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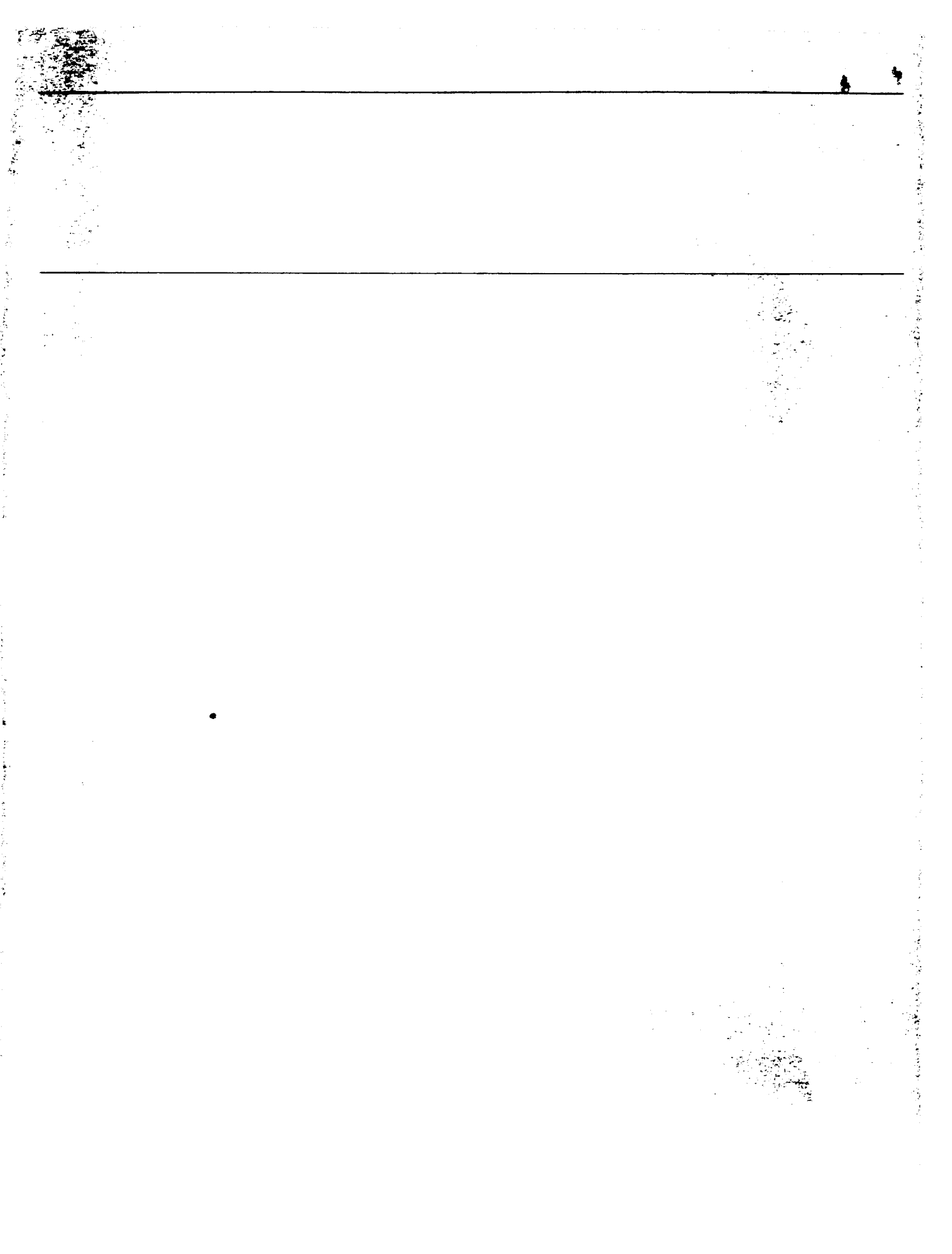
Report to the Secretary of the Army

August 1989

MILITARY LOGISTICS

Buying Army Spares Too Soon Creates Excess Stocks and Increases Costs







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

**National Security and
International Affairs Division**

B-233787

August 28, 1989

The Honorable John O. Marsh, Jr.
The Secretary of the Army

Dear Mr. Secretary:

This report points out that the Army's practice of buying spares sooner than necessary creates excessive stock levels and increases costs.

The report contains recommendations to you. As you know, 31 U.S.C. 720 requires the head of a federal agency to submit a written statement on actions taken on our recommendations to the House Committee on Government Operations and the Senate Committee on Governmental Affairs not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

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

Please contact me at (202) 275-4141 if you or your staff have any questions. Other major contributors to this report are listed in appendix VI.

Sincerely,

A handwritten signature in cursive script that reads 'Richard Davis'.

Richard Davis
Director, Army Issues

Executive Summary

Purpose

The Army received about \$3.3 billion in fiscal years 1987 and 1988 to buy spare and repair parts. Its basic challenge in spending these funds is to ensure that it has the proper amount of stock on hand when required. If stock is bought too late and inventory levels get too low, the Army cannot satisfy customer demands, and the capabilities of its forces may be hindered. On the other hand, if stock is bought too early and inventory levels get too high, money is invested in stock that may not be needed. As a result, the Army could incur unnecessary costs to hold and store these excessive inventories.

GAO made this review to determine whether the Army bought parts before they were actually needed and, if so, to evaluate the extent to which this practice contributed to excessive stock levels, premature deliveries, and increased holding costs. GAO also reviewed internal control practices at one buying command to determine whether they supported item management decisions and precluded unnecessary purchases.

Background

The Army Materiel Command, which administers the Army's supply system, establishes management policies and procedures for its six buying commands. These commands estimate future demands for individual items and try to ensure that stock is on hand when required so that the capability of Army forces is not hindered.

The buying commands use historical customer usage data to develop demand forecasts, which are used to calculate authorized inventory levels needed to satisfy Army-wide customer demands. By periodically comparing on-hand and due-in quantities of an item to authorized requirements, buying commands can determine the point at which actions should be initiated to repair unserviceable assets (the "repair action point"), procure new assets (the "reorder point"), or reduce quantities of assets being procured (the "cutback action point"). According to Army policy, the economic quantity in ordering an item can range from 3 to 36 months' worth of stock and is based on the item's estimated procurement and holding cost.

Results in Brief

The two Army buying commands GAO visited regularly initiated item purchases earlier than they should have and also purchased quantities exceeding authorized requirements. Purchasing spares and repair parts prematurely or excess to requirements resulted in unnecessary inventory investment which, unless requirements increase, will cause higher

inventory holding costs. These problems occurred, in part, because the two commands had misinterpreted Army guidance on obligating procurement funds.

GAO's review also showed that the Army Materiel Command should strengthen its internal control practices to ensure that buying commands (1) comply with established guidance for canceling or reducing excessive on-order quantities of material, (2) adequately document item management and procurement decisions, and (3) follow existing regulations on the approval of procurement actions based on dollar-value thresholds.

Principal Findings

Premature and Unnecessary Investments

GAO analyzed 31 items procured by the U.S. Army Tank-Automotive Command—26 in fiscal year 1987 and 5 in fiscal year 1988—to determine whether these purchases were premature and, if so, whether quantities purchased were actually needed to meet requirements projected at the time the purchase was initiated. For these 31 items, GAO estimated that the Command had prematurely invested more than \$87 million in spare and repair parts—nearly \$66 million worth in fiscal year 1987 and more than \$21 million worth in fiscal year 1988. Because requirements did not materialize as projected, as of February 1988, about \$30 million, or more than 34 percent of the original purchase amount, was no longer needed to meet requirements that had been projected at the time the procurements were initiated.

GAO also reviewed 10 items purchased by the U.S. Army Missile Command in fiscal years 1987 and 1988. For three items, procurement had been initiated from 11 to 12 months in advance of the reorder points, and for two others, the Command had purchased quantities exceeding authorized requirements. Early procurement of four of the five items resulted in more than \$4.6 million being spent prematurely. Again, because projected requirements did not materialize, as of April 1988, nearly \$448,000 of the original purchase amount was no longer needed to meet requirements that were projected at the time they were purchased.

Some of the quantities purchased could have been deferred by as much as 1 fiscal year if the commands had followed Army policy and ordered

when the items were needed to meet authorized requirements. According to officials of both the Tank-Automotive and Missile Commands, the premature purchases occurred, in part, in response to guidance they had received from the Army Materiel Command advising them to obligate fiscal year 1987 funds early in the year. The commands assumed that the guidance was still in effect for their fiscal year 1988 procurement planning, even though it was not included by the Army Materiel Command in that year's guidance.

Increased Holding Costs

Initiating procurement prior to the reorder point increases the likelihood that items will be delivered before they are needed and held in inventory longer than anticipated. At the Tank-Automotive Command, some items were scheduled to be delivered as much as 16 months before they were needed and will be held in inventory up to 27 months longer than anticipated based on the requirements and forecasted demands at the time of purchase. Unless currently projected requirements increase, GAO estimates that the Command could spend an additional \$6 million to hold these items in its inventories until they are needed.

Internal Controls Need to Be Strengthened

The Tank-Automotive Command did not follow effective inventory management procedures. GAO noted that Army policy for canceling or reducing quantities of items that are on order in excess of requirements had not been followed; documentation required to support item management decisions was vague and fragmented; officials had not agreed to specific requirements for documenting item procurements; and supervisory review and approval of procurement recommendations were based on established dollar thresholds that did not comply with the Army Materiel Command's policy. Neither the Army Materiel Command nor the Tank-Automotive Command identified material weaknesses in internal controls for purchasing spares and repair parts in their fiscal years 1986, 1987, and 1988 Federal Managers' Financial Integrity Act assessments.¹

Recommendations

GAO recommends that the Secretary of the Army direct the Commander of the Army Materiel Command to take the following actions:

¹This act requires government agencies to evaluate their internal controls to ensure that (1) resources are used in compliance with applicable laws, regulations, and policy and (2) reliable data is maintained and fairly reported.

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- Reinforce guidance to buying commands instructing them to adhere to Army Regulation 710-1, which does not provide for routinely initiating the procurement of spares in advance of the computed reorder points or purchasing quantities that exceed authorized levels unless such action is economically justified.
 - Perform routine, periodic management reviews of buying commands to confirm that (1) established procedures for reducing unnecessary on-order item quantities are being followed; (2) guidance for documenting repair, procurement, and cutback transactions has been consolidated and the importance of understanding this guidance has been adequately emphasized to the involved staff as they carry out their daily duties; and (3) all transactions have been reviewed and approved at the levels established by the Army Materiel Command.

GAO also recommends that the Secretary of the Army require that the next annual Financial Integrity Act assessment include a review of the internal control weaknesses discussed in this report.

Agency Comments

The Department of Defense agreed with GAO's findings and recommendations (see app. V). In its response, the Department provided information on corrective actions that have been taken and are underway to ensure that deficiencies noted in GAO's report do not recur.

Contents

Executive Summary		2
Chapter 1		10
Introduction	Establishing Stock Levels	10
	Objectives, Scope, and Methodology	12
Chapter 2		16
Buying Spares Earlier Than Necessary Creates Excessive Stocks and Increases Costs	Army Policy Establishes Authorized Stock Levels	17
	Buying Spares Before They Are Needed and Quantities Exceeding Authorized Levels Can Lead to Excessive Stocks	18
	Premature Procurements Can Lead to Increased Holding Costs	26
	Conclusions	29
	Recommendation	30
	Agency Comments	30
Chapter 3		31
Internal Controls Should Be Strengthened to Preclude Unnecessary Procurements	Importance of Internal Controls	31
	TACOM Not Following Army Policy for Reducing Unnecessary Purchases	31
	Local Guidance for Documenting Inventory Management Decisions Is Vague and Fragmented	34
	TACOM's Procurement Approval Thresholds Do Not Comply With AMC Guidance	36
	Conclusions	37
	Recommendations	37
	Agency Comments	38
Appendixes		
	Appendix I: Process for Determining Requirements for Spare and Repair Parts	40
	Appendix II: Detailed Information on Sample of 31 Items Procured in Fiscal Years 1987 and 1988 at the U.S. Army Tank-Automotive Command	41
	Appendix III: Detailed Information on Premature Procurements Made at the U.S. Army Missile Command	43

Appendix IV: Schedule of Potential Holding Cost Increases Associated With Premature Procurements in Fiscal Years 1987 and 1988 at the U.S. Army Tank-Automotive Command	44
Appendix V: Comments From the Department of Defense	45
Appendix VI: Major Contributors to This Report	56

Tables

Table 1.1: Supply Action Points	12
Table 2.1: Summary of Items Purchased Prematurely by TACOM in Fiscal Years 1987 and 1988	18
Table 2.2: Comparison of Projected Reorder Points to Actual Procurement Initiation Dates for 10 MICOM Purchases	24
Table 2.3: Comparison of Programmed to Actual Fiscal Year 1987 Procurement Expenditures at AMC's Buying Commands	25
Table 2.4: Comparison of Projected to Contracted Delivery Schedules for Quantities Purchased Prematurely for Six Items in Fiscal Years 1987 and 1988	27
Table 2.5: Comparison of Projected to Actual Procurement Initiation, Contract Award, and Delivery Dates for 83 Steering Differentials for the M113 Family of Vehicles	29
Table 3.1: Value of Potential Cutback Quantities Identified by Item Managers Prior to Contract Award for Five Fiscal Year 1988 Procurements	33
Table 3.2: Comparison of Required to Actual Approval Authority for Five Fiscal Year 1988 TACOM Procurements	36
Table 3.3: Approval Authority for Study Recommendations	37

Figures

Figure 2.1: The M-1 Abrams Tank	21
Figure 2.2: The M88A1 Medium Recovery Vehicle	23
Figure 2.3: The M113 Armored Personnel Carrier	28

Contents

Abbreviations

AMC	Army Materiel Command
AR	Army Regulation
DOD	Department of Defense
EOQ	economic order quantity
GAO	General Accounting Office
MICOM	Army Missile Command
NSN	national stock number
RAPAS	Repair and Procurement Audit System
RDES	Requirements Determination and Execution System
TACOM	Army Tank-Automotive Command

Introduction

The Army Materiel Command (AMC), which administers the Army's wholesale supply system, establishes policies and procedures for its six "buying commands," formally known as "inventory control points." These six commands determine future requirements to ensure that sufficient supplies are available to satisfy user requests. The Army received about \$1.7 billion in fiscal year 1987 and \$1.6 billion in fiscal year 1988 to meet these demands.

The basic challenge to the buying commands is to ensure that they have the proper amounts of stock on hand when required. If stock is bought too late and inventory levels get too low, the Army cannot satisfy customer demands, and the capabilities of troops may be hindered. If stock is bought too early and inventory levels get too high, money is invested in stock that may not be needed. As a result, the Army could incur unnecessary costs to hold and store these excessive inventories.

As of September 30, 1988, the six buying commands had \$8.4 billion worth of serviceable assets on hand and another \$4.3 billion worth of unserviceable assets awaiting repair.

Establishing Stock Levels

The buying commands use a standard automated inventory management system—the Requirements Determination and Execution System (RDES)¹—to calculate the stock positions (requirements minus assets) of secondary items² used to support major items, such as tanks, aircraft, or missiles. RDES develops demand forecasts, based on historical customer usage data, to calculate inventory levels needed to satisfy customer demands. By periodically comparing on-hand and due-in quantities of an item with authorized requirements, buying commands can determine the point at which actions should be initiated to repair unserviceable assets (the "repair action point"), procure new assets (the "reorder point"), or reduce quantities of assets being procured (the "cutback action point").

The maximum amount of stock authorized to be on hand or due in for an item, known as the "requirements objective," is normally determined by adding the following five categories of inventory requirements:

¹ RDES is a subsystem of the Commodity Command Standard System. Appendix I further describes the Army's requirements determination process.

² Secondary items include spare components or repair parts, such as engines, axle assemblies, and circuit cards.

1. Safety level—the quantity of material required for the supply system to continue operations in the event of minor interruptions in the normal replenishment process or unpredictable fluctuations in demand.

2. Protectable war reserve—the quantity of material that has been funded by the Army and must be on hand at the outset of hostilities to equip and support deploying forces.

3. Repair cycle quantity—the quantity of serviceable assets needed to offset the time it takes to repair unserviceable assets to meet forecasted demands.

4. Procurement lead time quantity—the quantity needed to meet anticipated demands during the time required to (1) initiate a buy and award a contract (known as “administrative lead time”) and (2) produce and deliver the item (known as “production lead time”). In the Army, procurement lead time generally ends when one-third of the total quantity ordered has been delivered.

5. Procurement cycle quantity/economic order quantity (EOQ)—the quantity needed to meet demands between procurement actions. Ideally, the EOQ is the quantity that results in the lowest total cost to order and hold stock. Department of Defense (DOD) Instruction 4140.39, “Procurement Cycles and Safety Levels of Supply for Secondary Items,” specifies that the minimum amount of stock that should be ordered should satisfy at least 3 months’ worth of demand and that the maximum amount should normally not exceed 36 months’ worth of demand.

The first four inventory requirements, when added together, establish the reorder point quantity. When available item quantities on hand or due in from procurement or repair reach the reorder point, the item manager should initiate procurement to ensure that new assets are received in time to fill estimated future requests. The procurement cycle quantity is the maximum quantity of an item that should be on hand or on order over and above the reorder point quantity, as shown in table 1.1.

Table 1.1: Supply Action Points

Selected supply review element	Quantity ^a	Action point
War reserve	25	
Safety level	20	
Repair cycle requirement	15	
Lead time quantities		
Administrative	50	
Production	95	
Total	205	Reorder point
Procurement cycle/ economic order quantity	120	
Total	325	Cutback action point (requirements objective)

^aQuantities shown are for illustrative purposes only.

The quantity authorized for purchase generally will not be on hand to meet demands for 24 to 36 months after the purchase is initiated. RDES projects requirements and usage over a 6-year period to enable the item manager to time purchases and other supply actions. RDES also determines when the on-hand and due-in quantities of an item exceed the authorized requirements objective and alerts the buying commands to take action to cancel or reduce (cut back) those quantities exceeding the authorized level if it is economical to do so.

Objectives, Scope, and Methodology

We made our review to determine whether the Army is buying spare parts ahead of need and, if so, to evaluate the extent to which premature procurements could result in excessive stock levels and unnecessary holding costs. We also reviewed internal control practices at one buying command to determine whether they supported item management decisions and precluded unnecessary purchases.

To satisfy this objective, we talked with officials of and collected information from the Office of the Army Deputy Chief of Staff for Logistics, Washington, D.C.; AMC Headquarters, Alexandria, Virginia; the U.S. Army Missile Command (MICOM), Huntsville, Alabama; the U.S. Army Tank-Automotive Command (TACOM), Warren, Michigan; the Inventory Research Office, Philadelphia, Pennsylvania; and the Central Systems Design Activity, St. Louis, Missouri. We also reviewed the Army's systems and policies for determining item requirements.

We conducted detailed audit work at TACOM, which is responsible for spare parts for the Army's tactical vehicle equipment. Additionally, we

conducted limited audit work at MICOM, which is responsible for missile equipment and components, to see whether similar conditions to those found at TACOM exist. We selected these two commands because they accounted for about \$547 million, or 38 percent, of the total \$1.4 billion spent by the six buying commands in fiscal year 1987.

We limited our review to procurement-funded³ items since a recent DOD Inspector General's report⁴ had found that purchasing larger quantities of stock-funded items⁵ than necessary increased overall costs.

At TACOM we reviewed the following:

- From fiscal year 1987 purchases, we selected 26 items. We judgmentally selected 7 items from overall purchases to fill fiscal year 1987 requirements. The remaining 19 items were selected from a list of 74 items for which TACOM's Combat Division had planned to procure fiscal year 1988 requirements in fiscal year 1987. The 19 in our sample represent those items having the highest contract dollar value for which contracts were actually awarded in fiscal year 1987. Our fiscal year 1987 sample of 26 items represented \$138.2 million, or about 44 percent, of the total \$314.2 million in procurement-funded contracts awarded by TACOM that fiscal year.
- From fiscal year 1988 purchases, we selected the six highest contract dollar-value procurement-funded items of the 56 contracts awarded as of March 23, 1988, for which an April 1988 RDES requirements study recommended a cutback in quantities procured. We selected these items because our fiscal year 1987 sample showed that, in many cases, items purchased prematurely were likely to end up in cutback positions because requirements decreased after the purchase was initiated, resulting in lower authorized inventory levels. TACOM officials were unable to provide us with documentation for the procurement initiated for one of the six items, although they could provide amendments to this purchase. Since the quantities ordered for this item had been purchased to replace quantities being canceled under another contract, we excluded this item from further analysis. The remaining five items accounted for \$31.7 million, or about 18 percent, of the total \$175.1 million procurement-funded contracts that had been awarded at that time.

³Procurement funds are used to purchase high-dollar items, generally those with unit prices of \$5,000 or more.

⁴Minimum Economic Order Quantities. Office of the Inspector General, DOD, No. 88-020, Oct. 8, 1987.

⁵The Army stock fund is a revolving fund used to buy consumable items (such as oil filters) from commercial sources. The fund is replenished by reselling these items to retail customers.

For these 31 TACOM items—26 from fiscal year 1987 contracts and 5 from fiscal year 1988 contracts—we reviewed pertinent documents to determine whether procurement had been initiated prior to the computed reorder points (or sooner than necessary) and whether the quantities ordered had exceeded the quantities recommended for purchase. To do this, we analyzed the requirements computations as of the date of the buy and (1) compared usage rates with on-hand and due-in assets to determine the dates that items would drop below their reorder points and then compared these dates with the dates the procurements had actually been initiated and (2) determined whether the quantities ordered brought total on-hand and due-in assets above the authorized requirements objectives computed at the time of the buy.

We then reviewed automated studies generated in February 1988 to determine whether requirements differed from those projected at the time the procurement was initiated. Requirements as of February 1988 were generally lower than earlier projections because demands, safety levels, or lead times had declined subsequent to the procurement. If requirements changed, we calculated the quantity that, as of February 1988, was excessive because, although it was needed to satisfy requirements projected at the time of the buy, it was not needed to satisfy requirements as of February 1988. In calculating these premature procurement quantities, we considered only those purchases initiated more than 3 months in advance of the reorder points as premature because buying commands routinely review all items on a quarterly basis to determine purchasing requirements. Additionally, we took into account any new procurements initiated between the time of our procurement sample and the February 1988 study.

Finally, at TACOM, we reviewed supporting documentation for our fiscal year 1988 procurement sample to determine whether internal controls, designed to preclude premature purchases, were adequate.

At MICOM, we judgmentally selected 10 high-dollar procurement-funded items from fiscal year 1987 and 1988 purchases for which the April 1988 RDES study had recommended reductions in quantities being procured. The contract value for these 10 items was nearly \$37.4 million. We followed the same methodology we used at TACOM to determine whether these items had been purchased ahead of need. We did not review internal controls at MICOM.

We did not independently determine the reliability of the Army's computer programs, reports, records, or statistics we used in making our review.

We performed our review from March through November 1988 in accordance with generally accepted government auditing standards.

Buying Spares Earlier Than Necessary Creates Excessive Stocks and Increases Costs

Both buying commands we visited purchased spares and repair parts earlier than needed. Parts were ordered sooner than the standard automated supply system recommended or in larger quantities than recommended. Buying spares prematurely is contrary to Army policy. In doing so, these buying commands sometimes committed and obligated¹ procurement funds 1 fiscal year sooner than necessary. Purchasing spares and repair parts prematurely or excess to authorized requirements resulted in unnecessary inventory investment in excessive stocks. Unless requirements increase, it could also cause higher inventory holding costs.

On the basis of our analysis of 31 items procured by TACOM—26 in fiscal year 1987 and 5 in fiscal year 1988—we estimated that TACOM had invested more than \$87 million prematurely. For the 26 items, TACOM had bought nearly \$66 million worth of spares and repair parts prematurely, or nearly 21 percent of the total \$314.2 million it spent that year. For the remaining five items, TACOM bought nearly \$22 million worth of these parts prematurely, or more than 12 percent of the total \$175.1 million it had spent by March 1988.

Some of the quantities purchased could have been deferred as much as 1 fiscal year if TACOM had waited until the reorder points before initiating procurement and had bought no more than the quantities needed to meet the authorized inventory levels—the requirements objectives.

As of February 1988, about \$30 million of the \$87 million invested prematurely, or about 34 percent, was no longer needed to meet the requirements that had been projected at the time the procurements were initiated, because requirements projected at the time of the buy did not materialize. This \$30 million represents quantities on hand or due in as of February 1988, which, although needed to meet requirements projected at the time of the buy, exceeded the authorized requirements as of February 1988. (See app. II.) Consequently, TACOM's holding costs could increase by as much as \$6 million based on an annual holding cost of 13 percent.

Our analysis of 10 MICOM procurements showed that MICOM had also initiated item procurements before inventory levels dropped to the reorder points and purchased quantities exceeding authorized requirements.

¹Procurement funds are generally committed, or set aside, at the point when an item purchase is initiated, and these funds are obligated, or spent, when the contract is signed.

Eliminating such early procurement practices could result in significantly reduced Army-wide inventory holding costs and deferred procurement outlays.

Army Policy Establishes Authorized Stock Levels

Army Regulation (AR) 710-1, "Centralized Inventory Management of the Army Supply System," effective March 1988, sets forth policy and procedures for managing secondary items and assigns responsibility for inventory management functions to AMC. This regulation provides for initial procurement action for spares when inventory levels fall to or below the reorder point quantities. Further, it establishes the requirements objective as the authorized stock level—the maximum quantity of stock that should be on hand and on order for an individual item.

Purchasing the correct item quantity at the appropriate reorder point enables managers to ensure that buying commands have the proper amounts of stock available when needed and avoid incurring unnecessary costs to hold and store inventories. Procurements are based on forecasted demands and include quantities needed to meet demands until a contract can be awarded and the item can be produced and delivered. The quantity authorized for purchase in AR 710-1 generally will not be on hand to meet demands for 24 to 36 months after the purchase is initiated. Purchasing an item sooner than necessary or purchasing item quantities exceeding authorized levels increases the likelihood that these assets will become unneeded, excess to requirements. This can occur if requirements later change as a result of decreases in demand and other factors.

Buying Spares Before They Are Needed and Quantities Exceeding Authorized Levels Can Lead to Excessive Stocks

Contrary to Army policy, TACOM had initiated item purchases before stock levels reached the reorder points and had purchased quantities exceeding authorized levels. For 16 of the 31 items in our sample, we estimate that TACOM had initiated procurement from 3 to 16 months too early. Also, for 29 of the 31 items, TACOM had purchased quantities that exceeded authorized levels. Some of the quantities purchased could have been deferred by as much as an entire fiscal year. These premature purchases are summarized in table 2.1.

Table 2.1: Summary of Items Purchased Prematurely by TACOM in Fiscal Years 1987 and 1988

Dollars in thousands

Months until reorder point	Number of items purchased prematurely	Value of premature procurement	Number with above-authorized quantities	Value of above-authorized quantities	Total value of premature procurement
Less than 3	^a	^a	13	\$38,887	\$38,887
3 to 6	5	\$5,006	5	13,584	18,590
7 to 12	7	4,898	7	22,999	27,897
12 and over	4	18	4	2,040	2,059^b
Total	16	\$9,922	29	\$77,510^c	\$87,433^b

^aNot applicable

^bFigures do not add due to rounding

^cOf this amount, about \$60 million relates to fiscal year 1987.

For 17 of the 29 items that were purchased prematurely, we found that TACOM could have waited from 4 months to more than 16 years to initiate the purchases because requirements projected at the time of the buy did not materialize.

Purchases Initiated Before Reorder Points and for Quantities Exceeding Authorized Levels

The following examples illustrate how the initiation of purchases before reorder points and ordering items beyond their authorized requirements can lead to excessive stocks.

Diesel Engine for the Commercial Utility Cargo Vehicle (NSN 2815-01-150-5002)

In November 1986, TACOM gave final approval to purchase 1,278 diesel engines for the commercial utility cargo vehicle. The September 1986 automated study used to support this purchase actually recommended reducing quantities due in. However, the item manager increased forecasted demands based on the belief that this engine would follow a demand pattern similar to that of an engine used in a 1-1/4-ton truck.

Based on actual demand history, no requirement to purchase this quantity existed.

Using the item manager's demand forecast and adding assets on hand and due in as of November 1986, we calculated that the reorder point would not have been reached until April 1987—about 5 months after the November approval. Nevertheless, TACOM approved the purchase and, in December 1986, awarded a contract for 1,278 engines at a cost of nearly \$4 million.

According to TACOM documentation, the contract for these engines included an option enabling TACOM to purchase an additional 1,278 engines at the same unit price, provided that the option was taken within 90 days after the initial contract was signed. In February 1987, TACOM exercised the option and purchased an additional 1,278 engines to meet part of a projected fiscal year 1988 purchase requirement. On the basis of the item manager's projected monthly demands and on-hand and due-in assets as of February 1987, we calculated that the actual reorder point would not have been reached until November 1987—9 months later. Since actual demands as of February 1987 had not yet increased as projected by the item manager, 57 of the originally purchased 1,278 engines were already excess to authorized requirements and, when added to the 1,278 option buy, increased the total quantity beyond the authorized requirements to 1,335. Consequently, since the 57 from the original purchase were excess to requirements, the actual quantity needed in fiscal year 1987 was only 1,221.

By September 1987, actual demands had not increased as projected, and 853 of TACOM's on-hand and due-in engines were excess to authorized stock levels. The item manager noted that, possibly, demands had not yet increased because the diesel engine was proving more durable than the gasoline engine used in the comparison and therefore did not have to be repaired or replaced as frequently as originally expected.

By February 1988, all 2,556 engines ordered prematurely had been received, and the item manager's demand projections, then estimated at about 143 engines a month, had still not materialized. The item manager then reduced forecasted demands to 48 engines a month, a rate comparable to that determined by the automated system prior to the first purchase. This action resulted in total on-hand quantities equal to more than twice the authorized requirements based on the new demand forecast. The 2,395 on-hand assets excess to requirements represented over 2 years of supply valued at about \$7.5 million.

If TACOM officials had delayed each of the procurements until the authorized reorder point, they would have had additional time to determine whether demand would develop as anticipated, and at least a portion of the nearly \$8 million in quantities purchased might have been delayed or avoided.

Reduction Housing for the
M-1 Abrams Tank
(NSN 2835-01-180-5549)

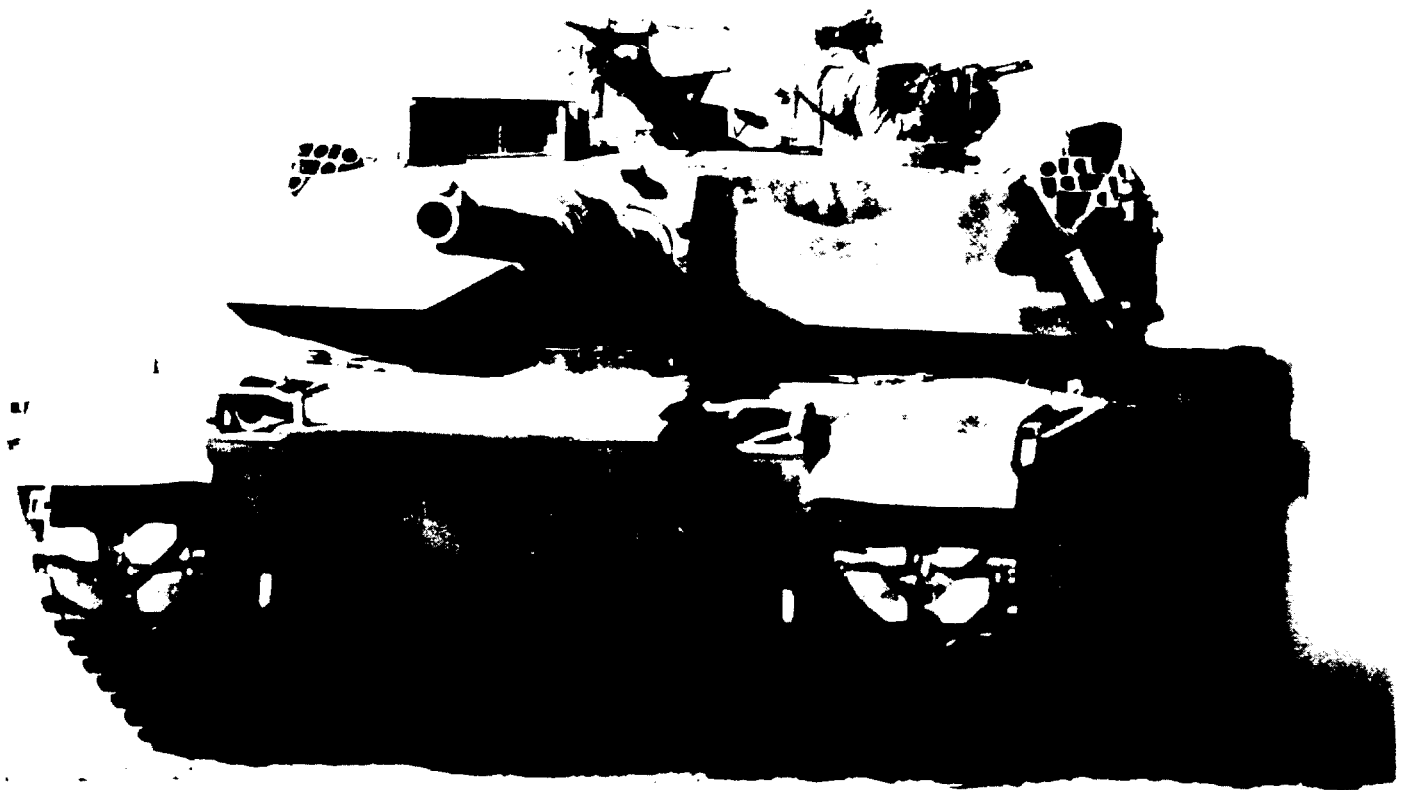
In February 1987, TACOM officials initiated a procurement for 89 reduction housings, valued at \$7,150 each. These reduction housings are used to rebuild the rear engine module of the M-1 Abrams tank, which is shown in figure 2.1. According to the November 1986 Repair and Procurement Audit System (RAPAS)² study that supported the buy decision, TACOM had 132 housings on hand or due in that were excess to its authorized requirements objective at that time. On the basis of the study's forecasted demands for this item, we computed that projected on-hand and due-in assets would not fall below the reorder point until May 1988—15 months after the procurement had been initiated. TACOM documents show, nevertheless, that, in November 1987, TACOM modified an existing contract to add these 89 housings. We believe that TACOM did not need to procure these housings in 1987.

As of February 1988, 3 months prior to the May 1988 reorder point projected at the time of the buy, TACOM had 709 reduction housings on hand and due in that were excess to its authorized requirements objective at that time. The 709 housings, which included the 89 housings valued at \$636,350, represented more than 14 years of stock based on projected monthly demands as of February 1988.

TACOM officials canceled the contract in April 1988 at an estimated \$2.5 million cost to the government. The undelivered portion of the contract was for 593 housings, valued at \$4.2 million, and included the 89 housings purchased prematurely.

²RAPAS is an automated system used by TACOM item managers to enter RDES data base changes and quickly recompute repair and procurement requirements for individual items. On the basis of this recomputation, RAPAS then projects, by fiscal year, stock shortages and overages.

Figure 2.1: The M-1 Abrams Tank



Purchases Initiated on Time but for Quantities Exceeding Authorized Levels

In purchases it initiated at the proper time, TACOM also ordered quantities beyond their authorized stock levels. The following example illustrates this practice.

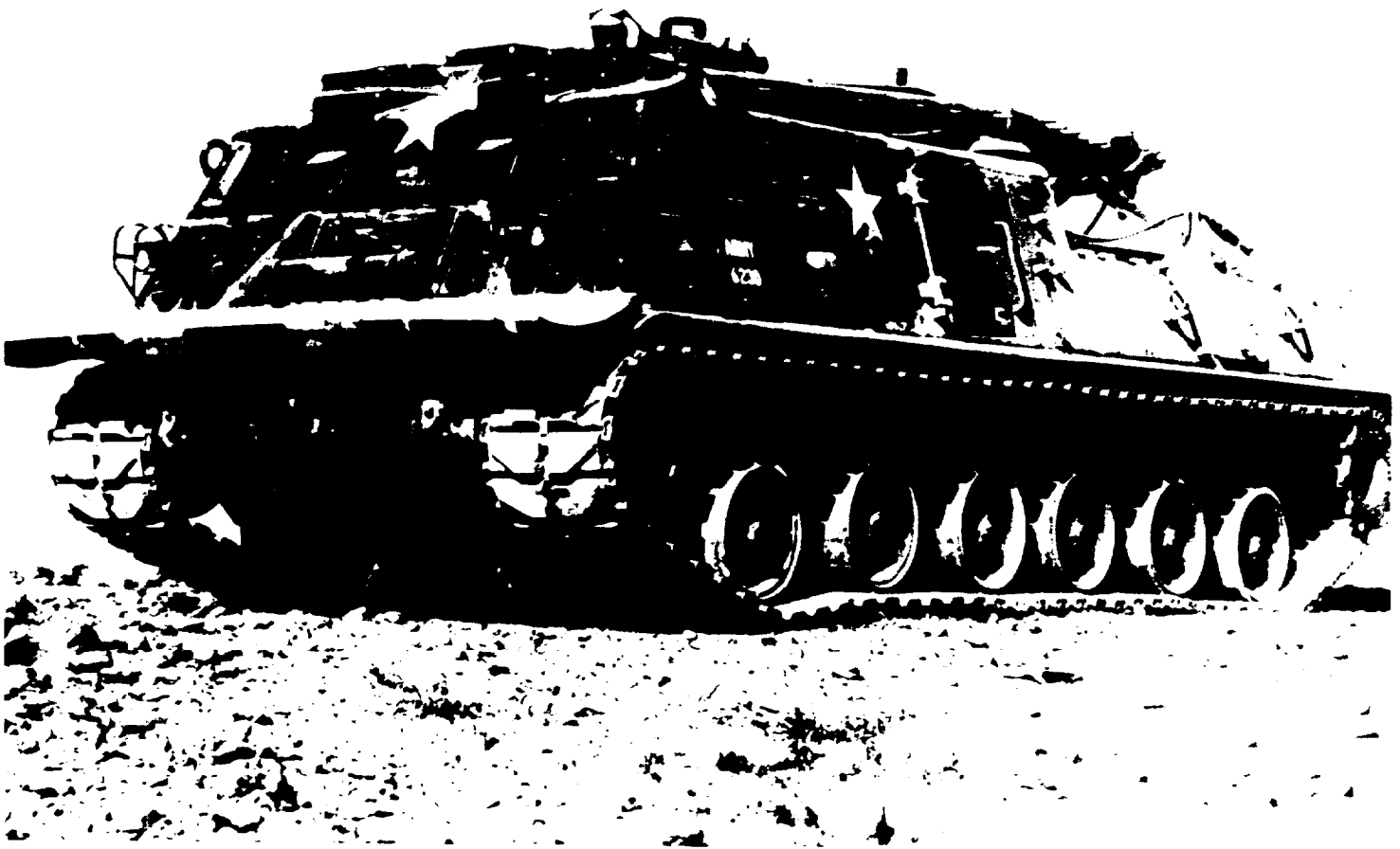
Final Drive Assembly for the
M88A1 Medium Recovery
Vehicle (NSN 2520-00-896-9021)

In May 1987, TACOM officials initiated procurement for 141 final drive assemblies for the M88A1 medium recovery vehicle, a vehicle used to tow tanks and other tracked combat vehicles (see fig. 2.2). Of the 141 assemblies purchased, 97 were intended to bring the stock level up to the requirements objective, and the remaining 44 were required to meet a projected fiscal year 1988 shortage. On the basis of average monthly demands forecasted for fiscal year 1988 for this item and on-hand and due-in assets as of May 1987, we computed that the fiscal year 1988 reorder point would not be reached until February 1988.

Between May 1987 and February 1988, total requirements for the final drive assembly decreased. On the basis of forecasted demands and on-hand and due-in assets as of February 1988 and excluding the 44 assemblies procured early, we estimate that this item's reorder point would not have been reached until November 1988, or 9 months later than the date initially projected in May 1987. Therefore, we believe that TACOM could have waited until fiscal year 1989 to purchase additional assemblies.

TACOM officials told us that item managers should not routinely purchase quantities beyond the authorized stock levels and, in May 1988, instructed them to discontinue this practice. Further, in October 1988, TACOM directed its item managers not to issue procurement requests until the reorder points were reached.

Figure 2.2: The M88A1 Medium Recovery Vehicle



MICOM Also Purchasing Items Prematurely

To determine whether other commands followed similar practices, we reviewed a total of 10 items procured at MICOM in fiscal years 1987 and 1988 at a total contract value of nearly \$37.4 million. For three of the items, MICOM had initiated procurement from 11 to 12 months before the reorder points, as shown in table 2.2. For two other items, MICOM purchased quantities in excess of those needed to meet the authorized

Chapter 2
Buying Spares Earlier Than Necessary
Creates Excessive Stocks and Increases Costs

requirements objectives. Four of these five procurements resulted in the premature spending of more than \$4.6 million. As of April 1988, nearly \$448,000, or about 10 percent of the \$4.6 million, was no longer needed to meet the requirements that had been projected at the time the procurements were initiated because requirements had decreased. This \$448,000 represents quantities that were on hand or due in as of April 1988 and exceeded the authorized requirements at that time. (See app. III.)

Table 2.2: Comparison of Projected Reorder Points to Actual Procurement Initiation Dates for 10 MICOM Purchases

NSN/item name	Date procurement initiated	Projected reorder point date	Months premature
1420-00-484-8556 Battery	Aug. 1986	July 1986	
1440-01-123-3417 Programmer assembly	Apr. 1986	Apr. 1986	
5960-01-167-0763 Electron tube	Apr. 1987	Apr. 1987	
6920-01-166-7870 Radar unit	Aug. 1986	Aug. 1986	
5999-01-257-3006 Processor	Sept. 1985	Sept. 1986	12
1270-01-232-6568 Day sensor	Sept. 1985	Aug. 1986	11
5999-01-259-4054 Circuit card	Jan. 1987	Jan. 1987	
1270-01-177-5497 Transceiver unit	Sept. 1985	Sept. 1986	12
5895-01-229-9911 Transmitter assembly	Apr. 1986	unknown	
1430-01-137-6241 Radar monitor	June 1987	June 1987	

^aNot applicable

^bProcurement for this item was initiated early; however, the contract was not awarded early

We found that one of the two instances in which quantities exceeding authorized levels had been ordered in a purchase MICOM initiated at the reorder point was documented as a multiyear procurement. However, in April 1988, MICOM had 34 more items than authorized, valued at \$347,684, even considering the multiyear procurement.

AMC's Guidance and Funding Approval Contribute to Premature Investment Decisions

During our review, we noted that AMC's guidance to the buying commands for purchasing secondary items deviated from the Army's policy provided in AR 710-1 and allowed buying commands to initiate purchases early. Further, funding approved for the buying commands in fiscal years 1987 and 1988 exceeded actual requirements for those years. We believe that AMC's guidance, combined with available funding, contributed to premature procurements at both TACOM and MICOM.

In July 1986, AMC challenged the buying commands to obligate 75 percent of their fiscal year 1987 funds by March 31, 1987—halfway through the fiscal year. Further, in March 1987, AMC directed the buying commands to initiate procurement in advance of the reorder point whenever possible. According to AMC officials, they provided this direction in response to reductions DOD had made to AMC's budget because AMC had not spent the funds authorized for spares and repair parts in prior years. According to both TACOM and MICOM officials, items were prematurely purchased, in part, in response to the guidance they had received from AMC in July 1986 and March 1987 to obligate fiscal year funds early in the year.

AMC officials told us that the 75-percent goal only pertained to fiscal year 1987 and was no longer in effect. TACOM and MICOM officials said, however, that they believed that the goal was still in effect since AMC had never formally rescinded it and therefore they continued to operate under this guidance in planning their fiscal year 1988 buys. As shown in table 2.3, funds programmed at TACOM and MICOM were not fully used, even with the premature investments.

Table 2.3: Comparison of Programmed to Actual Fiscal Year 1987 Procurement Expenditures at AMC's Buying Commands

Buying command	Fiscal year 1987 AMC procurement funds		Percent obligated	Difference
	Available	Obligated		
TACOM	\$427.4	\$314.2	73.5	-\$113.2
MICOM	271.2	233.2	86.0	-38.0
Remaining commands	982.1	889.5	90.6	-92.6
Total for AMC	\$1,680.7	\$1,436.9	85.5	-\$243.8

This same funding situation occurred again in fiscal year 1988. TACOM obligated 82.6 percent of its available fiscal year 1988 procurement funds, and MICOM obligated 69.5 percent. All six AMC buying commands obligated about 81.9 percent of the \$1.6 billion authorized that year.

Table 2.3 shows that the buying commands had more funds available than they needed to purchase their fiscal year spares requirements. Without the purchase of about \$60 million worth of spares in excess of its requirements objectives in fiscal year 1987, TACOM would have obligated about 59 percent of its available procurement funds. We believe, therefore, that available funding, coupled with AMC's direction to obligate 75 percent of fiscal year 1987 funds halfway through the fiscal year, contributed to decisions to purchase future year requirements sooner than necessary.

Premature Procurements Can Lead to Increased Holding Costs

When computing the projected reorder point for a given item, RDES considers the quantity needed to meet demands during both administrative and production lead times. Initiating procurement prior to the reorder point increases the likelihood that items will be delivered before they are needed and held in inventory longer than anticipated. At TACOM, some items that were purchased prematurely were scheduled to be delivered as much as 16 months before they were needed. These premature procurements and early deliveries could result in the holding of excessive inventory up to 27 months longer than anticipated at the time of purchase. That is, purchased quantities could be delivered and, because requirements projected at the time of the buy did not materialize or in fact declined, could be on hand for periods of time longer than anticipated and, at the same time, be excessive. Unless currently projected requirements increase, TACOM will incur an additional \$6 million to hold these assets until they are needed. (See app. IV.)

Purchasing and receiving items sooner than necessary can be costly. For example, storage depots incur increased holding costs for items that are received before they are needed and held in inventory longer than anticipated. At TACOM, the cost to hold items is about 13 percent of the annual on-hand inventory value. We estimate that, as of February 1988, items valued at about \$30 million of the \$87 million spent prematurely for spare and repair parts at TACOM were no longer needed to meet requirements that had been projected at the time the purchases were initiated.

We selected 6 items from our sample of 31 procured by TACOM to determine whether deliveries were being delayed to offset potential increases in holding costs. We computed the projected delivery dates, based on the Army's production lead time estimates, and compared these dates with the delivery schedules included in the contracts. Our analysis indicated that these six items had been scheduled to be delivered from 1 to 16 months ahead of the projected dates, as shown in table 2.4.

Chapter 2
 Buying Spares Earlier Than Necessary
 Creates Excessive Stocks and Increases Costs

Table 2.4: Comparison of Projected to Contracted Delivery Schedules for Quantities Purchased Prematurely for Six Items in Fiscal Years 1987 and 1988

NSN/item name	Projected contract award ^a	Production lead time (months)	Projected delivery ^a	Contracted one-third delivery ^b	Early delivery (months)
2835-01-178-7245 Rear module	02/88	23.5	01/90	05/89	8
2835-01-072-9960 Engine rotor	04/88	16.5	09/89	08/89	1
2835-01-084-7263 Turbine nozzle	09/88	11.0	08/89	12/88	8
2920-01-200-6134 Engine parts kit	11/88	8.5	07/89	11/88	8
2520-01-105-6446 Transmission	05/88	18.5	11/89	07/89	4
2520-00-714-6135 Steering differential	10/88	21.7	06/90	01/89	16

^aContract award and delivery projected by GAO based on supporting RAPAS studies

^bProduction lead time is the interval between contract award and the receipt of one-third of the contract quantity. These one-third delivery dates were computed based on terms of the actual contracts. Contracts were awarded ahead of projected schedules.

The following example illustrates how we computed early delivery and how early deliveries can increase holding costs.

Steering Differential for the
M113 Family of Vehicles
(NSN 2520-00-714-6135)

In September 1987, TACOM officials initiated procurement for 550 steering differentials for the M113 family of vehicles (see fig. 2.3). The study used to support this purchase showed that the stock quantity on hand and due in was 1,146—213 below the reorder point of 1,359. Of the 550 differentials, 467 were intended to bring the inventory level up to the authorized quantity of 1,613, and the remaining 83 were intended to meet a projected fiscal year 1988 requirement.

Figure 2.3: The M113 Armored Personnel Carrier



On the basis of forecasted fiscal year 1988 average monthly demands as of September 1987 and on-hand and due-in assets including the 467 purchased for fiscal year 1987, we calculated that stock levels for this item would not drop below the reorder point again until March 1988. Given this reorder point date and the automated system's projections of 7 months' administrative lead time and 22 months' production lead time, we estimated that the contract was not expected to be awarded until October 1988 and that one-third of the quantity ordered was not

expected to be delivered until June 1990. However, under the terms of the contract, signed in December 1987, one-third of the 83 differentials purchased early to satisfy the fiscal year 1988 requirement would be delivered in February 1989—16 months sooner than projected at the time of the buy. This is shown in table 2.5.

Table 2.5: Comparison of Projected to Actual Procurement Initiation, Contract Award, and Delivery Dates for 83 Steering Differentials for the M113 Family of Vehicles

Action	Date projected ^a	Actual date	Months early
Procurement initiation	Mar. 1988	Sept. 1987	6
Contract award	Oct. 1988	Dec. 1987	10
One-third quantity delivered	June 1990	Feb. 1989 ^b	16

^aDates projected by GAO based on supporting RAPAS study

^bBased on the terms of the actual contract

The February 1988 RDES study for this item indicated that a fiscal year 1988 purchase was not necessary. At that time, TACOM had 283 more differentials than authorized, including the 83 purchased early, because the safety level and lead time requirements had decreased since the time the buy was initiated. On the basis of forecasted average monthly demands as of February 1988, we calculated that the 83 differentials purchased early, valued at \$356,070, represented about 3.3 months of supply. With an annual holding cost estimated at 13 percent of total on-hand inventory, TACOM could incur about \$13,000 to hold these assets for that length of time.

Conclusions

TACOM and MICOM have purchased (1) spares and repair parts before quantities on hand and due in reached the reorder points and (2) quantities exceeding authorized levels. As a result, these two buying commands have prematurely and unnecessarily spent funds. In addition, TACOM may incur unnecessary inventory holding costs on material received before it is needed.

If TACOM, for example, had initiated item procurements at recommended times rather than in advance of need and had not purchased quantities exceeding authorized levels, it could have (1) avoided premature inventory investments of more than \$87 million, (2) avoided potential holding costs of about \$6 million, and (3) realized a one-time reduction in obligations of about \$30 million. At MICOM, the initiation of procurements at the recommended times could have prevented premature investments of more than \$4.6 million and could have resulted in a one-time reduction

Chapter 2
Buying Spares Earlier Than Necessary
Creates Excessive Stocks and Increases Costs

in obligations of about \$448,000. TACOM and MICOM made premature procurements partly because they believed that AMC's fiscal year 1987 guidance on early buys was still effective for fiscal year 1988.

Recommendation

We recommend that the Secretary of the Army direct the Commander of AMC to reinforce guidance to buying commands instructing them to adhere to Army Regulation 710-1, which does not provide for routinely initiating the procurement of spares in advance of the computed reorder points or purchasing quantities that exceed authorized levels unless such action is economically justified.

Agency Comments

The Department of Defense concurred with our recommendation and noted that AMC has directed TACOM to stop unauthorized buy-ahead procurements. DOD also said that the Department of the Army will forward correspondence to AMC reiterating current policy on buy-ahead practices.

Internal Controls Should Be Strengthened to Preclude Unnecessary Procurements

AMC and the buying commands should strengthen their internal controls to ensure compliance with established guidance for purchasing spares requirements. At TACOM, we noted that Army policy for reducing quantities being procured had not been followed; the guidance for documentation required to support item management decisions was fragmented; specific requirements for documenting item procurements had not been agreed to by TACOM officials; and approvals required for purchasing spares, based on dollar-value thresholds, did not comply with AMC policy.

Importance of Internal Controls

Internal controls are essential elements of effective inventory management. When properly implemented, effective internal controls serve as checks and balances against undesired actions and should ensure that transactions are documented, authorized, and executed by persons acting within their authority. AMC's internal controls for secondary item management include policies and procedures to ensure that buying commands purchase recommended item quantities at the appropriate times. TACOM's implementing instructions are included in various directives, policy memos, and handbooks.

The Federal Managers' Financial Integrity Act requires government organizations to evaluate their internal controls to ensure that (1) resources are used in compliance with applicable laws, regulations, and policy and (2) reliable data is maintained and fairly reported. Neither TACOM's nor AMC's assessments of internal controls for fiscal years 1986, 1987, and 1988 identified material weaknesses in purchasing spares. However, we noted some internal control weaknesses at TACOM that both TACOM and AMC should consider including in future assessments.

TACOM Not Following Army Policy for Reducing Unnecessary Purchases

AR 710-1 assigns responsibility for inventory management and specifies the internal controls intended to prevent unnecessary purchases. At TACOM, local procedures have been established to ensure that item managers properly discharge their responsibilities. These procedures require various levels of review and approval to ensure that the automated study and the item manager's recommendations to buy, repair, or cut back item quantities are correct and conform to Army regulations.

The need to enforce internal controls is demonstrated in the procedures TACOM followed in reducing procurements. According to Army policy, the

buying commands should reduce or cancel procurements, if it is economical to do so, when quantities on hand or due in exceed authorized levels. The decision to reduce procurement quantities should include a consideration of such factors as the cost to hold the excess assets, average yearly demand, the item's unit price, and the administrative and penalty costs of modifying the contract to cut back quantities.

In February 1986, TACOM directed its item managers not to approve recommended procurement reductions for any item unless the quantity to be reduced exceeded the authorized requirements objective by at least 12 months of supply, regardless of whether the contract had been awarded or was still in the purchase request stage. A TACOM official told us that this decision had been based on the belief that it was uneconomical to cut back smaller quantities since the item would probably need to be purchased again within the next year. For quantities exceeding a year's supply, TACOM instructed its item managers to ask the contracting officers to determine the government's cost to reduce the quantity and, if the cost did not exceed 50 percent of the contract's value, to recommend the reduction. Subsequently, the policy was changed to allow item managers to recommend reductions at any time before potential contractors were solicited for bids. Once a contract had been awarded, recommended reductions fell under the year's supply rule.

TACOM invested more than \$21 million prematurely for the five items in our fiscal year 1988 sample. (See app. II.) For three of these five items, we found that automated studies done prior to contract award had indicated that some of the quantities on hand and on order were no longer necessary to meet requirements that were computed at the time the procurement was initiated and should have been reduced or canceled. However, the reductions were not recommended by the item managers even when, in at least one of the cases, quantities recommended for reduction exceeded authorized levels by more than a year's supply. We estimated that, for these three items, TACOM had invested about \$2.4 million in quantities identified for potential cutback prior to contract award, as shown in table 3.1.

Chapter 3
Internal Controls Should Be Strengthened to
Preclude Unnecessary Procurements

Table 3.1: Value of Potential Cutback Quantities Identified by Item Managers Prior to Contract Award for Five Fiscal Year 1988 Procurements

NSN/item name	Approved purchase quantity and date	Unit price	Potential cutback quantity and date	Contract award date	Potential cutback value ^a (thousands)
2835-01-073-0166 Axial compressor	227 05/87	\$2.466	297 ^b 09/87	12/87	\$560
2520-00-714-6135 Steering differential	550 10/87	4.290	361 11/87	12/87	1.549
2520-01-210-8795 Transmission	169 10/87				
2815-00-394-3015 Oil pump assembly	769 05/87	1.702	180 01/88	03/88	306
2920-00-441-8137 Generator	129 05/87				
Total potential cutback value					\$2,415

^aUnit price times the lesser of the approved or potential cutback quantities

^bThe potential cutback quantity included quantities on two procurement actions for which no contracts had been awarded at the time

^cNo cutback identified

The steering differential case is illustrative of a procurement that was not reduced, even though RDES recommended that it be cut back prior to contract award. In October 1987, TACOM officials approved a purchase of 550 steering differentials (NSN 2520-00-714-6135) for the M113 family of vehicles, including 83 purchased to meet a projected fiscal year 1988 procurement requirement. TACOM based its approval on a March RDES supply study. However, on November 2, 1987, the item manager identified a potential reduction of 361 to the planned procurement quantity because demands had decreased primarily due to a planned M113 conversion program.

Since the quantity exceeded the authorized level by more than a year's supply, the item manager notified the contracting official and asked whether the reduction would be economical. Even though the contract was not signed until December 1987—over a month later—the contracting official informed the item manager that the reduction would not be economical but provided no cost justification. The item manager had no documentation in the item file supporting this decision not to reduce the quantity other than a notation that the discussion with the contracting official had occurred. According to other item managers we interviewed, no documentation is required to support this type of decision. In October 1988, the RDES study recommended that the quantity be reduced by 663 items—113 items more than the quantity approved for purchase 1 year earlier. Therefore, had the contract quantity been

reduced in November 1987, prior to the contract award, more than half of this quantity would never have been purchased. At a unit price of \$4,290, this reduction would have decreased the total procurement cost by more than \$1.5 million.

Local Guidance for Documenting Inventory Management Decisions Is Vague and Fragmented

Standards for Internal Controls in the Federal Government¹ requires that (1) supervisors clearly communicate duties and responsibilities to their staffs, (2) transactions are clearly documented and documentation is readily available for examination by persons responsible for verifying the transactions, and (3) procedures derive the maximum benefit with a minimum of staff effort. At TACOM, we noted that the amount of supporting documentation varied for the five fiscal year 1988 procurements we reviewed and that internal control procedures were vague and fragmented. Also, officials disagreed on what information and documentation were required to support individual inventory management actions.

While TACOM has issued internal control guidance on information requirements to support item procurements, its guidance is contained in various directives, policy memos, and handbooks, which lend themselves to differing interpretations. As a result, item managers, section chiefs, branch chiefs, and division heads do not agree on what documentation should be included with recommendations to procure, repair, or cut back items. Consequently, it was difficult for us to verify what information had been used or was needed to support the procurement decisions for the five fiscal year 1988 purchases we reviewed.

As discussed in appendix I, RDES automatically calculates requirements and assets for secondary items. The results are reflected in RDES supply control studies. TACOM item managers review the studies, update the RDES data base as needed, and, using RAPAS, recompute repair and procurement requirements. Since study changes ultimately affect decisions to buy, repair, or cut back item quantities, Army and TACOM regulations require item managers to prepare transition statements that document all changes. These statements are intended to explain any unusual conditions or reasons for adjustments and provide audit trails to support any changes made. The item manager then forwards the study, along with other documentation such as the transition statement, RAPAS printout, and signature sheet for approval to supervisory personnel for final review and approval before the recommended action is taken.

¹Standards for Internal Controls in the Federal Government, GAO Accounting Series, 1983

TACOM's guidance explaining this process is contained in numerous sources, such as the Item Manager Handbook, the Secondary Item Manager's Desk Reference Guide (TACOM's implementing directive to AR 710-1), and various policy memos. In other words, item managers cannot readily refer to one source that identifies the documentation required to support a purchase, repair, or cutback recommendation. Item managers told us that the fragmentation of information makes it difficult to determine what documentation is required.

The Item Manager Handbook requires that item folders contain complete information substantiating how decisions were reached for each requirements determination. Maintaining this file enables the item manager to review the validity of past decisions and justify current decisions. While the handbook states that the RDES study must be fully documented to explain any unusual conditions and reasons for adjustments, it does not require a specific procurement transition statement. The requirement for a procurement transition statement to be completed whenever an item manager corrects the RDES data base is included in the Secondary Item Manager's Desk Reference Guide. This requirement has been in existence since at least October 1985.

Furthermore, item managers, weapon system managers, and section chiefs disagreed on transition statement requirements. The range of responses included the following:

- Transition statements are no longer required.
- Transition statements are a new requirement and were not in effect at the time the item procurement was approved.
- Transition statement requirements vary with the dollar value of the recommendation and the extent of changes made to the study.

We discussed with TACOM officials the difficulty item managers and supervisors had in determining what documentation was required to support a purchase. They agreed that documentation for purchases should be consistently applied and stated that they planned to consolidate guidance to facilitate easy reference.

TACOM's Procurement Approval Thresholds Do Not Comply With AMC Guidance

According to Standards for Internal Controls in the Federal Government, adequate internal controls should ensure that transactions are valid and are authorized and carried out by persons acting within their authority. AMC, within its responsibilities as outlined in AR 710-1, establishes procurement approval thresholds for the buying commands. AMC policy requires varying levels of supervisory review and approval for all recommendations to procure, rebuild, or cut back item quantities based on the total value of the transaction.

To document whether recommendations had been approved at the levels specified by AMC, we reviewed the approval process for our sample of five fiscal year 1988 procurements. For four of the five items, approval had been received at lower levels than those authorized by AMC, as shown in table 3.2.

Table 3.2: Comparison of Required to Actual Approval Authority for Five Fiscal Year 1988 TACOM Procurements

Dollars in thousands

NSN/item name	Recommended procurement value	AMC's required level of approval ^a	TACOM's approval level ^a
2920-00-441-8137 Engine generator	\$813	Director/deputy	Branch chief
2520-00-714-6135 Steering differential	2,127	Commander/deputy	Director
2835-01-073-0166 Axial case	2,195	Commander/deputy	Director
2520-01-210-8795 Transmission	25,155	Commander/deputy	Commander/deputy
2815-00-394-3015 Pump assembly	748	Director	Branch chief

^aSee table 3.3 for the hierarchy of supervisory/managerial review and approval levels

Our review showed that TACOM had not complied with AMC guidance since at least November 1986. TACOM stated that revising its approval thresholds would drastically increase the work load from the section chief level through the commander level. In November 1986, TACOM requested AMC's approval to continue with its existing thresholds.

AMC officials told us that TACOM's request, along with similar requests from three of the other five buying commands, had resulted in a February 1988 interim policy change, which increased the dollar thresholds at each approval level to those shown in table 3.3.

Chapter 3
Internal Controls Should Be Strengthened to
Preclude Unnecessary Procurements

Table 3.3: Approval Authority for Study Recommendations

Supervisory/managerial approval level	Dollar value of recommended action	
	AMC ^a	TACOM ^b
Item manager	Less than \$75,000	^c
Team leader	^c	Up to \$250,000
Section chief	\$75,000 to \$150,000	\$250,001 to \$500,000
Branch chief	\$150,001 to \$400,000	\$500,001 to \$1,000,000
Division chief	\$400,001 to \$750,000	\$1,000,001 to \$2,000,000
Director/deputy director	\$750,001 to \$2,000,000	^c
Director or higher	\$2,000,001 to \$4,999,999	\$2,000,001 to \$4,999,999
Commander/deputy commander	\$5,000,000 or more	\$5,000,000 or more

^aBased on AMC's interim guidance issued Feb. 17, 1988, which increased the dollar threshold at each approval level.

^bBased on TACOM's policy memo dated Jan. 27, 1988, which was still in effect at the time of our review.

^cLevel not included or no specific dollar threshold identified.

As shown in table 3.3, in some cases, AMC's new approval thresholds are still lower than those in use at TACOM. AMC officials said that TACOM should be complying with AMC's February 1988 guidance.

Conclusions

Internal control procedures at TACOM should be strengthened to ensure that spares purchases comply with established guidance. These controls should ensure that (1) quantities are reduced when it is economical to do so, (2) documentation requirements for supporting transactions are clearly stated and fully understood, and (3) item transactions are approved at AMC's authorized levels. Since neither TACOM's nor AMC's assessments of internal controls for fiscal years 1986, 1987, and 1988 identified material weaknesses similar to those we noted at TACOM, we believe that TACOM and AMC should consider the internal control problems in this chapter for inclusion as weaknesses to be reported under the Financial Integrity Act.

Recommendations

We recommend that the Secretary of the Army direct the Commander of AMC to perform routine, periodic management reviews of buying commands to confirm that (1) established procedures for canceling or reducing unnecessary on-order item quantities are being followed; (2) guidance for documenting repair, procurement, and cutback transactions has been consolidated and the importance of understanding this guidance has been adequately emphasized to the involved staff as they

Chapter 3
Internal Controls Should Be Strengthened to
Preclude Unnecessary Procurements

carry out their daily duties; and (3) all transactions are reviewed and approved at the levels established by the Army Materiel Command.

We also recommend that the Secretary of the Army require that the next annual Financial Integrity Act assessment include a review of the internal control weaknesses discussed in this report.

Agency Comments

The Department of Defense concurred with our recommendations. DOD stated that the Department of the Army will direct AMC to use Staff Assistance Visits and other command reviews to ensure that the buying commands follow procurement procedures. Additionally, TACOM has (1) developed an economic cutback model for reducing unnecessary on-order quantities; (2) initiated changes to ensure compliance with AR 710-1 and strengthen internal controls, including revising the Item Manager Handbook, developing an RDES worksheet to track review and approval actions, and preparing monthly lists of study recommendations requiring command-level approval; and (3) issued policy guidance to item managers to bring them in line with review and approval levels established by AMC.

DOD also stated that the Army will include a review of the internal control weaknesses discussed in this report in its next annual Financial Integrity Act assessment covering the fiscal year ending September 30, 1989.

Process for Determining Requirements for Spare and Repair Parts

The buying commands use a standard automated system—the Requirements Determination and Execution System—to calculate the stock positions (requirements minus assets) of secondary items used to support major items, such as tanks, aircraft, and missiles. RDES develops demand forecasts based on up to 24 months of historical customer usage data. To calculate inventory levels needed to satisfy customer demands, it uses this data along with other information, such as (1) the planned number of vehicles that will be in the field; (2) trends in lead times required to order, produce, and deliver needed items; and (3) estimated return rates for unserviceable items from the field.

RDES periodically generates supply control studies for all items. For example, studies on high-dollar procurement-funded items are usually produced monthly. The studies compare authorized requirements to quantities on hand and due in from procurement or repair. Using this information, the item manager can determine when actions should be initiated to procure new assets, reduce quantities of assets being procured, recall surplus assets from disposal, repair unserviceable assets, or declare excess quantities for disposal.

Upon receipt of an RDES study, the item manager validates the item's data base, manually corrects or updates the data base as necessary, and recomputes the requirements if changes are made. Since 1984, item managers at TACOM have used RAPAS to input data base changes and automatically recompute repair and procurement requirements. RAPAS then projects stock shortages or overages for each fiscal year and provides audit trails of the changes made.

After supervisory review and approval of the data, item managers begin to implement the approved recommendations. For example, if a purchase is recommended, the item manager issues a procurement work directive to trigger the contract solicitation and award process.

Detailed Information on Sample of 31 Items Procured in Fiscal Years 1987 and 1988 at the U.S. Army Tank-Automotive Command

National stock number	Item name	Unit price (A)	Quantity above reorder point ^a (B)	Quantity ordered early to meet requirements objective ^a (C)	Quantity ordered beyond requirements objective ^a (D)	Total premature investment value ^b (E)	Unnecessary	
							Quantity ^c (F)	Cost ^d (G)
Fiscal year 1987 sample								
2835-01-178-7245	Rear engine module	\$119,517	71	0	61	\$7,290,537		
2590-01-196-4716	Electronic control unit	6,840	21	157	125	1,928,880		
2835-01-216-8639	Engine	312,642	36		29	9,066,618		
2835-01-072-9960	Engine rotor	3,829	0	0	303	1,160,187	57	\$218,253
2920-01-200-6134	Engine parts kit	4,901	0	0	162	793,962		
2835-01-178-7246	Reduction gearbox	26,322	85	0	34	894,948	16	421,152
2835-01-197-8325	Accessory gearbox	14,230	10		56	796,880		
2835-01-072-9961	Engine rotor	3,609	265	9	291	1,082,700		
2835-01-222-7936	Forward engine module	139,466	0	0	77	10,738,882	77	10,738,882
2835-01-180-5549	Reduction housing	7,150	335	0	89	636,350	89	636,350
2835-01-084-7263	Turbine nozzle	3,399	761	0	314	1,067,286	13	44,187
2520-00-896-9020	Transmission	9,500	0	0	39	370,500	39	370,500
2520-00-896-9021	Final drive	9,200	0	0	44	404,800	25	230,000
2520-01-105-6446	Transmission	81,134	100	9	133	11,521,028		
2520-01-101-6702	Final drive	2,294	217	0	243	557,442		
2520-01-089-4896	Final drive	2,294	151	8	171	410,626		
2520-01-137-6261	Cylinder block	2,035	511	0	74	150,590		
6115-01-047-9330	Auxiliary power unit	5,687	0	0	49	278,663	49	278,663
2540-01-179-9181	Shock absorber	796	723	165	911	856,496	41	32,636
2520-00-884-4833	Transmission	1,468						
2520-01-210-8795	Transmission	137,264	0	0	105			
2815-00-178-0268	Diesel engine	11,662	964	0	622	7,253,764	622	7,253,764
2815-01-150-5002	Diesel engine	3,113	744	1,221	1,335	7,956,828	2,395	7,455,635
2815-01-214-8820	Engine	12,527						
2835-01-178-7379	Gearbox housing	2,284	0	0	95	216,980	95	216,980
3040-01-074-3771	Spur gearshaft	3,314	255	0	103	341,342	103	341,342
Subtotal for fiscal year 1987 purchases						\$65,776,289	\$28,238,344	

**Appendix II
Detailed Information on Sample of 31 Items
Procured in Fiscal Years 1987 and 1988 at the
U.S. Army Tank-Automotive Command**

National stock number	Item name	Unit price (A)	Quantity above reorder point ^a (B)	Quantity ordered early to meet requirements objective ^a (C)	Quantity ordered beyond requirements objective ^a (D)	Total premature investment value ^b (E)	Unnecessary	
							Quantity ^c (F)	Cost ^d (G)
Fiscal year 1988 sample								
2835-01-073-0166	Axial compressor case	\$2,466	0	0	191	\$471,006	139	\$342,774
2520-00-714-6135	Steering differential	4,290	0	0	83	356,070	83	356,070
2520-01-210-8795	Transmission	133,404	49	31	117 ^e	19,743,792		
2815-00-394-3015	Oil pump assembly	1,702	0	0	132	224,664	132	224,664
2920-00-441-8137	Generator	6,675	380	0	129	861,075	119	794,325
Subtotal for fiscal year 1988 purchases						\$21,656,607		\$1,717,833
Subtotal for 16 items purchased more than 3 months prior to reorder points						\$48,546,264		\$16,979,391
Subtotal for 13 items purchased at reorder points^f						\$38,886,632		\$12,976,786
Total for 29 items purchased prematurely^g						\$87,432,896		\$29,956,177

^aAs of the buy date

^bThe total premature investment value is the sum of columns C and D multiplied by column A

^cThe unnecessary quantity is the quantity exceeding the requirements objective as of February 1988

^dThe unnecessary cost is column F multiplied by column A

^eNone

^fPurchased less than 3 months prior to the reorder point

^gItem was not purchased prematurely and did not include quantities exceeding the authorized requirements objective

^hQuantity of 105 in excess of requirements objective initiated at the reorder point in fiscal year 1987 but included in fiscal year 1988 contract

Excludes two fiscal year 1987 items for which no premature investment was identified

Detailed Information on Premature Procurements Made at the U.S. Army Missile Command

National stock number	Item name	Premature quantity ordered (A)	Unit price (B)	Premature investment value ^a (C)	Unnecessary quantity ^b (D)	Unnecessary cost ^c (E)
1420-00-484-8556	Battery					
1440-01-123-3417	Programmer assembly	33	\$7,700	\$254,100	13	\$100,100
5960-01-167-0763	Electron tube					
6920-01-166-7870	Radar unit					
5999-01-257-3006	Processor					
1270-01-232-6568	Day sensor	14	63,272	855,804		
5999-01-259-4054	Circuit card					
1270-01-177-5497	Transceiver unit	33	61,295	2,022,735		
5895-01-229-9911	Transmitter assembly					
1430-01-137-6241	Radar monitor	145	10,226	1,482,770	34 ^d	347,684
Total				\$4,645,409		\$447,784

^aThe premature investment value is column A multiplied by column B.

^bThe unnecessary quantity is the quantity exceeding the requirements objective as of April 1988.

^cThe unnecessary cost is column D multiplied by column B.

^dItem not purchased prematurely or in excess of requirements objective.

^eWhile procurement for this item was initiated 4 months early, the contract was awarded on time.

^fNone.

^gThis quantity reflects assets beyond the authorized requirements objective after considering quantities for multiyear procurement.

Schedule of Potential Holding Cost Increases Associated With Premature Procurements in Fiscal Years 1987 and 1988 at the U.S. Army Tank-Automotive Command

National stock number	Item name	Unnecessary quantity ^a (A)	Unit price (B)	Unnecessary cost ^b (C)	Months of stock held ^c (D)	Potential increased holding cost ^d (E)
2835-01-072-9960	Engine rotor	57	\$3,829	\$218,253	3.4	\$8,039
2835-01-178-7246	Reduction gearbox	16	26,322	421,152	5.2	23,725
2835-01-222-7936	Forward engine module	77	139,466	10,738,882	20.8	2,419,828
2835-01-180-5549	Reduction housing	89	7,150	636,350	22.3	153,732
2835-01-084-7263	Turbine nozzle	13	3,399	44,187	0.5	239
2520-00-896-9020	Transmission	39	9,500	370,500	6.6	26,491
2520-00-896-9021	Final drive	25	9,200	230,000	3.9	9,718
6115-01-047-9330	Auxiliary power unit	49	5,687	278,663	7.3	22,038
2540-01-179-9181	Shock absorber	41	796	32,636	0.6	212
2815-00-178-0268	Diesel engine	622	11,662	7,253,764	18.6	1,461,633
2815-01-150-5002	Diesel engine	2,395	3,113	7,455,635	20.8	1,680,003
2835-01-178-7379	Gearbox housing	95	2,284	216,980	27.1	63,702
3040-01-074-3771	Spur gearshaft	103	3,314	341,342	19.8	73,218
2835-01-073-0166	Axial compressor	139	2,466	342,774	8.5	31,564
2520-00-714-6135	Steering differential	83	4,290	356,070	3.3	12,730
2815-00-394-3015	Oil pump assembly	132	1,702	224,664	5.0	12,169
2920-00-441-8137	Generator	119	6,675	794,325	6.0	51,631
Total				\$29,956,177		\$6,050,672

^aReflects the quantity exceeding the authorized requirements objective as of February 1988.

^bColumn A multiplied by column B.

^cColumn A divided by forecast average monthly demands for the item as of February 1988.

^dColumn C divided by 12 multiplied by column D, then multiplied by 13 percent holding cost.

Comments From the Department of Defense



ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

PRODUCTION AND
LOGISTICS
(L/SD)

July 19, 1989

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

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "MILITARY LOGISTICS: Buying Army Spares Too Soon Creates Excessive Stocks and Increases Costs," dated May 31, 1989 (GAO Code 393294). The Department concurs with the findings and recommendations in the report, and corrective actions have either been accomplished or are underway to rectify the deficiencies addressed in the report.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Katzen", written over a horizontal line.

Jack Katzen

Enclosure

Appendix V
Comments From the Department of Defense

GAO DRAFT REPORT - DATED MAY 30, 1989
(GAO CODE 393294) OSD CASE 8011

"MILITARY LOGISTICS: BUYING ARMY SPARES TOO SOON
CREATES EXCESSIVE STOCKS AND INCREASES COSTS"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- **FINDING A: Background: Army Spares Procurement.** The GAO explained that the Army Materiel Command, which administers the Army's supply system, establishes management policies and procedures for its six buying commands. According to the GAO, these commands estimate future demands for individual items and try to ensure that stock is on hand when required, so that the capability of Army forces is not hindered.

The GAO observed that the buying commands use historical customer usage data to develop demand forecasts, which are then used to calculate authorized inventory levels needed to satisfy Army-wide customer demands. The GAO noted that, by periodically comparing on hand and due in quantities of an item to authorized requirements, buying commands can determine the point at which actions should be initiated (1) to repair unserviceable assets, (2) to procure new assets, or (3) to reduce quantities of assets being procured. The GAO pointed out that these points are referred to as the repair, reorder, and cutback action points, respectively. The GAO defined the economic quantity of an item to order can range from 3 to 36 months of stock and is based on the item's estimated procurement and holding cost. (pp. 2-3, pp. 10-13/GAO Draft Report)

DOD RESPONSE: Concur.

- **FINDING B: Background: Army Policy Establishes Authorized Stock Levels.** The GAO cited Army Regulation (AR) 710-1, "Centralized Inventory Management of the Army Supply System," dated March 1988, as setting forth policy and

Enclosure

Now on pp 2.10-11

procedures for managing secondary items and assigns responsibility for inventory management to the Army Materiel Command. According to the GAO, this regulation stipulates that spares should not be bought until inventory levels fall to or below the reorder point quantity. The GAO further explains that the policy establishes the requirements objective as the authorized stock level--the maximum quantity of stock that should be on hand and on order for an individual item.

The GAO noted that purchasing the correct item quantity at the appropriate reorder point enables managers to ensure that buying commands have the proper amounts of stock available when needed and to do so without incurring unnecessary costs to hold and store inventories. The GAO found that procurements are based on forecasted demands and include quantities needed to meet demands until a contract can be awarded and the item can be produced and delivered. The GAO observed that the quantity authorized for purchase in AR 710-1 generally will not be on hand to meet demands for 24 to 36 months after the purchase is initiated. The GAO pointed out that purchasing an item sooner than necessary, or purchasing item quantities exceeding authorized levels, increases the likelihood that these assets will become unneeded excess to requirements. The GAO concluded that this can occur if requirements later change as a result of decreases in demand and other factors. (pp. 3-4, pp. 18-19/GAO Draft Report)

DOD RESPONSE: Concur.

- **FINDING C: Buying Spares Before They Are Needed And Quantities Exceeding Authorized Levels Can Lead To Excess Stocks.** The GAO found that, contrary to Army policy, the U.S. Army Tank and Automotive Command had initiated item purchases before stock levels reached the reorder points and had purchased quantities exceeding authorized levels. The GAO calculated that, for 16 of the 31 items sampled, the Tank-Automotive Command had initiated procurement from 3 to 16 months too early. In addition, the GAO determined that for 29 of the 31 items, the Tank and Automotive Command had purchased quantities that exceeded authorized levels. The

Appendix V
Comments From the Department of Defense

GAO estimated that some of the quantities purchased could have been deferred by as much as an entire fiscal year.

The GAO further found that, for 17 of the 29 items that were purchased prematurely, the Army could have waited from 4 months to more than 16 years to initiate the purchases because requirements projected at the time of the buy did not materialize. (pp. 2-4, pp. 19-29/GAO Draft Report)

DOD RESPONSE: Concur. The DoD agrees that the data reflects the situation in the Tank-Automotive Command at the time of the audit. Corrective actions are being taken by the Command to implement a standard, auditable methodology for reducing unnecessary on-order quantities.

• **FINDING D: Premature Procurements Can Lead To Increased Holding Costs.** The GAO observed that when computing the projected reorder point for a given item, the requirements determination and execution system considers the quantity needed to meet demands during both administrative and production lead times. The GAO noted that initiating procurement prior to the reorder point increases the likelihood that items will be delivered before they are needed and held in inventory longer than anticipated. The GAO found that some Tank and Automotive Command items purchased prematurely were scheduled to be delivered as much as 16 months before they were needed. The GAO concluded that these premature procurements and early deliveries could result in the holding of excessive inventory up to 27 months longer than anticipated at the time of purchase. The GAO observed that purchased quantities could be delivered and -- because requirements projected at the time of the buy did not materialize or, in fact, declined-- could be on hand for periods of time longer than anticipated and, at the same time, be excessive. The GAO estimated that unless currently projected requirements increase, the command will incur an additional \$6 million to hold these assets until they are needed.

The GAO explained that purchasing and receiving items sooner than necessary can be costly. For example, storage depots incur increased holding costs for items that are received before they are needed and held in inventory longer than anticipated. The GAO reported that the Tank

and Automotive Command cost to hold items is about 13 percent of the annual on hand inventory value. The GAO estimated that, as of February 1988, items valued at about \$30 million of the \$87 million spent prematurely for spare and repair parts at the command were no longer needed to meet requirements that had been projected at the time the purchases were initiated.

The GAO selected 6 items from a sample of 31 items procured by the command to determine whether deliveries were being delayed to offset potential increases in holding costs. The GAO computed the projected delivery dates, based on the Army's production lead time estimates, and compared these dates with the delivery schedules included in the contracts. The GAO analysis indicated that these six items had been scheduled to be delivered from 1 to 16 months ahead of the projected dates. (p. 5, pp. 29-33/GAO Draft Report)

DOD RESPONSE: Concur. Corrective actions are underway to preclude future occurrences.

• **FINDING E: Internal Controls: Tank and Automotive Command Not Following Army Policy For Reducing Unnecessary Purchases.** The GAO observed that Army Regulation 710-1 establishes inventory management objectives and specifies the internal controls intended to prevent unnecessary purchases. The GAO found that at the tank command, local procedures have been established to ensure that objectives are met. According to the GAO, these procedures require various levels of review and approval to certify that the automated study and the item manager's recommendation to buy, repair, or cut back item quantities are correct and conform to Army regulations.

The GAO pointed out that the need to enforce internal controls is demonstrated in the procedures the command followed in reducing procurements. According to the GAO, Army policy states that the buying commands should reduce or cancel procurements, if it is economical to do so, when quantities on hand or due in exceed authorized levels. The GAO stated that the decision to reduce procurement quantities should consider such factors as the cost to hold the excess assets, average yearly demand, the item's unit

Appendix V
Comments From the Department of Defense

price, and administrative and penalty costs of modifying the contract to cut back quantities.

The GAO found that in February 1986, the command directed its item managers not to approve recommended procurement reductions for any item unless the quantity to be reduced exceeded the authorized requirements objective by at least 12 months of supply, regardless of whether the contract had been awarded or was still in the purchase request stage. According to the GAO, command officials stated that this decision had been based on the belief that it was uneconomical to cut back smaller quantities since the item would probably need to be purchased again within the next year. The GAO noted that the command instructed its item managers to ask the contracting officers to determine the government's cost to reduce the quantity and, if the cost did not exceed 50 percent of the contract's value, to approve the reduction for quantities exceeding a year's supply. The GAO indicated that the policy was subsequently changed to allow item managers to recommend reductions at any time before potential contractors were solicited for bids. The GAO observed however, that once solicitation occurred, recommended reductions fell under the year's supply rule.

The GAO estimated that the command invested more than \$21 million prematurely for the five items in the fiscal year 1988 sample. The GAO found that automated studies done prior to contract award on four of these five items had indicated that some of the quantities on hand and on order were no longer necessary to meet requirements that were computed at the time the procurement was initiated and should have been reduced or cancelled. The GAO explained however, that the reductions were not recommended by the item managers even when, in at least one of the cases, reduced quantities exceeded authorized levels by more than a year's supply. The GAO estimated that, for these four items, the command had invested about \$3.1 million in quantities identified for potential cutback prior to contract award. (p. 5, pp. 35-39/GAO Draft Report)

DOD RESPONSE: Concur. Corrective actions are being taken to strengthen the internal controls in this process. These measures will allow closer scrutiny of supply control study

review and approval actions utilized in recommending reductions to procurement quantities.

- **FINDING F: Internal Controls. Local Guidance For Documenting Inventory Management Decisions Is Vague and Fragmented.** The GAO pointed out that Standards for Internal Controls in the Federal Government requires that (1) supervisors clearly communicate duties and responsibilities to their staffs, (2) transactions be clearly documented and documentation be readily available for examination by persons responsible for verifying the transactions, and (3) procedures derive the maximum benefit with a minimum of staff effort. The GAO found that at the Tank and Automotive Command the amount of supporting documentation varied for the five fiscal year 1988 procurements reviewed and that internal control procedures were vague and fragmented. According to the GAO, command officials disagreed on what information and documentation were required to support individual inventory management actions.

The GAO pointed out that the command has issued internal control guidance on information requirements to support item procurements, however this guidance is contained in various directives, policy memos, and handbooks, which lend themselves to differing interpretations. As a result, the GAO noted that item managers, section chiefs, branch chiefs, and division heads do not agree on what documentation should be included with recommendations to procure, repair, or cut back items. Consequently, the GAO reported that it was difficult to verify what information had been used or was needed to support the procurement decisions for the five fiscal year 1988 purchases we reviewed.

The GAO discussed the difficulty item managers and supervisors had in determining what documentation was required to support a purchase with command officials. According to the GAO, the officials agreed that documentation for purchases should be consistently applied and stated that they planned to consolidate guidance to facilitate easy reference. (p. 5, pp. 39-42/GAO Draft Report)

DOD RESPONSE: Concur. Actions are underway to consolidate guidance to ensure that appropriate documentation is provided in support of inventory management actions.

Additionally, the Army Tank-Automotive Command has developed an economic cutback model that will provide a standard, auditable methodology for reducing unnecessary purchases.

- **FINDING G: Internal Controls: The Tank and Automotive Command's Procurement Approval Thresholds Do Not Comply With Army Guidance.** The GAO reported that Standards for Internal Controls in the Federal Government, states that adequate internal controls should ensure that valid transactions are authorized and carried out by persons acting within their authority. According to the GAO, the Army Materiel Command, within its responsibilities as outlined in AR 710-1, establishes procurement approval thresholds for the buying commands. They observed that the Army Materiel Command regulations require varying levels of supervisory review and approval for all recommendations to procure, rebuild, or cut back item quantities based on the total value of the transaction.

The GAO reviewed the approval process for a sample of five fiscal year 1988 procurements to document whether recommendations had been approved at the levels specified by materiel command. The GAO found that on four of the five items, approval had been received at lower levels than those authorized. The GAO concluded that the Tank and Automotive Command had not complied with Army guidance since at least November 1986. The GAO reported that command officials stated that revising approval thresholds would drastically increase the work load from the section chief level through the commander level and that in November 1986, the command requested approval to continue with its existing thresholds.

The GAO explained that materiel command officials stated that the tank command's request, along with similar requests from three of the other five buying commands, had resulted in a February 1988 interim policy change, which increased the dollar thresholds at each approval level.

The GAO noted that the new approval thresholds are still lower than those in use at the tank command. According to the GAO, Army officials said that the tank command

Appendix V
Comments From the Department of Defense

Now on pp 4. 36-37.

should be complying with the February 1988 guidance.
(p. 5, pp. 42-44/GAO Draft Report)

DOD RESPONSE: Concur. Policy guidance to bring the Army Tank-Automotive Command into compliance with the review and approval signature levels, as established by the Army Materiel Command and outlined in Army Regulation 710-1, was issued to all item managers and supervisors on June 23, 1989.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1:** The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to reinforce the need for buying commands to adhere to Army Regulation 710-1, which prohibits routinely initiating the procurement of spares in advance of the computed reorder points or purchasing quantities that exceed authorized levels unless such actions are economically justified.
(pp. 5-6, p. 34/GAO Draft Report)

Now on pp 5. 30

DOD RESPONSE: Concur. Upon notification that this practice was occurring, the Army Materiel Command directed the Army Tank-Automotive Command on February 8, 1989, to stop unauthorized buy-ahead procurements. Within the next 60 days, additional correspondence will be forwarded by the Department of Army to the Army Materiel Command reiterating current policy on buy-ahead practices.

- **RECOMMENDATION 2:** The GAO recommended that the Secretary of the Army direct the Commander of the Army Materiel Command to perform routine, periodic management reviews of buying commands to confirm that (1) established procedures for reducing unnecessary on order item quantities are being followed; (2) guidance for documenting repair, procurement, and cutback transactions has been consolidated and the importance of understanding this guidance has been adequately emphasized to the involved staff as they carry out their daily duties; and (3) all transactions have been reviewed and approved at the levels established by the Army Materiel Command. (pp. 5-6, p. 45/GAO Draft report)

Now on pp 5. 37-38

Appendix V
Comments From the Department of Defense

DOD RESPONSE: Concur. Within the next 60 days, the Army will forward correspondence directing the Army Materiel Command to utilize its Staff Assistance Visits and other command reviews to ensure correct procurement procedures are followed within its Major Subordinate Commands.

The following corrective actions, which relate specifically to the findings within this audit, have already been taken:

a. The Army Tank-Automotive Command has developed an economic cutback model that will provide a standard, auditable methodology for reducing unnecessary on order quantities.

b. The Army Tank-Automotive Command has initiated changes to ensure compliance with Army Regulation 710-1 and to strengthen internal controls of the item management decision review process, namely:

(1) The Item Manager's Handbook is undergoing a complete review to correct any noncompliance with Army Regulation 710-1. Target date for completion is October 1, 1989.

(2) A Requirements Determination and Execution System (RD&ES) Study Data Worksheet has been developed to track the status of supply control study review and approval actions.

(3) A monthly list of all supply control study recommendations requiring command level approval has been developed and is being forwarded to the Command Group for their review.

c. Policy guidance, to bring the Army Tank-Automotive Command into compliance with the review and approval signature levels established by the Army Materiel Command (as outlined in Army Regulation 710-1), was issued to all item managers and supervisors on June 23, 1989.

d. This topic is an item of interest to be included in Army Materiel Command Staff Assistance Visits (conducted on an ongoing basis), and in the

Department of Army/Army Materiel Command FY 1991 budget reviews.

- **RECOMMENDATION 3:** The GAO recommended that the Secretary of the Army require that the next annual Financial Integrity Act assessment include a review of the internal control weaknesses discussed in this report. (pp. 5-6, p. 45/GAO Draft report)

DOD RESPONSE: Concur. The Army will review the weaknesses identified in this report during the next Financial Integrity Act assessment, covering the fiscal year ending September 30, 1989. This review will identify whether the corrective actions taken provide adequate internal controls in this area or whether additional actions need to be taken.

Now on pp 5 38

Major Contributors to This Report

**National Security and
International Affairs
Division, Washington,
D.C.**

Kenneth R. Knouse, Jr., Assistant Director
Cynthia A. Steed, Evaluator-in-Charge
Kathleen J. Hancock, Evaluator

Detroit Regional Office

Richard H. Beckeman, Regional Assignment Manager
Donald A. Warda, Site Senior
Robert Y. Hill, Evaluator

**Atlanta Regional
Office**

Bobby Worrell, Site Senior

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