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

NATIONAL SECURITY AND
INTERNATIONAL AFFAIRS DIVISION

B-162152

APRIL 9, 1985

General Richard H. Thompson
Commander, U.S. Army Materiel Command
5001 Eisenhower Avenue
Alexandria, Virginia 22333

Dear General Thompson:

Subject: The Army's Use of Serviceable Returns in
Requirements Computations (GAO/NSIAD-85-59)

We have concluded a limited survey of serviceable returns to the Army wholesale supply level. This survey was initiated to determine the degree of compliance with the recommendations in our prior report entitled Army Can Save Millions Annually by Properly Considering Serviceable Returns in its Requirements Computations (LCD-80-64, May 15, 1980).

The Department of Defense (DOD) had concurred in that report's recommendation that the Army reduce projected requirements for materiel by the full amount of forecasted returns of serviceable materiel and directed specific actions by the Army. Our current survey found that the rate of offset to demands as a result of forecasted serviceable returns to inventory control points (ICPs) remains low--zero to 20 percent.

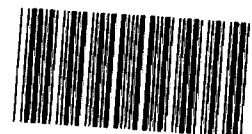
BACKGROUND

Excess serviceable materiel is materiel requisitioned from the wholesale supply level and received by the requisitioner, but is found to be the wrong item or is no longer needed by the requisitioner. The requisitioner notifies the wholesale supply level that he or she has the excess materiel and is informed to return the materiel to the wholesale supply level, or if the wholesaler has no need for the item, the requisitioner is told to dispose of the item locally.

In addition, the wholesaler also records the user's requisition on the demand history file for this particular item. This file forms the bases on which future requirements

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are computed, and failure to adjust the file for transactions such as the above can lead to the computation of overstated requirements. Once requirements are determined, new items are procured or used items are reworked to meet the requirements.

In 1980, we reviewed how ICPs used serviceable returns to reduce demands. During that review, we found that four of the five ICPs included in our review substantially limited the extent to which forecasted serviceable returns were used to offset forecasted demands. At four ICPs, the maximum percent total demands were reduced by forecasted returns (maximum serviceable return rate) ranged from zero to 20 percent. One ICP, the U.S. Army Troop Support and Aviation Materiel Readiness Command (TSARCOM),¹ used 100 percent of serviceable returns to reduce demands. The reason given by one ICP that did not use returns to reduce demands was that it would adversely affect supply effectiveness.² However, as discussed in our 1980 report, TSARCOM's adoption of the 100-percent rate did not result in a material effect on supply responsiveness.

In our 1980 report, we recommended that the Secretary of Defense direct the Army to reduce projected requirements for materiel by the full amount of forecasted returns of serviceable materiel. DOD concurred and stated that the Army had been asked to (1) review the procedures involved in establishing an offset to demands through considering serviceable returns at the ICPs and (2) ensure that the DOD policy of offsetting demands by serviceable returns was followed.

SCOPE

Our current survey involved interviews at Headquarters, U.S. Army Materiel Command (AMC), and examination of data on three of the six major subordinate commands (MSCs) of the Army Materiel Command. MSCs are the inventory control points in the Army wholesale supply system. The three selected MSCs were using different maximum serviceable return rates. The data

¹TSARCOM was divided into two commands in 1984--the U.S. Army Troop Support Command and the U.S. Army Aviation Support Command.

²"Supply effectiveness" is the term used to denote the efficiency of the wholesale supply activity in filling customers' requests for materiel from on-hand assets. The percentage of fills from on-hand assets is called the supply availability rate. In this report, the terms "supply effectiveness," "supply responsiveness," and "supply performance" are used interchangeably.

examined included (1) reports of excess, replies to reports of excess (FTRs), and materiel receipt status (FTZ) reports extracted from the materiel return data base at the Logistic Control Activity, Presidio of San Francisco, California, and (2) supply availability and work load analysis reports provided by the Central Data Collection Point, Tracy, California. Our survey was made from February to December 1984 in accordance with generally accepted government auditing standards.

ARMY ACTIONS IN RESPONSE TO 1980 GAO REPORT

In August 1981, AMC--then the Army Materiel Development and Readiness Command--released a study report entitled Treatment of Serviceable Returns in Supply Control Studies. The report pointed out that (1) the quantities of serviceable returns were exceedingly high--sometimes the returned quantities exceeded an item's average demand--and (2) the behavior pattern of returns was erratic, exhibiting large spikes and no visible trends over time. The report concluded that (1) using returns to offset demand history did not significantly improve the forecast of future net demands and (2) a forecast which offset returns would cost less but would also result in a lower supply performance.

As a result of the study, the Army Materiel Command established limits on the serviceable return rate that the inventory control points could use to offset the demand history. In September 1981, AMC sent a letter to each ICP citing the study conclusions. The letter directed that any ICP using a maximum serviceable return rate exceeding 20 percent was to furnish its rationale for doing so to that headquarters by October 31, 1981.

Our earlier examinations had revealed the following maximum serviceable return rates in effect at the ICPs.

<u>ICP</u>	<u>Maximum serviceable return rate (%)</u>
U.S. Army Troop Support and Aviation Readiness Command	100
U.S. Army Communications and Electronics Command (CECOM)	20
U.S. Army Missile Command (MICOM)	20
U.S. Army Armament, Munitions, and Chemical Command (AMCCOM)	5
U.S. Army Tank-Automotive Command (TACOM)	-

Following the September 1981 letter, TACOM, AMCCOM, MICOM, and CECOM maximum serviceable return rates remained as shown in the above table. However, TSARCOM lowered its maximum rate from 100 percent to 20 percent, although the 100-percent rate had not adversely affected supply effectiveness.

SERVICEABLE RETURNS' EFFECT ON NET DEMANDS
AND SUPPLY EFFECTIVENESS

The two conclusions reached in the AMC study were not substantiated by our survey.

First, there was no data in the study report that reflected how serviceable returns affected the actual demand for items experiencing returns. Therefore, the study conclusion that ". . . using returns to offset demand history did not significantly improve the forecast of future net demands . . ." was not substantiated with report data. We believe that inventory managers at the ICPs should monitor the effect that serviceable returns have on actual demands during the forecasted period. This will permit the inventory managers to determine if the actual demands for items experiencing significant returns increased, remained constant, or decreased. A study of this type of data will assist in selecting an optimum maximum serviceable return rate for use in forecasting requirements.

The report also concluded that offsetting forecasted requirements by projected returns decreases supply performance. However, actual data for fiscal years 1981-84 does not show that higher serviceable return rates are associated with lower supply effectiveness. In fact, the three ICPs using higher maximum serviceable return rates to adjust their forecasted requirements had equal or better performance records for at least 2 of the 4 fiscal years. The table below shows this comparison.

<u>ICP</u>	Maximum service- able return rate (%)	<u>Supply availability rate (%)^a</u>			
		<u>1981</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>
TACOM	-	86.5	83.0	84.7	86.2
AMCCOM	5	79.0	80.6	82.3	84.6
TSARCOM	20	82.2	83.1	84.8	85.8
CECOM	20	82.6	86.9	88.9	89.9
MICOM	20	87.6	87.9	87.4	87.8

^aThese rates apply to Army Stock Fund-stocked items.

The above data does not substantiate the report conclusion that offsetting forecasted requirements by projected returns will decrease supply performance.

ICPs ARE EXPERIENCING AN INCREASE
IN SERVICEABLE RETURNS

Our analysis of serviceable returns data for AMCCOM, MICOM, and TACOM showed significant increases in the number of items reported by customers and accepted by the three supply activities. For example, reports of excess increased from 98,348 for fiscal year 1983 to 109,870 for fiscal year 1984--an increase of 11.7 percent. The increase in the number of serviceable items actually accepted by the three activities and their total dollar value are considerably larger. The following table compares serviceable return data for fiscal years 1983 and 1984 for these activities.

	Maximum serviceable return rate(%)	No. of FTRs ^a	No. of FTZs ^b	Percent of FTRs accepted	Value of returned materiel (millions)
AMCCOM:					
FY 1983	5	33,316	11,862	35.6	\$10.4
FY 1984	5	36,414	15,839	44.0	25.2
MICOM:					
FY 1983	20	11,893	3,620	30.4	3.7
FY 1984	20	11,367	4,975	44.0	20.9
TACOM:					
FY 1983	-	53,139	25,215	47.5	20.5
FY 1984	-	62,089	32,023	51.6	23.7
Total:					
FY 1983	-	98,348	40,697	41.4	\$34.6
FY 1984	-	109,870	52,837	48.1	\$69.8

^aSupply activity reply to customer report of excess.

^bSupply activity acknowledgement of receipt of reported excess serviceable materiel.

CONCLUSIONS AND RECOMMENDATIONS

The volume of serviceable returns for the three activities was up by 11.7 percent in fiscal year 1984 as compared with fiscal year 1983, and the dollar value of these returns increased

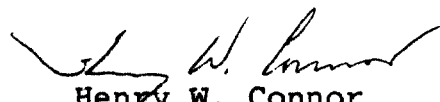
from \$34.6 million to \$69.8 million. Nearly 50 percent of the reported serviceable materiel is accepted by the wholesale supply activities. Although these returns are recorded as assets on hand, they receive limited consideration in forecasting requirements. Consequently, unnecessary procurements and rework costs can result.

Through issuance of its September 1981 letter, AMC limited the extent to which ICPs can use these returns to forecast invalid demands in determining future requirements. AMC's 20-percent maximum serviceable return rate was based on the AMC study's two conclusions. The first conclusion that including serviceable returns in the computation of future demands has little impact on net demands was not supported by quantitative data in the AMC report. The second conclusion regarding lower supply performance when returns were used in the computation was not substantiated by our review of supply availability rates at the ICPs.

We recommend that you encourage the ICPs to use as high a maximum serviceable return rate as possible to forecast invalid demands in their requirements computations rather than encouraging the ICPs to limit the rate to no more than 20 percent. In some cases, we believe, this rate could be 100 percent.

We also recommend that to determine the appropriate serviceable return rate, you monitor demand rates for individual items experiencing significant returns to determine if the demand increased, decreased, or remained the same for the review cycles following the reports of excess.

Sincerely yours,



Henry W. Connor
Senior Associate Director