiptime on division requirements

The automated logistics system used by divisions does not have the capability to accumulate and update average

## CONCLUSIONS AND RECOMMENDATIONS

The lack of an effective system at Army retail supply activities for monitoring and controlling the prompt recovery of inoperable parts is a continuing problem. Prescribed Army-wide policy and implementing procedures and controls are either inadequate or are not being followed. As a result, the Army annually loses accountability and control over the recovery, repair, and reissue of recoverable items which are needed to fill Army-wide shortages.

We recommend, therefore, that the Secretary of Defense direct the Army to take the following corrective actions:

- Strengthen prescribed policy and procedures for controlling and accounting for the recovery of inoperable, reparable items by having supply activities (1) follow up every 15 days to account for the disposition of outstanding turn-ins, (2) suspend further issues of recoverable items to customers with outstanding turn-ins of identical inoperable items over 30 days old, and (3) require retail supply activities to validate, on a sampling basis, validity of turn-in documents cited and certifications for later turn-ins or other disposition.
- Have major commands establish a feedback system for monitoring the performance of retail supply activities in controlling and accounting for the prompt turn-ins of inoperable, recoverable items.

by using the 40-day ordershiptime factor, the 82d Airborne Division inflated its requirements by 11 days. As a result, dollar requirements for repair parts were overstated by 18.3 percent, or \$529,823.

On the basis of the above test results, we estimated that Army divisions unnecessarily spend \$6 million annually for repair parts because they use inflated ordershiptime days to compute requirements. Mathematically:

$$\begin{aligned} & \$63 \text{ million } \underline{a/} \div 2 \underline{b/} = \$31.5 \text{ million } \times 19.5 \text{ percent } \underline{c/} \\ & = \$6 \text{ million overstated requirements.} \end{aligned}$$

a/Repair parts stockage objective for 16 Army divisions.

b/Based on our test results showing that half of the divisions audited used inflated ordershiptime.

c/Average inflated dollar stockage objectives due to overstated ordershiptime revealed by our tests.

Impact of inaccurate ordershiptime on installation and corps requirements

The automated logistics system used by installation and corps supply activities automatically accumulates and updates average ordershiptime days for each item authorized for stockage. The system also automatically uses updated average ordershiptime days to compute item requirements.

In addition, the system automatically produces a quarterly asset stratification report showing current and future asset dollar requirements and deficiencies to requirements for (1) items authorized for stockage on the basis of repetitive demand and (2) nondemand supported items, such as mission-essential mobilization stocks and initial provisioning stocks. This quarterly report categorizes dollar requirements for authorized stockage items into three categories--operating stocks, safety level stocks, and ordershiptime stocks. The quarterly report is submitted to the appropriate Army commands and is used by the commands in developing the Army's annual budget requests for procurement funds and spending authority.

The stratification reports dated March 31, 1979, were used in preparing the Army's fiscal year 1981 requests for procurement funds and spending authority. Our review disclosed that the reports overstated ordershiptime stock requirements by \$3 million. This occurred because of faulty computer program logic which erroneously computed ordershiptime stock requirements for nonreplenishable, one-time item needs for mobilization and provisioning stocks. The Army recognized this computer program problem, and in December

actual ordershiptime days. Therefore, under Army policy divisions may use their latest average actual 6-month ordershiptime days for routine, nonbackordered requisitions as reflected in the Logistics Control Activity's monthly unit ordershiptime report, or manually compute an average ordershiptime.

At two of the four divisions audited, ordershiptime days used in computing requirements approximated their latest 6-month average actual ordershiptime experience for routine, nonbackordered requisitions. However, the other two divisions were computing ordershiptime using arbitrary, outdated ordershiptime days. As a result, their requirements were overstated by \$1,263,757.

For example, as of February 1980 the 1st Armored Division had a stockage objective of \$3,669,669 for repair parts. The division had been arbitrarily using a 50-day ordershiptime factor for the past 2-1/2 years to compute requirements. According to the February 1980 monthly unit ordershiptime report, the latest 6-month average actual ordershiptime experienced by the 1st Armored Division for repair parts was 34 days. Thus, the 50-day ordershiptime used to compute requirements was inflated by 16 days. This resulted in an overstatement of dollar requirements for repair parts of 20 percent, or \$733,934.

In September 1978 Army auditors criticized the 1st Armored Division for using the 50-day ordershiptime to compute requirements. The Army auditors noted that the division based the 50-day ordershiptime on its own computations which incorrectly included backordered or delayed requisitions and requisitions for nonstocked items. The auditors pointed out that the division could have reduced its stockage objective for repair parts by \$548,000 had it used its latest 6-month average ordershiptime for common and aircraft repair parts which was 30 and 35 days, respectively.

In another instance, the 82d Airborne Division supply activity had a stockage objective for repair parts valued at \$2,895,209 as of September 1979. This activity had been arbitrarily using a 40-day ordershiptime factor in computing repair parts requirements for the past 2 years. Our review disclosed that the activity based the 40-day ordershiptime factor on its own manual computations which, contrary to Army policy, included backordered requisitions and requisitions for nonstocked items.

According to the September 1979 monthly unit ordershiptime report, this activity's latest 6-month average ordershiptime was 29 days for routine replenishments of repair part stock. We calculated an average ordershiptime of approximately 29 days for 2,041 routine replenishment receipts received by this activity during an ongoing 1-month period. Thus,

NEED FOR THE USE OF MORE  
ACCURATE INVENTORY RECORD DATA

Accurate inventory records are essential to the maintenance of effective and economical supply support. Inaccurate records can result in unnecessary expenditure of funds and accumulation of excess stocks, failure to use available stocks to expeditiously fill requisitions for urgently needed material, and failure to reorder necessary stocks when appropriate.

According to Army policy, an acceptable level of inventory records accuracy for installation, corps, and division stocks is achieved when (1) no more than 10 percent of the item stock records contain errors valued at more than \$25 and (2) the ratio of gross dollar physical inventory adjustments to stock records is not more than 20 percent of the book value of the physically inventoried stocks. To achieve and maintain these levels of accuracy, Army policy requires a physical inventory of all installation, corps, and division stocks twice yearly and adjustment of stock record balances to agree with the physical count quantities. Loss and gain adjustments of \$500 or more are to be sufficiently investigated to permit identification and correction of recurring errors.

None of the supply activities audited were achieving or sustaining acceptable levels of inventory records accuracy. Physical inventories taken by these activities and by us indicate that, at any given time, tens of millions of unrecorded stocks on hand at installations, corps, and divisions cannot be located when needed to satisfy requirements of supported units. For example, during a 1-year period, \$10.7 million of previously unrecorded stocks were identified at the seven activities audited. Conversely, significant amounts of recorded stocks are not physically on hand. For example, \$8.5 million of recorded stocks could not be located.

The above situation exists because the audited installations and corps were not taking required physical inventories. Longstanding computer program problems hindered (1) identification of items to be inventoried, (2) reconciliation of physical counts to stock record balances, and (3) processing of physical inventory adjustments to stock records. Additionally, prescribed causative research of major inventory record errors either is not being accomplished or is not being done in sufficient depth to permit identification and correction of recurring errors. Army policy does not require installations, divisions, and corps to report physical inventory results to higher commands. Therefore, these commands were not aware of and were not evaluating this important aspect

1979, submitted a system change request to correct the problem to the Army Computer System Command Support Group. However, as of June 1980, the problem had not been corrected.

Also, we found that the installation and corps logistics system is programed, contrary to Army policy, to consider backordered or delayed requisitions in establishing the ordershiptime factor used to compute requirements. The automated system is programed to establish an item's ordershiptime by averaging the actual ordershiptime for the last six receipts, regardless of whether the receipts were routine or had been in a backorder status. The impact of this condition--overstated requirements--is offset somewhat by the constraint of a standard maximum ordershiptime factor for all items (i.e., 60 days, 90 days) loaded into the computer program. The installation and corps logistics system is programed to use the lower of average actual ordershiptime or the maximum ordershiptime constraint in computing requirements.

We were unable to measure the dollar impact of overstated requirements, however, we believe it could be considerable. For example, we found that the Army Support Command, Hawaii, had loaded a maximum 90-day ordershiptime constraint into its automated logistics system. This was done even though, as of February 1980, the activity's latest 6-month average ordershiptime for routine replenishment receipts was 52 days.

Our limited tests showed that the Army Support Command used 90-day maximum ordershiptime to compute requirements for several items because the average actual ordershiptime for the last six receipts for items exceeded 90 days. Our analysis revealed that the last six receipts included considerably delayed or backordered requisitions. Had these backordered requisitions been excluded from the averaging process, ordershiptime days of not more than 60 days would have been used in computing requirements. For example, on June 2, 1980, the maximum 90-day ordershiptime constraint was used in computing a stockage objective of 40 units of an item (stock No. 2520-00-176-3331). Then, the average actual ordershiptime for the last six replenishment receipts of this item was 98.1 days. Included in this average was a requisition that had been backordered for about 6-1/2 months. Had this requisition been excluded from the averaging process, the item's average ordershiptime for routine replenishments would be about 60 days. The use of 60 days ordershiptime, rather than 90 days, in computing requirements would have resulted in a 12.5-percent or 5-unit reduction in the stockage objective.

records for 17, or 53 percent, of the items still contained major discrepancies. Our count identified \$224,062 of unrecorded stocks for 13 items and losses of \$11,649 for 4 items.

At the time of our count, the stock record for one of the items inventoried showed a negative balance of 392 units. Our count disclosed 43 units of this item (parts kit with a unit price of \$9.09) in stock. The item's stock record had been adjusted to show eight units on hand as a result of the corps' earlier physical inventory. Subsequently, 400 units of this item were located and issued offline from the warehouse to fill a high-priority, walk-through requisition. The post posting of this transaction resulted in a negative balance of 392 units.

#### 1st Corps Support Command

Before August 1979, the corps had not taken prescribed physical inventories for the past 3 years due to computer program problems. After correction of these problems, a complete physical inventory taken during August through September 1979 revealed an overall stock record error rate of 31 percent and a gross dollar adjustment ratio of 94 percent, compared to standards of 10 percent and 20 percent, respectively. As a result of this inventory, previously unrecorded assets valued at \$2.9 million were identified and reflected on stock records.

Also, as a result of this inventory, gain or loss adjustments of \$500 or more were made for 1,165 items. Corps supply personnel estimated that it would take 10 full-time people over 4 months to complete the required causative research. At the completion of our review, causative research had been performed on 546 of these item adjustments. The corps was unable to identify the causes for 66 percent of the item adjustments researched.

In November 1979 we physically inventoried 46 items which the corps had inventoried 2 months earlier. We found that 11, or 24 percent, of these items continued to have major stock record discrepancies. For six items, we found unrecorded assets valued at \$22,231, of which \$10,436 were needed to satisfy unfilled orders from units. Our research of the major item stock record discrepancies, revealed by our physical inventory, showed that they were attributable primarily to three problems: failure to record receipts, inaccurate prior physical counts, and keypunch errors in recording transactions.

of inventory management. Details of our findings at some of the audited activities follow.

#### 4th Infantry Division

During a 1-year period ended March 31, 1980, the 4th Infantry took two complete, wall-to-wall physical inventories of repair parts with a recorded value of \$2.4 million. The inventories disclosed an overall stock record error rate of 31 percent and a gross dollar adjustment ratio of 135 percent, as compared to standards of 10 and 20 percent, respectively. As a result of the inventories, \$3.5 million of unrecorded stocks were located. Although the inventories revealed almost 1,000 items with loss or gain adjustments of \$500 or more, the division did not perform causative research on the items to identify and correct causes of recurring errors as prescribed by Army policy.

We physically inventoried 26 items which the division had inventoried 2 weeks earlier and found that 19 percent of the items still had major stock record discrepancies. One of the items on which we found a major discrepancy was intensively managed at the wholesale level due to its criticality. As a result of our inventory taken 2 weeks earlier and another taken 4 months earlier, the division made major loss adjustments to this item's stock record. At the time of our physical count, the stock record for this item showed a stockage objective of 65 units with 6 units on hand, 202 units due-in, and 152 units due-out. We found 448 units in stock. Three weeks after our count, the stock record for this item showed 494 units in stock and no due-ins or due-outs. Therefore, the division had 429 units valued at \$27,923.61 on hand excess to the stockage objective due to prior inaccurate physical inventory counts.

#### 2d Support Command

Before September 1979 the corps had not taken prescribed physical inventories for approximately 1-1/2 years due to the previously mentioned computer program problems. After these problems were corrected, the corps made a complete physical inventory of repair parts and related stock record adjustments during September 1979 through January 1980. This physical inventory of items with a recorded value of \$7 million resulted in stock record adjustments of \$3.2 million, or a ratio of 45 percent, compared to a 20-percent standard. As a result of this inventory, \$2.7 million of unrecorded stocks were identified and picked up on the stock records.

In February 1980 we physically inventoried 32 items previously inventoried by the corps. We found that the stock

causing the stock record to reflect a negative or minus balance. The affected item's stock record will continue to show a negative balance until net receipt or physical inventory gain transactions equal to the minus balance are processed. The following example demonstrates the cause and adverse impact of negative balances on inventory record accuracy.

As a result of a cyclical inventory taken in March 1979, a gain adjustment valued at \$67,731 was posted to an item's stock record. After the gain adjustment was posted, the stock record reflected a zero balance. This occurred because just before the gain was posted, the stock record showed a negative balance valued at \$67,731. This negative balance was caused by erroneous reversal of a previously recorded receipt transaction and failure to reverse an issue transaction that did not materialize.

In June 1980 Fort Carson started a wall-to-wall physical inventory of 6,930 items with a recorded value of \$6.2 million. At the completion of our audit, Fort Carson had not completed its assessment of the overall inventory record error rate revealed by this physical inventory. However, as a result of this inventory, the activity did prepare a 1,163-page inventory discrepancy report. At least one major item discrepancy was shown on each page.

Installation supply personnel stated that causative research of major variances disclosed by the inventory would require four full-time people working over 4 months. Fort Carson does not process major inventory adjustments to stock records until it completes causative research. In our opinion, this practice is contrary to sound inventory management in that it prolongs the existence of serious inventory inaccuracies, thus increasing their potential adverse impact on supply responsiveness and economy.

#### Army Support Command, Hawaii

This installation has not taken required annual physical inventories for the past 2 years because of (1) a computer program problem involving the inability to reconcile open issue transactions that affect accuracy of physical inventory counts and (2) inaccuracies in stock locator records. A stock locator record accuracy survey taken in June 1979 revealed location discrepancies for 9,026 of the 10,500 items in store.

#### NEED FOR THE USE OF MORE ACCURATE MATERIEL DEMAND DATA

The Army can save an estimated \$62 million annually in procurement costs and funding of retail stock requirements.

## 82d Airborne Division

A wall-to-wall physical inventory of 7,729 items completed by this activity in June 1979 revealed an overall stock record error rate of 12 percent. As a result of this inventory, gain or loss adjustments of \$500 or more were made to stock records for 95 items. However, the activity sufficiently researched only 15 of the adjustments to determine the causes. The contributory factors identified for the 15 item adjustments included inaccurate prior physical inventory counts, failure to record receipts, and keypunch errors. Another indication of the activity's insufficient causative research was revealed by the relatively substantial number of the same items with major variances disclosed by two or more successive physical inventories. In this respect, 32 of the 95 items with major variances were found to have had similar variances as a result of prior physical inventories taken in July and December 1978.

In October and November 1979, we physically inventoried 50 items with a recorded value of \$48,232 which had been inventoried by the activity in June 1979. We found that 17, or 34 percent, of the items had major stock record discrepancies. Our causative analysis revealed that the primary underlying causes were failure to post receipts and inaccurate prior physical inventory counts.

### Fort Carson Installation Supply Activity

Before June 1980 Fort Carson had not taken a complete physical inventory in 2 years. During this 2-year period, the activity's physical inventory efforts were concentrated on cyclical physical inventories (inventories of designated items) or special physical inventories (unscheduled inventories taken when suspected differences exist between recorded stocks and stocks physically on hand).

Our evaluation of the results of the activity's cyclical and special physical inventories revealed two problems which adversely affected inventory record accuracy and supply responsiveness. Fort Carson's standard automated logistics system will not make adjustments to stock records to reflect inventory gains or losses resulting from special physical inventories. Accordingly, these adjustments must be made manually. Supply personnel were not aware of this condition until February 1980 and before that time had not adjusted stock records to reflect inventory gains and losses resulting from special physical inventories.

Also, the automated system will credit stock records for quantities issued offline that exceed recorded balances, thus

Mathematically:

\$ 32,472	Amount of orders assigned invalid recurring demands by four divisions in a 1-week period
x 52	No. of weeks in a year
\$1,688,544	Annual invalid recurring demands
÷ 4	No. of divisions tested
\$ 422,136	Average division annual invalid recurring demands
x 16	No. of divisions
\$6,754,176	Annual invalid recurring demands placed on wholesale level by 16 divisions
x 0.55	Ratio of annual recurring demands to procurement and repair costs at wholesale level
<u>\$3,714,796</u>	Overstated procurement and repair requirements

Customer returns of serviceable materiel not used to reduce prior recurring demands

Customers return a substantial amount of serviceable materiel for which recurring demands were previously recorded due to such reasons as changing mission or requirements, overordering or ordering by mistake, and locating previously unrecorded assets. Failure to eliminate previously recorded recurring demands for materiel returned by customers results in overstated requirement forecasts and unnecessary obligation of funds.

The Army recognizes that historical rates of customer returns of serviceable materiel are an important factor in forecasting requirements. Accordingly, Army policy and automated programs in effect at the wholesale supply level provide that historical rates of serviceable item returns will be used to reduce past item recurring demand rates in forecasting requirements.

The standard automated logistics system used by wholesale inventory managers accumulates historical data on past recurring demands and serviceable returns for stocked items and computes average monthly demand and serviceable return rates. The serviceable return rate is automatically applied to reduce

This can be accomplished by improving retail stock policy and automated programs in effect at installation, division, and corps supply activities to (1) eliminate the automated capability of the division logistics system to erroneously convert nonrecurring materiel demands to recurring and (2) provide for consideration of serviceable materiel returns in computing requirements.

Erroneous conversion of nonrecurring demands to recurring by division logistics system is a continuing problem

In our November 1975 report, we concluded that Army retail stock requirements were overstated by millions of dollars annually because of the inclusion of invalid past recurring demands in requirements computation data bases. We pointed out that the standard automated logistics system used by divisions contributed to this problem by erroneously changing the demand codes on materiel orders submitted by supported units from nonrecurring demands to recurring demands. This occurred when high-priority orders from supported units could not be filled at the division supply level and were passed to the installation or wholesale level. DOD agreed with our finding and recommendation and advised us that the Army was taking corrective action to remove the division's automated capability to erroneously change these demand codes.

To determine whether this division logistics problem had been corrected as indicated by DOD, we tested all non-recurring demand-coded, high-priority orders received by the four divisions included in our review during an ongoing period of 1 week. During this period, the four divisions received from supported units 625 nonrecurring demand-coded, high-priority orders for materiel valued at \$158,353. The divisions did not have sufficient stocks to fill 238, or 38 percent, of the orders valued at \$32,472. Accordingly, these orders were passed to the wholesale level for supply action. In so doing, the division logistics system reformatted the orders and erroneously converted the nonrecurring demand codes to recurring. Army logistics system personnel from the Office of the Deputy Chief of Staff (Logistics) confirmed that this division logistics problem had not been corrected because it was not considered a system degradation problem.

On the basis of our test results, we estimate that Army wholesale managers are overstating their procurement and repair requirements by \$3.7 million annually due to this division logistics problem.

units. Conversely, significant amounts of recorded stocks are not physically on hand. Further, the Army division logistics system continues to erroneously change nonrecurring materiel demands to recurring despite the Army's promise 5 years ago to correct the problem. Finally, customer returns of serviceable materiel to installations and corps are not considered in forecasting stock requirements.

These problems exist because of longstanding inadequacies in automated logistics systems and because prescribed policy and procedures are either inadequate or are not being followed. As a result, installation, corps, and division stock requirements and related requests for procurement funds and spending authority are overstated by millions of dollars annually.

The Army can save an estimated \$71 million and increase supply readiness by improving the accuracy of ordershiptime, inventory record, and materiel demand data used in determining retail level requirements.

Accordingly, we recommend that the Secretary of Defense direct the Army to take the following corrective actions:

- Reprogram the standard automated division logistics system to accumulate and periodically update average actual ordershiptime for routine, nonbackordered requisitions by individual items or classes of items. In the interim, require divisions to use, in requirements computations, their latest 6-month average actual ordershiptime for routine receipts as shown in the monthly unit ordershiptime report.
- Reprogram the standard automated installation and corps logistics system to (1) prevent erroneous inclusion of ordershiptime materiel requirements associated with nonreplenishable one-time item needs for mobilization and provisioning stocks in quarterly inventory stratification reports and (2) consider only routine, nonbackordered receipts in averaging actual item ordershiptime days.
- Revise policy to require that the maximum ordershiptime constraint programmed in installation and corps automated logistics systems be consistent with the latest 6-month average actual ordershiptime experienced for routine, nonbackordered receipts.
- Reemphasize to installation and corps supply activities the importance of strict adherence to the prescribed procedures for taking prompt action to correct item stock records reflecting negative balances.

the related demand rate. For example, if the average monthly demand rate for an item is 10 units and the serviceable return rate is 5 units, a net average monthly demand of 5 units would be used in the requirements computation.

Army retail policy and implementing automated procedures in effect at installation and corps supply activities, unlike those at the wholesale level, do not provide for consideration of customer serviceable materiel returns in requirements computations. Although the standard logistics system used by installations and corps accumulates historical data on serviceable returns and computes an average monthly return rate, the system does not consider this rate in computing stock requirements.

In fiscal year 1979, Army installations and corps supply activities received \$152 million of serviceable materiel returns of authorized stockage items. The current ratio of recurring demand dollars to requirement dollars at the installation and corps levels is 38.5 percent (\$770 million stockage objective divided by \$2 billion of annual recurring demands). On the basis of this percentage, we estimate that installation and corps supply activities are overstating requirements and related requests for procurement funds and spending authority by \$58.5 million annually as the result of not considering serviceable returns in forecasting requirements. Mathematically:

\$152 million of serviceable returns X 0.385 current  
dollar ratio of recurring demands to requirements =  
\$58.52 million.

#### CONCLUSIONS AND RECOMMENDATIONS

The use of accurate ordershiptime, inventory record, and materiel demand data in computing requirements is essential to effective and economical supply operations. Inaccuracies in this data can result in unnecessary expenditure of funds and accumulation of excess stocks, failure to use available stocks to expeditiously fill requisitions for urgently needed materiel, and failure to reorder necessary stocks when appropriate.

Several Army divisions are using arbitrarily determined and inflated ordershiptime days in computing stock requirements. Additionally, ordershiptime requirements for items which are ordered only once, such as initial provisioning stocks, are erroneously included in installation and corps annual budget requests for procurement funds and spending authority. Also, Army divisions, corps, and installations are not achieving and sustaining acceptable levels of inventory record accuracy. At any given time, tens of millions of dollars of unrecorded stocks are on hand which cannot be identified or located when needed to fill requirements of supported



- Give priority to correcting longstanding problems, inherent in the standard automated installation and corps logistics system, which hinder accomplishment of prescribed physical inventories and related attainment of acceptable levels of inventory record accuracy.
- Require installation, corps, and division supply activities to report the results of their periodic physical inventories and followup causative research of inventory errors valued at \$500 or more to their major commands. Have major commands monitor the extent to which retail supply activities are achieving desired quantitative and dollar inventory record accuracy standards. Also, have major commands monitor the effectiveness of actions taken by retail supply activities to correct underlying causes of recurring errors revealed by causative research.
- Direct the Fort Carson Installation Supply Activity to promptly process physical inventory stock record adjustments before performing causative research. Also, revise Army policy to require that physical inventory adjustments to stock records be made within 30 days of completion of the physical inventory.
- Give priority to eliminating the division logistics system automated capability of erroneously changing demand codes on orders from nonrecurring to recurring when the orders cannot be filled at the division level and are passed to the wholesale level.
- Revise retail supply policy to require installation and corps supply activities to apply item serviceable materiel return rates to reduce item demand rates in forecasting requirements. Also, have the implementation and continued application of this revised policy monitored as a part of the Army's periodic compliance reviews.

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