

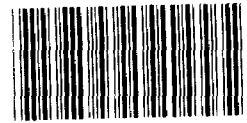
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Report to the Commanding General,
Marine Corps Logistics Base,
Albany, Georgia

October 1986

SUPPLY MANAGEMENT

Improving Marine Corps Procedures for Phasing Out Equipment



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October 9, 1986

Major General W. G. Carson, Jr.
Commanding General
Marine Corps Logistics Base
Albany, Georgia

Dear General Carson:

We have completed our survey of the Marine Corps' procedures for planning and managing the phaseout of weapon systems and equipment. We directed our work primarily at determining whether the Marine Corps Logistics Base (MCLB), Albany, Georgia, was (1) preparing adequate plans for items being phased out, (2) unnecessarily procuring or repairing items being phased out, and (3) coordinating phase-out plans with primary inventory control activities (PICAS).¹ We also made a limited assessment of computer data logistics managers used to make procurement and repair decisions.

Our survey disclosed the following problems with MCLB's planning and management procedures for phasing out weapon systems and equipment:

- The standard operating procedure for preparing phase-out plans was inadequate.
- Logistics managers had completed only a small percentage (20 percent) of the plans required for weapon systems and equipment being phased out.
- Those phase-out plans that had been completed were inadequate.
- MCLB was not providing PICAS with sufficient information to compute requirements for some items being phased out and this could cause PICAS to buy more spare parts than needed.
- Logistics managers had initiated or were planning unnecessary procurement and repair actions totaling about \$1.8 million on 7 of 47 items we reviewed. In addition, 11 other procurement/repair actions were not fully supported by current requirements data.
- Computer data for some items contained errors.

We discussed our findings with MCLB logistics management personnel during our survey. Logistics management personnel either took or

¹A PICA is a Department of Defense activity having single manager responsibility for managing repairable items used by more than one activity.

planned to take corrective action on each of the problems we identified. Corrective actions taken included (1) revising the standard operating procedure to require that phase-out plans also include asset utilization plans, (2) assigning responsibility for monitoring preparation of phase-out plans to two newly-organized support branches in the Weapon System/Equipment Management Directorate, and (3) canceling the procurement and repair of items totaling about \$1.7 million.

Logistics management personnel said that greater emphasis would be placed on retaining supporting documentation for all procurement and repair actions. They also stated that coordination with PICAS would be improved by providing PICAS copies of phase-out plans and other information when requested. Logistics management personnel said the computer errors would be corrected by 1987 with implementation of a new computer-based standard supply system. In the interim, they will manually review computer data for errors when making purchasing or repair decisions.

In our opinion, MCLB's actions to ensure the preparation and adequacy of phase-out plans and to manually review the accuracy of computer data when making purchasing and repair decisions should reduce unnecessary procurement and repair of items being phased out of the inventory. If computer errors are corrected in the new standard supply system, logistics managers should have more reliable information for phasing out weapon systems and equipment. Also, if MCLB provides PICAS with copies of phase-out plans, those activities will have more specific information on the level of support required for items phasing out of the inventory. Because of the corrective actions taken or planned by MCLB, we do not plan further work at this time. More detailed information on our findings and on actions taken or planned is discussed in appendix I.

Copies of this report are being sent to the Secretaries of Defense and the Navy and to the Commandant of the Marine Corps.

Sincerely yours,



James D. Martin
Regional Manager

Observations on Marine Corps Procedures for Phasing Out Weapon Systems and Equipment

This appendix summarizes our observations on the Marine Corps' procedures for planning and managing the phaseout of weapon systems and equipment. It contains information about deficiencies in phase-out planning, inadequate coordination with primary inventory control activities (PICAS), unnecessary and unsupported procurement and repair actions, and problems with the reliability of computer data. It also contains the Marine Corps Logistics Base's (MCLB's) actions and plans to correct these problems.

Background

The Marine Corps is in the midst of replacing many of its older weapon systems and equipment. For example, MCLB data shows that about 245 principal end items are scheduled to be phased out by the Marine Corps during the 5-year period beginning in March 1986. This includes such items as the M-151 jeep; the M-35, 2-1/2-ton-truck; the M-123, 10-ton-truck; and the .45 caliber pistol. Careful planning is needed to preclude unnecessary procurement or repair of items that are being phased out of the inventory while still maintaining an acceptable level of readiness.

In June 1982, Headquarters, Marine Corps, assigned MCLB responsibility for formulating and implementing phase-out plans for principal end items and associated equipment. However, Headquarters retained the authority to approve phase-out plans. In May 1984, MCLB's Weapon System/Equipment Management Directorate issued Standard Operating Procedure (SOP) 4110.1 to provide guidance for its divisions in preparing and implementing phase-out plans. The divisions were required to prepare formal phase-out plans for principal end items being phased out (e.g., a jeep) and separate plans for the associated secondary items (e.g., a jeep engine). Firm action on each phase-out plan was to begin when a principal end item was 5 years from its scheduled phase-out date or when advanced planning documentation on replacement equipment was received.

Improvements Needed in Phase-Out Planning and Coordination

Our survey disclosed several deficiencies pertaining to MCLB's phase-out planning. These deficiencies were (1) SOP 4110.1 did not require that phase-out plans include asset utilization data, (2) phase-out plans had been prepared for only about 20 percent of the items and completed plans generally did not include all required information, and (3) MCLB was not providing PICAS with sufficient phase-out information. Logistics management personnel took action to correct many of these deficiencies during our survey or promised that corrective action would be taken on the rest.

SOP 4110.1 Inadequate

MCLB issued SOP 4110.1 during May 1984 to provide guidance on the development and implementation of phase-out plans. The stated objectives of phase-out plans were to obtain maximum utilization of equipment while maintaining acceptable readiness levels, reduce the inventory of spare and repair parts, and dispose of weapon systems and equipment in the best interest of the government. SOP 4110.1 did not require, however, that phase-out plans include asset utilization data showing specific planned utilization of available assets during phaseouts. Such data is needed to match total quantities of projected available assets against projected demand.

In November 1985, we discussed with logistics management personnel the need for including asset utilization data in phase-out plans. In December 1985, SOP 4110.1 was reissued as SOP 4110.1A with a requirement to include asset utilization data in the plans.

Phase-Out Plans Not Being Prepared or Inadequately Prepared

Phase-out plans had not been prepared as required by SOP 4110.1. As of April 1985, logistics managers had completed phase-out plans for 31 of the 343 principal end items being phased out over the next 5 years. Directors of the two integrated logistics support divisions stated that the primary reasons for not preparing more phase-out plans were (1) the short time that the requirement had been in effect, (2) inventory managers had higher priority tasks, and (3) the major effort involved in preparing plans for the large number of items phasing out. The directors also said they believed inventory managers were taking action to economically phase out items even though phase-out plans had not yet been prepared.

In July 1985, MCLB assigned responsibility for monitoring phase-out plan preparation to two new support branches in the integrated logistics support divisions. In April 1986, we followed up on preparation of phase-out plans and found some improvement. At that time, 245 principal end items had been identified as requiring phase-out plans and logistics managers had completed plans for 51 items and had plans in progress for an additional 21 items.

We found that completed phase-out plans were generally inadequate. The plans did not include sufficient information on phaseout of applicable secondary items, as required by SOP 4110.1, and did not include asset utilization data. The revised SOP requires asset utilization data to be included in phase-out plans and approval of the plans for secondary items by integrated logistics support division directors. In addition, the

divisions' support branches are required to review the adequacy of phase-out plans. These actions should help to improve the quality of these plans.

Coordination With PICAs Could Be Improved

MCLB was not providing PICAs with sufficient information to compute requirements for some items being phased out, which could cause PICAs to buy more spare parts than needed. As of August 1985, MCLB was obtaining 7,363 reparable items through PICAs but was providing PICAs with projected requirements information for only 46 percent of these items. PICAs would be required to compute Marine Corps requirements for the remaining 54 percent of the items, some of which were being phased out.

PICAs are responsible for cataloging, buying, disposing, and, where appropriate, maintaining reparable items at the depot level. Secondary inventory control activities (SICAs) obtain reparable items from PICAs and either return unserviceable items to PICAs for credit or repair the unserviceable items themselves. If a SICA returns unserviceable items to PICAs, the SICA is required to provide PICAs with projected 5-year requirements on an annual basis. However, SICAs are not required to provide PICAs with similar information for items not repaired by PICAs.

As of August 1985, MCLB was the SICA for 7,363 reparable items and 3,364 of these items were returned to PICAs for repair. MCLB is required to provide PICAs with projected 5-year requirements for these 3,364 items on requirements data exchange cards. This information should be sufficient for PICAs to reduce support when the items are phased out. MCLB, however, was not providing PICAs with projected requirements for the remaining 3,999 reparable items not returned to PICAs. Some of these items were being phased out. We verified that MCLB had notified one PICA, the U.S. Army Tank-Automotive Command, that some of the 3,999 items were being phased out, but MCLB did not provide specific information about the planned phaseouts. U.S. Army Tank-Automotive Command personnel told us that the information received from MCLB was not adequate to compute Marine Corps requirements. They also said more specific information would be obtained from the Marine Corps on items being phased out.

Also, MCLB logistics management personnel stated they will begin providing PICAs copies of phase-out plans and additional information requested by PICAs. These actions should improve coordination of phaseouts between MCLB and PICAs.

Unnecessary and Unsupported Procurement and Repair Actions on Items Phasing Out

Logistics managers were planning or had initiated unnecessary procurement and repair actions costing about \$1.8 million on 7 of 47 phase-out items we reviewed. However, managers canceled their procurement or repair plans for about \$1.7 million of the phase-out items after we brought our findings to their attention. Phase-out plans had not been prepared on some items and the phase-out plans for other items did not contain all essential information.

Logistics managers also had initiated procurement or repair actions on 11 other items that were not fully supported by current requirements data. Total cost of these items was about \$294,000. For nine of the items, the logistics managers could not provide documentation to fully support their procurement and repair decisions. Logistics managers did not take action to cancel these items.

Unnecessary Procurement and Repair

Logistics managers had initiated or were planning unnecessary procurements for four items totaling about \$778,000 and unnecessary repairs for three items totaling about \$1 million. After we discussed the questionable procurements and repairs with logistics management personnel, they canceled planned and ongoing procurements or repairs on five items totaling about \$1.7 million. Procurement for one item totaling about \$5,500 was not canceled because it was too near completion. Unnecessary repair on three of the items totaling about \$62,100 had been completed. Table I.1 shows the items with unnecessary procurements or repairs and the related cancellations.

Table I.1.: Unnecessary Procurements or Repairs and Cancellations

Stock number	Description	Amount of unnecessary		Amount canceled
		Procurement	Repair	
2805-00-165-4016	M-151 engine	\$737,721		\$737,721
5895-61-096-7669	TYQ-3 module transmitter	26,187		26,187
5895-00-993-0730	TYQ-3 address selector	8,550		8,550
5720-00-168-8848	TRC-97C modification kit	5,505		
2815-00-239-5824	M-35 engine		\$1,005,731	947,876
2520-00-884-4833	M-35 transmission		19,262	15,892
5840-00-087-5312	AN/TPS-22D power supply		917	
Total		\$777,963	\$1,025,910	\$1,736,226

Logistics managers gave various explanations for initiating the unnecessary procurement and repair actions. The manager responsible for the M-35 items said the unnecessary repair of the M-35 engine and transmission was due to an oversight. A phase-out plan had been prepared for the M-35 truck, but the plan did not include asset utilization data or a separate secondary item phase-out plan. The inventory manager for the TYQ-3 items said that the lack of a phase-out plan contributed to the unnecessary procurement. In this regard, the requirement for preparing phase-out plans was established in May 1984—a relatively short time before the TYQ-3 was phased out in October 1984. When we reviewed planned procurement of the M-151 engine, MCLB had not completed a phase-out plan for the M-151 jeep. After we discussed various sources of assets to support the jeep during the phase-out period, the inventory manager decided to cancel planned procurement of 307 engines.

MCLB took actions, as discussed on pages 5 and 6, during our survey to ensure the timely preparation and implementation of phase-out plans. These actions should alert inventory managers to some potential unnecessary procurement and repair of items planned for phaseout.

Unsupported Procurement and Repair Actions

Eleven of the 47 items we reviewed had procurement and repair quantities costing about \$294,000 that were not supported by current requirements documentation. Logistics managers could not provide documentation to support their original purchase and repair decisions for 9 of these 11 items. However, they did not take action to cancel these items.

MCLB internal auditors reported in 1984 and 1985 that logistics managers need to retain supporting documentation for all procurement and repair actions. In response to the 1984 internal audit report, the Principal Director, Weapon System/Equipment Management Directorate, issued a policy memorandum that stated supporting information for all procurement and repair is required to be retained until 1 year after receipt of the material. Logistics managers, however, did not adhere to the requirement because the internal auditors reported the same problem was occurring in fiscal year 1985. Also, several of the procurement actions we reviewed, which lacked supporting documentation, were made in fiscal year 1985.

Logistics managers gave various reasons for not canceling the unsupported procurements and repairs. The managers explained that several of the items in question were used both on end items being phased out

and on replacement items being fielded. They said the master inventory file is misleading because demand for the end item phasing out had decreased and demand for the replacement end item had not yet started. The managers said the items would be needed by the time they are procured and delivered. Long procurement lead times were given as another reason for not canceling procurement and repair actions.

Computer Data Contained Errors

The Marine Corps Unified Materiel Management System (MUMMS) was not providing logistics managers with accurate projected requirements or phase-out dates for some items. The system contained software logic errors that caused demand to be significantly overstated for some items and the erroneous demand was then used to forecast requirements. Also, computer files were not being consistently updated to show current phase-out dates for some items. Erroneous supply management decisions could be made if inaccurate projected requirements or erroneous item phase-out dates are used.

Logistics managers use data from MUMMS to make supply management decisions and account for inventories at the wholesale level. Logistics managers at MCLB receive monthly master inventory file printouts from MUMMS for each of their items. The master inventory file provides item identification data such as national stock number and nomenclature. It also provides supply management information such as forecasted demand for the next quarter, demand for the current quarter, requisitioning objectives, asset inventories, and item phase-out dates. Logistics managers consider the master inventory file data to be important in managing their items. The Marine Corps is developing the Marine Corps Standard Supply System to replace MUMMS, which was designed in the 1960s.

Our review of fiscal year 1985 demand history for the M-151 engine disclosed that MUMMS had overstated the demand by more than 100 percent. The total demand recorded in MUMMS was 445 units, but actual demand was only 218 units. In analyzing detailed transaction histories for M-151 engine requisitions processed in MUMMS, we found that many requisitions had been suspended or canceled. The system, however, still included the suspended or canceled quantities in the demand history.

To better understand the cause of demand errors, we had MCLB personnel process a series of test transactions through MUMMS. These test transactions substantiated that software logic was causing errors in

recorded demand. The test transactions disclosed demand errors for requisitions that had been (1) suspended using exception code 05,¹ (2) suspended using exception code 05 and canceled, (3) suspended using exception code 05 and rejected, (4) processed to back order and canceled, and (5) processed to material release order and canceled. Demand was recorded for each of these transactions and not reduced by suspension, rejection, or cancellation.

The master inventory file also contained erroneous item phase-out dates for 17 of the 47 items we reviewed. For some erroneous dates, the master inventory file had not been updated with the MUMMS subsystem, and for other erroneous dates both the master inventory file and the subsystem were outdated. Logistics managers had obtained more current phase-out dates from Marine Corps Headquarters for some items than were shown in the subsystem. Nine, or 53 percent, of the erroneous item phase-out dates needed to be extended and the remainder needed to be shortened. By relying on these dates, logistics managers could make erroneous buy or repair decisions.

We administered a questionnaire concerning master inventory file reliability to a judgmental sample of 30 experienced logistics managers. Twelve said they believed the master inventory file contained inaccuracies and 21 said they needed manual records to supplement the file. Logistics management officials told us that the demand accumulation errors would be corrected in 1987 with the implementation of the Marine Corps Standard Supply System. In the meantime, logistics managers have been directed to manually review demand data for errors when making buy or repair decisions. The officials stated that inconsistencies between item phase-out dates in the master inventory file and the subsystem would be resolved by November 1986.

The unreliable demand data and erroneous item phase-out dates would not reduce our findings involving \$1.8 million of unnecessary procurement and repair actions. We substantiated the findings using other information. In addition, logistics managers confirmed that the procurement and repair actions were unnecessary. The unreliable demand data could have caused our finding involving unsupported procurement and repair actions to be understated. Time constraints precluded us from manually verifying projected requirements for all the items we reviewed.

¹According to MCLB personnel, exception code 05 is used to suspend requisitions to allow review by inventory managers.

Objectives, Scope, and Methodology

Our primary objectives were to determine whether MCLB, Albany, Georgia, was (1) preparing phase-out plans on weapon systems and equipment, (2) unnecessarily procuring or repairing items being phased out, and (3) providing adequate information to PICAS on items being phased out of the Marine Corps' inventory.

To determine the status of phase-out plan preparation, we asked MCLB to provide us a computer printout of principal end items scheduled for phaseout within a 5-year period beginning in April 1985. We then obtained copies of all completed phase-out plans and ascertained the percentage of end items being phased out within this time frame. In March 1986, we obtained an updated printout that logistics managers reviewed and determined that phase-out plans were not required for many of the items. We used this information to determine the total number of items requiring phase-out plans. We then discussed reasons for not preparing phase-out plans with logistics management personnel.

After reviewing the adequacy of guidance in SOP 4110.1 and the adequacy of selected phase-out plans, we discussed our views on these matters with logistics management personnel at MCLB. We also met with Marine Corps Headquarters personnel to discuss the adequacy of guidance for phase-out planning.

In reviewing the necessity for procurement or repair of items being phased out, we selected a judgmental sample of 47 items scheduled for partial or total phaseout within 5 years. We selected a judgmental sample of items, rather than a statistical sample, because complete information on the universe of Marine Corps reparable and consumable items being phased out was not readily available. Eight of the items were applicable to either the M-151 jeep, the M-35 truck, or the M-123 truck, and five of these were being procured or repaired. We selected these items because the Marine Corps had a relatively large quantity of jeeps and the two trucks had completed phase-out plans. The remaining 39 items were selected from an MCLB computer printout containing 145 items. The printout showed these items had active procurements and were scheduled to be phased out through December 1988. However, we found that the computer data was incorrect and that many of the items were not being phased out within 5 years or did not have active procurements. As a result, our sample of 39 items had active procurements for only 25 items and only 24 items were being totally phased out within 5 years.

We also reviewed master inventory file printouts of requirements and inventory data for the 47 sample items. We used this information, plus other data from logistics managers' files, to evaluate planned or in-process procurement and repair actions. We discussed questionable or unsupported procurement and repair actions with the logistics managers responsible for the items.

To evaluate MCLB's procedures for coordinating phaseouts with PICAS, we interviewed MCLB logistics managers responsible for items phasing out and reviewed MCLB's phase-out notifications to the activities. Also, we visited the U.S. Army Tank-Automotive Command and obtained information about MCLB's coordination with that command for selected items.

We made a limited assessment of computer demand data and item phase-out dates by assessing the accuracy of fiscal year 1985 recorded demand for the M-151 engine and tested the software logic for accumulating demand using sample test transactions. We verified the accuracy of item phase-out dates shown on the master inventory file for our 47 sample items by comparing the dates to information recorded in the supply subsystem and by discussing the information with logistics managers. We also administered a questionnaire on master inventory file reliability to a judgmental sample of 30 experienced logistics managers.

We discussed our survey results with Weapon System/Equipment Management Directorate officials and with an MCLB command representative. We incorporated their comments as appropriate. We did not obtain official agency comments on this report. We performed our work in accordance with generally accepted government auditing standards.

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