REPORT
NO. 90-050 March 23, 1990

MEMORANDUM FOR ASSISTANT SECRETARY OF THE ARMY (FINANCIAL MANAGEMENT)

SUBJECT: Quick-Reaction Report on Requirements for Wholesale Inventories to Support the Target Acquisition Designation Sight/Pilot Night Vision Sensor System (Project No. 9LE-0064.01)

Introduction

During the early part of our Audit of Requirements for Current Procurements of Military Service Managed Items (Project No. 9LE-0064), we observed a condition requiring prompt management action. The Army's Aviation Systems Command (AVSCOM) initiated procurements for excessive quantities of spare and repair parts for the Target Acquisition Designation Sight/Pilot Night Vision Sensor System (TADS/PNVS), primarily because reliable supply management data was lost when item management of TADS/PNVS spare and repair parts was transferred to AVSCOM. The requirements computations supporting those procurements were based on estimated maintenance factors that were unreasonable. One of these factors was an arbitrary unserviceable return rate, and the Army Materiel Command had not provided guidance on the use of arbitrary rates. In addition, AVSCOM did not provide adequate guidance to the logistics support contractor to minimize inventory levels to support the contractor's operation and did not effectively monitor the assets held by the contractor so that quantities that were in excess of reasonable operating levels would be identified and used to satisfy forecasted wholesale requirements. AVSCOM has already taken prompt and positive action to curtail some procurements but should take additional action to recompute requirements for TADS/PNVS spare and repair parts that are being, or soon will be, procured.

Background

The TADS/PNVS is a major component of the Apache helicopter. Program management responsibilities for both the TADS/PNVS and the Apache are assigned to AVSCOM. Martin Marietta Corporation provides logistics support, including depot maintenance, for the TADS/PNVS system. In 1988, the supply management responsibilities for TADS/PNVS spare and repair parts were consolidated at AVSCOM. As a result of this consolidation,

management of approximately 1,400 spare and repair parts was transferred from the Army Missile Command (MICOM) and the Communications-Electronics Command (CECOM) to AVSCOM.

Discussion

The transfer of supply management data to AVSCOM did not go smoothly. The Army Materiel Command had not established effective procedures and controls to automatically transfer supply management data between its subordinate commodity commands. Data files could not be automatically transferred among the three commands' Commodity Command Standard Systems (CCSS) without significant systems analysis and programming effort. Consequently, data in only 4 of 28 sectors of the Army Master Data File were transferred automatically. Critical data files such as the Demand, Return, and Disposal History file and the Financial Inventory Accounting file were not transferred in a timely or effective manner. In addition, computer tapes were lost or damaged in shipment. As a result, experiential data that were vital to accurately forecast requirements for spare and repair parts were lost or unusable at the time that purchases were initiated. In early 1989, AVSCOM believed that supply support for the TADS/PNVS system would be degraded because of the problems with the transfer of supply management data. To minimize delays, AVSCOM proceeded with parts procurements. However, the procurements were not always based on requirements developed from complete and appropriate data.

In the beginning of our audit of Requirements for Current Procurements of Military Service Managed Items (Project No. 9LE-0064), we reviewed requirements for three TADS/PNVS spare and repair parts. We concluded that requirements had been computed using estimated recovery rates that were not based on experiential data using unverified requirements estimates provided by the logistics support contractor and without considering Government inventory that the contractor held. Consequently, we asked AVSCOM to recompute requirements for 23 TADS/PNVS items involving procurements valued at $48.5 million. AVSCOM recomputed requirements for those items and canceled or reduced procurements for 8 items valued at $8.1 million. In addition, AVSCOM initiated a review of other TADS/PNVS items and canceled or reduced procurement actions for 19 items valued at approximately $3.7 million. See Enclosure 1 for details.

AVSCOM used experiential data to replace most of the estimated data that had been used in the original computations. For example, estimated failure rates were replaced with demand data that AVSCOM had accumulated since the management transfer, and estimated final recovery rates were replaced with actual recovery rates experienced by the logistics support contractor.

In addition, AVSCOM deleted erroneous additive requirements that the contractor provided, and AVSCOM adjusted the buy requirements to reflect assets the contractor identified as being excess to its inventory requirements. AVSCOM's actions were prompt and commendable, but we believe that additional reductions in TADS/PNVS spare parts procurements are achievable.

Procurements for some TADS/PNVS spares are still excessive because unreasonably low unserviceable return rates were used to recompute requirements, and because the inventory requirements of the logistics support contractor were based on incorrect equipment operating data. DoD Instruction 4140.33, "Grouping of Secondary Items for Supply Management Purposes," June 12, 1968, requires high or very high intensity management for many of the TADS/PNVS spares when the value of forecasted annual demand exceeds $100,000 or when the items are critical. We estimate that the unserviceable return rates for about 60 percent of the TADS/PNVS items that qualify for high or very high intensity management may not be based on appropriate experiential data. We could not readily estimate the number of TADS/PNVS items for which the contractor's inventory requirements may be miscalculated.

An unserviceable return rate represents the relation, in percent, of the quantity of unserviceable units of an item that are returned to a maintenance facility, to the quantity of recurring demands for that item. The rate influences the quantity of new items that the wholesale inventory activity will buy. AVSCOM directed item managers to compute procurement requirements using unserviceable return rates that were calculated by AVSCOM's automated CCSS. However, when the CCSS computed a rate that was less than 85 percent, item managers used a minimum rate of 85 percent. There was no substantive basis for that minimum percentage at AVSCOM, and the Army Materiel Command had not provided guidance on the use of arbitrary rates. The use of an arbitrary rate was not consistent with guidance provided by the Army Materiel Command in CCSS Operating Instruction 18-710-102, "Requirements Determination and Execution Systems." That Instruction requires an item manager to validate requirements data, such as the unserviceable return rate, before initiating procurement actions. AVSCOM had not established procedures for the verification of unserviceable return rates. Our review of 23 items (see Enclosure 1) indicated that 17 were depot level reparable items. Procurement quantities for 11 of the 17 items were based, in part, on the use of the prescribed minimum 85-percent unserviceable return rate because the system rate was lower. However, we found that both the system rate and the minimum rate were too low. For example, the CCSS calculated an unserviceable return rate of 42 percent for an electronic component, national stock number 1270-01-232-6666. Since that rate was less than 85 percent, the item manager used the

prescribed minimum rate of 85 percent in the requirements computation. By analyzing the contractor's and AVSCOM's records, we found that the unserviceable return rate should have been about 100 percent, and the use of this rate would have made the procurement of 15 units valued at $278,070 unnecessary. The system rate of 42 percent was incorrect because it was developed from incomplete data. Not all of the receipts of unserviceable returns that were recorded in the logistics support contractor's file had been recorded in AVSCOM's Demand, Return, and Disposal History file, but this condition had not been identified at AVSCOM because the system rate had not been verified. Generally, AVSCOM's file did not contain the data that had been accumulated in MICOM's and CECOM's Demand, Return, and Disposal History files relating to TADS/PNVS items that they had transferred.

We also found that AVSCOM had not provided adequate guidance to the contractor to establish minimal inventory levels in support of the contractor's maintenance operation. For example, the program manager directed the contractor to use 30 operating hours per month in determining the contractor's inventory requirements for the Target Acquisition Designation Sight spare and repair parts instead of the approximately 22.5 operating hours per month that the Sight systems were actually operating. Use of a larger number of operating hours results in overstated contractor inventory requirements. AVSCOM had not established procedures to verify the propriety of the contractor's inventory levels and the accuracy of inventory reports for assets held by the contractor in excess of those levels.

In the near future, AVSCOM will be procuring more wholesale stock for TADS/PNVS items including a number of items related to that system's Optical Improvement Program. Because AVSCOM's investment in these items could be substantial, the use of accurate, comprehensive experiential data and positive knowledge of the logistics support contractor's requirements and asset status are needed to minimize wholesale inventory investments for the TADS/PNVS system.

Recommendations

1. We recommend that the Commander, Army Materiel Command:

a. Establish procedures and controls for effective transfer of supply management data during significant item transfers.

b. Instruct the Aviation Systems Command not to use an arbitrary unserviceable return rate of 85 percent in computing requirements for Target Acquisition Designation Sight/Pilot Night Vision Sensor System items.

2. We recommend that the Commander, Aviation Systems Command:

a. Establish procedures for verifying unserviceable return rates for intensively managed Target Acquisition Designation Sight/Pilot Night Vision Sensor System spares.

b. Establish procedures for validating the logistics support contractor's requirements and inventory of spare parts.

c. Recompute requirements and revise procurement quantities for intensively managed Target Acquisition Resignation Sight Pilot Night Vision Sensor System spares after verifying the unserviceable return rates and validating contractor's requirements and inventory.

Management Comments

On February 8, 1990, a draft of this report was provided to the Assistant Secretary of the Army (Financial Management); the Commander, Army Materiel Command; and the Commander, Aviation Systems Command for comments. We requested that comments be provided within 15 days so that they could be included in this final report.

As of March 19, 1990, we had not received any comments; therefore, we request that the Army provide comments to the final report indicating concurrence or nonconcurrence with the finding and each recommendation. If you concur, describe the corrective actions taken or planned, the completion dates of actions already taken, and the estimated dates of completion of planned actions. If you nonconcur, please state your specific reasons. If appropriate, you may propose alternative methods for accomplishing desired improvements.

In order for your comments to be considered responsive, you must confirm the estimated monetary benefits, identified in Enclosure 2, of $12 million that resulted from AVSCOM's review of TADS/PNVS items for potential cutbacks in procurement quantities. If you have not cut back procurements of the listed items by the quantities and values shown, we request that you provide adjusted figures in your response to this final report. Potential monetary benefits are subject to mediation in the event of nonconcurrence or failure to comment.

DoD Directive 7650.3 requires that all audit recommendations be resolved within 6 months of the date of the final report. Accordingly, final comments on the unresolved issues in this report should be provided within 15 days of the date of this report.

The courtesies and cooperation extended to the audit staff are appreciated. If you have any questions regarding this quick-

reaction report, please contact Mr. James Helfrich, Program Director, or Mr. Joel Chaney, Project Manager, at (614) 238-4141 (AUTOVON 850-4141). Activities visited or contacted during the audit are listed in Enclosure 3. A list of the Audit Team Members is in Enclosure 4. Copies of the final report are being distributed to the non-DoD activities shown in Enclosure 5.

Edward R. Jones
Deputy Assistant Inspector General
for Auditing

Enclosures

cc:
Secretary of the Army

TADS/PNVS ITEMS REVIEWED BY THE AVIATION SYSTEMS COMMAND (AVSCOM) FOR POTENTIAL CUTBACK IN QUANTITY BEING PROCURED

23 ITEMS INITIALLY REVIEWED

NATIONAL STOCK NUMBER	QUANTITY BEING PROCURED	QUANTITY POTENTIAL CUTBACK	VALUE OF CUTBACK ($ In Thousands)
5826-01-212-3265	66	66	$2,250
5826-01-169-9396	56	56	67
1270-01-223-9108	14	14	15
1270-01-170-4346	42	32	1/
5999-01-267-6688	42	14	1/
1270-01-187-3566	42	11	1/
5999-01-169-8929	56	3	1/
1270-01-169-7402	28	18	1/
1270-01-172-2188	28	7	1/
5826-01-169-9390	56	56	32
1270-01-170-0925	42	0	-
1270-01-221-0641	42	10	1/
1270-01-171-2760	28	28	123
1270-01-271-1824	34	0	-
1270-01-232-2337	8	0	-
5826-01-195-0864	28	28	68
1270-01-221-0604	35	35	413
5999-01-298-8522	25	0	-
1090-01-225-8336	64	0	-
1270-01-232-6570	30	0	-
1270-01-187-3439	37	0	-
1270-01-232-6568	103	43	5,155
1270-01-259-0151	74	0	-
Total			$8,123

1/ AVSCOM indicated that partial cancellation would reduce the buy below the contractor recommended Economic Buy Quantity. AVSCOM was obtaining cost data relative to alternative quantities before making a final determination as to whether the potential cutback could be realized.

TADS/PNVS ITEMS REVIEWED BY THE AVIATION SYSTEMS COMMAND (AVSCOM) FOR POTENTIAL CUTBACK IN QUANTITY BEING PROCURED (Continued)

19 ITEMS SUBSEQUENTLY REVIEWED

NATIONAL STOCK NUMBER	QUANTITY BEING PROCURED	QUANTITY POTENTIAL CUTBACK	VALUE OF CUTBACK ($ In Thousands)
7050-01-302-6544	27	27	$ 195
1270-01-232-2334	168	135	681
1270-01-232-2071	17	17	7
1270-01-223-8927	74	50	257
1270-01-221-0639	3	3	9
1270-01-221-0354	30	30	6
1270-01-170-4336	42	42	43
5999-01-170-4338	109	59	48
5999-01-204-7896	70	21	59
5999-01-300-3789	61	61	1,528
6130-01-169-4286	53	23	149
6130-01-199-2068	164	142	502
1270-01-171-6789	2/	10	6
1270-01-178-8708	2/	26	2
1270-01-169-7394	2/	32	21
1270-01-170-4335	2/	30	42
1270-01-171-6752	2/	50	2
5930-01-180-1575	2/	41	1
5826-01-175-7289	10	10	175
Total			$3,733

AVSCOM ADVISED US ON 2 OTHER ITEMS IT REVIEWED

NATIONAL STOCK NUMBER	QUANTITY BEING PROCURED	QUANTITY POTENTIAL CUTBACK	VALUE OF CUTBACK ($ In Thousands)
6650-01-176-3107	35	24	$ 70
6650-01-176-3108	35	24	107
Total			$ 177

2/ Total information not provided.

SCHEDULE OF POTENTIAL MONETARY AND OTHER BENEFITS RESULTING FROM AUDIT

Recommendation Reference	Description of Benefit	Amount and/or Type of Benefit
Other Matter of Interest	Economy and Efficiency. Avoid unnecessary or premature investment in wholesale inventory by reevaluating requirements and considering all wholesale assets in deciding on the quantities that should be bought.	The benefit is primarily one of cost avoidance. During the audit we asked the Army's Aviation Systems Command (AVSCOM) to recompute procurement quantities for TADS/PNVS spare and repair parts. AVSCOM recomputed requirements and canceled or reduced procurements by $12 million. Additional, non-quantifiable savings should accrue when requirements quantities for other TADS/PNVS items are recomputed.

ACTIVITIES VISITED OR CONTACTED

Department of the Army

Headquarters, Army Materiel Command, Alexandria, VA
Aviation Systems Command, St. Louis, MO
Communications-Electronics Command, Fort Monmouth, NJ
Missile Command, Huntsville, AL
Systems Integrated Management Activity, St. Louis, MO

Other

Martin Marietta Corporation, Orlando, FL

AUDIT TEAM MEMBERS

Donald E. Reed	Director, Logistics Support Directorate
James B. Helfrich	Program Director
Joel K. Chaney	Project Manager
Curt W. Malthouse	Team Leader
John R. Williams	Auditor

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Department of the Army

Secretary of the Army
Assistant Secretary of the Army (Financial Management)
Commander, Army Materiel Command
Commander, Aviation Systems Command

Non-DoD Activities

Office of Management and Budget
U.S. General Accounting Office, NSIAD Technical Information Center

Congressional Committees:

Senate Committee on Appropriations
Senate Subcommittee on Defense, Committee on Appropriations
Senate Committee on Armed Services
Senate Committee on Governmental Affairs
Senate Ranking Minority Member, Committee on Armed Services
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