REPORT TO THE CONGRESS

Need To Improve Requirements Computations For Expensive Missile Repair Parts B-163706

Department of the Army

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

MAY 27, 1968

COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

B-163706

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

The General Accounting Office has reviewed the more significant aspects of requirements computations for expensive missile repair parts by the United States Army Missile Command. Our findings are summarized in this letter and described in more detail in the accompanying report.

Our review showed a number of problem areas affecting the computation of requirements for expensive missile repair parts that needed improvement in order for the Missile Command to be able to provide more effective and economical supply support to Army missile units.

These problem areas were primarily related to:

1. Inadequacy of asset and demand data received from user activities.

2. Failure of inventory managers to accurately compile, review, and use historical supply data.

3. Inconsistency in the implementation of supply management procedures and guidelines.

Problems noted during our review contributed to imbalances in the supply system. In some cases, significant errors in projected requirements had resulted in underprocurements which can eventually lead to supply shortages and deadlined equipment. In other cases, overstated requirements had led to unnecessary procurements which can result in excess material.

The problems identified in the computation of requirements for these expensive repair parts indicated that more effective controls were needed in the preparation and review of supply control studies. Considerable improvement also was needed in the accuracy and completeness of asset and demand data required to be supplied by using activities.

B-163706

Our report to the Congress (B-160154, April 5, 1967), on the readiness status of HAWK missile systems deployed overseas showed that shortages of spare parts were having an adverse effect on the readiness position of these systems. We believe that the weaknesses disclosed by our review of requirements computations for expensive missile repair parts at the Missile Command were contributing factors to the shortages of repair parts for, and reduced combat readiness of, HAWK missile systems.

The Department of the Army agreed generally with our findings and conclusions and has initiated various corrective actions. We believe that, for the most part, the proposed actions, if properly implemented, should result in improvement in the requirements computations for expensive missile repair parts and the ability of the Missile Command to provide more effective and economical supply support to Army missile systems deployed worldwide. We plan to make a follow-on review to evaluate the effectiveness of these actions at a later date.

We are reporting this matter to inform the Congress of the need for improvement in the Missile Command's computations of requirements for expensive missile repair parts and of the corrective action the Department has initiated in this direction.

Copies of this report are being sent to the Director, Bureau of the Budget; the Secretary of Defense; and the Secretary of the Army.

Frank H. Weitzel

Acting Comptroller General
of the United States

Contents

REPORT ON

NEED TO IMPROVE

REQUIREMENTS COMPUTATIONS FOR

EXPENSIVE MISSILE REPAIR PARTS

DEPARTMENT OF THE ARMY

INTRODUCTION

The General Accounting Office has examined into the requirements computations for expensive missile repair parts by the United States Army Missile Command (MICOM), Redstone Arsenal, Alabama. The review was made pursuant to the Budget and Accounting Act, 1921 (31 U.S.C. 53), and the Accounting and Auditing Act of 1950 (31 U.S.C. 67).

Our examination was directed primarily to a review of the computations in supply control studies for super-high-dollar-value repair parts and included a review and evaluation of (1) the accuracy of supply management data used for projecting future requirements, (2) the reasonableness of the projected requirements, and (3) MICOM's implementation of guidelines provided by the Department of the Army for computing requirements. Our review, which was performed principally at MICOM, covered the more significant aspects of requirements computations for 23 super-high-dollar-value missile repair parts. Our review was performed also at the Army Missile and Artillery Center, Fort Sill, Oklahoma, and at the Army Air Defense Center, Fort Bliss, Texas.

BACKGROUND

MICOM is the national inventory control point for the missile repair parts covered in our review. Its responsibilities as the national inventory control point include the determination of repair parts requirements and the initiation of action resulting in the procurement, repair, distribution, and disposal of such parts.

During the period of our review, MICOM managed about 79,400 missile repair parts, of which 428 were classified as super-high-dollar-value parts. Although these 428 parts represented less than 1 percent of the total repair parts managed, the costs for new and rebuilt parts amounted to about $60 million, or 33 percent of MICOM's total expenditures for repair parts during fiscal year 1966.

The Army Audit Agency, in a report dated May 7, 1965, summarizing the results of audits of Army installations including MICOM, stated that there were serious deficiencies in the adequacy of both peacetime and mobilization requirements computations for missile repair parts. Further, the report stated that a desirable level of supply effectiveness, efficiency, and readiness would not be achieved by commodity commands unless management became more aggressive in requiring uniform compliance with basic Army supply management concepts.

With respect to the Army Audit Agency's findings concerning MICOM, MICOM generally concurred in these findings and outlined the corrective actions to be taken. While MICOM had taken specific actions to correct the deficiencies reported by the Army Audit Agency, we found, at the time of our field work performed during the period January 1966 to March 1967, that some of the same deficiencies continued to exist at MICOM.

The principal officials of the Department of Defense and the Department of the Army responsible for the administration of activities discussed in this report are listed in appendix I.

FINDINGS

NEED TO IMPROVE REQUIREMENTS COMPUTATIONS FOR EXPENSIVE MISSILE REPAIR PARTS

Our review showed a number of problem areas affecting the computations of requirements that needed improvement in order for MICOM to be able to provide more effective and economical supply support to Army missile units. These areas primarily related to (1) inadequacy of asset and demand data received from user activities, (2) failure of inventory managers to accurately compile, review, and use historical supply data, and (3) inconsistency in the implementation of supply management procedures and guidelines.

Problems noted during our review contributed to imbalances in the supply system. In some cases, significant errors in projected requirements had resulted in underprocurements which can eventually lead to supply shortages and deadlined equipment (equipment not operationally ready). In other cases, overstated requirements had resulted in unnecessary procurements which can lead to excess material.

Our examination, which was limited to requirements computations for 23 super-high-dollar-value missile repair parts, disclosed significant miscalculations. Shown below are examples of dollar amounts of questionable computations in some of the more significant requirement factors which were considered in our review.

	Overstatements of requirements (note a)	Understatements of requirements (note a)
Erroneous procurement lead times	$ 23,700	$348,900
Erroneous demand data	679,500	62,200
Erroneous end-item density factors	77,700	

[a]The amounts shown are the net overstatements or understatements by requirement factor per supply control study.

When we called our findings to the attention of management personnel, corrective actions were taken that resulted in reduction of about $234,500 in new procurements.

The computations of projected material requirements cannot be considered to be an exact science. Because of the many uncontrollable factors that have a bearing on customer demands placed on the supply system, it will never be possible to completely preclude supply shortages or excesses. The computations of requirements, however, should be accomplished as accurately as possible under the circumstances existing at the time, especially with respect to high-dollar-value items.

The details of our findings are discussed in the following sections.

Overseas asset and demand data not considered in computing requirements

We found that MICOM was not considering assets in the possession of various overseas depot activities or overseas demand data when computing the quantity of expensive missile repair parts to be procured or repaired. This practice was contrary to prescribed Army regulations. MICOM personnel advised us, however, that the asset and demand data received were unacceptable for computing requirements because they were incomplete and inaccurate. Our limited review of these data tended to confirm the statements by MICOM personnel.

The requirements computations prepared by MICOM inventory managers were based on demands placed on depots in the continental United States and considered only the assets available in these depots. MICOM, apparently recognizing the need for improvement in this area, made an evaluation of overseas asset data being reported. After concluding that the data received were of little or no value, MICOM, by letter dated July 6, 1966, recommended to the Army Materiel Command that all repair parts be exempted from such reporting requirements.

We believe that management emphasis should be placed on improving the accuracy of the asset data being reported, especially those for high-dollar-value items. For example,

the failure to consider all asset, demand, and other stock status data in requirements computations can very well result in substantial stock imbalances.

Need to improve accuracy of demand data used in requirements computations

The accuracy of the demand data used in computing requirements for repair parts is extremely important. If unrealistic demand data are used, the supply position of an item can be overstated or understated thus leading to overprocurements or underprocurements. Yet we found that the demand data used by MICOM inventory managers on the 23 parts we reviewed were frequently misstated because of (1) improper demand coding of requisitions by using activities, (2) changes in demand codes by inventory managers, and (3) inadequate review of historical demand data.

Improper demand coding of requisitions by using activities

When computing estimated recurring future requirements for high-dollar-value items, only recurring demands in prior periods should be considered. Consequently, it is important that requisitions be coded properly as to whether the demands are recurring or nonrecurring demands.

We noted that a substantial number of requisitions (orders) received by MICOM for missile repair parts had been improperly coded by the using activities. For example, our review showed that 15, or 21 percent, of 72 requisitions submitted by the Army Air Defense Center contained erroneous demand codes. As an illustration, on one requisition, the demand was miscoded as a recurring demand even though the order was for the purpose of establishing initial stock of the item. Conversely, on another requisition the demand was coded as a nonrecurring demand even though the order was to obtain an item to replenish the user's authorized stock for a like item previously issued to fill a job order.

Army Air Defense Center officials concurred in our findings concerning the high percentage of demand-code errors. They advised us that a review would be initiated to

determine whether current instructions should be revised in order to give additional guidance on coding to the using activities.

Changes in demand codes by inventory managers

The inventory managers at MICOM make extensive changes in demand codes on requisitions submitted by using activities. We found that many changes in demand codes had been improperly made and that other changes that should have been made had not been made. We also noted that inconsistencies existed among the demand-code changes that the inventory managers made.

The inventory managers advised us that many changes had been made at MICOM because the installation or tactical unit involved had already received its total initial issue authorization or because the manager had individual knowledge of the specific missile system. Some managers said that, once an activity had received sufficient repair parts to fill its authorized initial-issue requirement, subsequent demands received from that activity, regardless of the demand codes on the requisitions, were considered to be recurring demands.

The validity of this practice is questionable, because our review of the records showed that, due to erroneous demand codes, an accurate determination could not be made as to when an activity had received its total initial-issue requirement.

Following is an illustration of how a MICOM inventory manager made erroneous changes in demand codes.

1. Actuator (FSN 1440-299-0665)--The supply control study dated August 31, 1966, and related supply records for this item showed that the MICOM inventory manager had changed the demand codes on six requisitions submitted by the Army Missile and Artillery Center.

   On five of the six requisitions, the recurring-demand codes had been changed to nonrecurring-demand codes, and the number of demands related to

the five requisitions had been excluded from the demand data used in computing requirements. On the remaining requisition, the nonrecurring-demand code had been changed to a recurring-demand code and the number of demands related to the requisition had been included in the demand data used in computing requirements.

Our review at the Center showed that only one of the six demand-code changes by the MICOM manager had been correct. As a result the net procurement requirement reflected by the supply control study had been understated by $24,735.

Most changes in demand codes are made without requesting confirmation from the activities involved. The significance and effect of this practice on procurement actions is illustrated below.

2. Transmitter (FSN 1430-444-9641)--The supply control study dated March 29, 1966, and related supply records showed that the inventory manager had changed 17 recurring-demand codes to nonrecurring-demand codes and had reduced the number of recurrent demands used in the study accordingly. We found documentation from the using activities that supported three changes, but we found no evidence supporting the other 14 changes. The manager stated, in effect, that the demand-code changes had been made on the basis of his best judgment and his knowledge of the missile system involved. Had these 14 recurring demands not been excluded from the demand data, the supply control study would have shown a requirement for 24 additional transmitters valued at $92,184.

Some of the inventory managers stated that demand-code changes had been made on the basis of such factors as project codes and fund codes on the demand stock status reports; however, our review showed inconsistencies and lack of uniformity by inventory managers in making demand-code changes on the basis of these factors. For example, we observed that several managers had changed nonrecurring-demand codes to recurring-demand codes when the requisitions contained project codes signifying deadlined equipment.

Conversely, the recorded demand data for one part showed 11 nonrecurring-demand codes with deadlined equipment project codes; however, the inventory manager had changed only one nonrecurring-demand code to a recurring-demand code.

Inadequate reviews and analyses of demand data

Some of the inventory managers at MICOM were not making adequate reviews of the demand data used in computing requirements. As a consequence, the demands applicable to canceled requisitions, returned serviceable items, and overshipped repair parts were often improperly handled. Specific examples are shown below.

1. Canceled requisitions--Our review of a supply control study dated November 3, 1966, and related records for an amplifier (FSN 1430-078-4864) showed that 32 percent of the demands contained in requisitions used in computing requirements had been canceled prior to the date of the study. The inventory manager agreed that these canceled demands should not have been considered in the requirements computations.

   As a result of this discrepancy and an unrelated discrepancy, the requirement for this amplifier was overstated. The inventory manager, after confirming the overstatement, canceled a pending procurement amounting to $30,571.

2. Returned serviceable items--We found that the inventory managers did not ascertain the details concerning returned serviceable items before deciding how they should be treated when computing requirements. Some inventory managers deducted the number of returned serviceable items from the demand data used in computing requirements. Conversely, other inventory managers did not deduct such returned items from the demand data used in computing requirements.

   To illustrate this condition, a supply control study dated June 29, 1966, and related supply records for a tuning drive (FSN 1430-909-5947) showed that,

during the period covered by the study, six tuning drives had been returned in serviceable condition but had not been excluded from the recurring demands used in computing requirements.

A supply control study dated June 8, 1966, for an actuator-launcher pad (FSN 1440-051-3877) showed that 47 recurring demands had been received during the period covered by the study. We found that the inventory manager had reduced the 47 recurring demands by 7 to reflect the serviceable pads returned to the supply system during the period.

Where we found that the number of recorded recurring demands had been reduced by the number of serviceable returns, we found no evidence that the inventory managers had attempted to determine, by contacting the using activities, the circumstances under which the returns had been made. Under some circumstances the return of unneeded serviceable parts should be reflected as a reduction in the demand data used in computing future needs.

3. Overshipped repair parts--A number of supply records showed that the quantities of repair parts shipped had been in excess of the quantities requisitioned. Some inventory managers had included the quantities overshipped in recurring demands when computing requirements although the inventory managers had exerted little or no effort to determine the actual disposition of the excess parts or to request their return to the depot.

   We were advised by the inventory managers involved that the quantities overshipped had been included in recurring demands on the assumption that the recipients would use the parts to fill future needs. We believe that such a premise does not provide a sound basis for determining the proper demand coding where overshipments are involved. Instead, inventory managers should determine the actual disposition of the parts and, if appropriate, direct that any excess parts be returned to the depot.

Use of unrealistic procurement lead time

Procurement lead time (PROLT) computed by inventory managers and used in computing requirements contained discrepancies which affected the accuracy of projected requirements. The discrepancies involved (1) use of unrealistic PROLT and (2) the use of arbitrary, rather than actual lead times. Since the PROLT usually represents a substantial portion of the procurable requirement, it is essential that the most realistic PROLT be used in determining requirements.

PROLT, as defined by Army Regulations 710-45 dated October 15, 1962, is the time interval between the date of the supply control study for an item and the receipt of the first shipment of the item at a depot. PROLT comprises three elements; namely, administrative lead time (the time interval between the date of the control study and the award of the contract), production lead time (the time interval between the award of the contract and the completion of the manufacture of the item for the first shipment), and delivery lead time (the time interval between the manufacture of the item and the receipt of the first shipment of the item at a depot).

Discrepancies in computing PROLT noted in our review are discussed below.

1. Use of unrealistic PROLT--Many inventory managers at MICOM were utilizing the PROLT experienced on emergency-type procurements when computing the average PROLT to be used in supply control studies. Since the PROLT for emergency procurements is generally much shorter than that experienced on normal replenishment procurements, the use of the emergency PROLT when computing the average PROLT for forecasting requirements is unrealistic and tends to understate requirements.

   MICOM's procedures in effect at the time of our review required that, when the actual PROLT based on normal replenishment was not available, best judgment was to be exercised. However, we found that the inventory managers seldom requested the procurement

activity at MICOM to furnish current lead time data on which they could base their judgments.

The following example illustrates the extent to which the use of an emergency PROLT can affect projected requirements. The PROLT used in a supply control study dated June 8, 1966, for an actuator-launcher pad was based on two replenishment procurements having an average PROLT of 13-1/2 months and one emergency procurement having a PROLT of 2 months. We determined that the use of the emergency PROLT in the PROLT computation had resulted in an understatement of projected requirements by about $66,000.

Certain aspects of the above control study have also been used in our discussion of returned serviceable items. (See p. 9 .)

2. Lead times not based on actual experience--Inventory managers were frequently not adhering to the criteria contained in Army regulations for developing PROLT elements. We found that some inventory managers were (1) using a fixed 3 months for administrative lead time rather than actual experience, (2) increasing the computed PROLT by a fixed 2 months, (3) not using the date of receipt of the first shipment at the depot when determining the delivery lead time, and (4) not using the date of the supply control study when determining the administrative lead time.

The use of lead times as noted above, in computing PROLTs, not only conflicted with Army regulations but also adversely affected the projected quantity of repair parts to be procured.

Assets not being returned for repair

The effectiveness of MICOM's management of super-high-dollar-value repair parts has been adversely affected because user activities, contrary to regulations, have not returned unserviceable assets to the supply system for repair and reissue. In addition, inventory managers at MICOM did not always make the necessary inquiries to ascertain why using activities did not return unserviceable assets.

We found that, during the base periods used in 12 of the supply control studies we reviewed, recurring demands for 647 assets had been received by MICOM but that only 402 unserviceable assets had been returned by using activities, or a difference of 245. On the basis of information available at MICOM, the total replacement cost for these 245 assets would have amounted to about $2.1 million compared with estimated repair cost of only $334,000. Therefore a potential saving of some $1.8 million could have resulted from the return of these assets to Army depots.

MICOM inventory managers are required to initiate inquiries and follow-up actions when the return of unserviceable assets and recurring demand rates are not compatible. For some of the items reviewed, we believe that such actions improved the return rates; however, we observed that some inventory managers were not initiating these inquiries and follow-up actions, as illustrated by the following example.

> Scanner (FSN 1430-788-1215)--A supply control study dated July 13, 1966, and related records showed that the inventory manager contacted overseas commands in March 1966 to advise them that the scanner was in a critical supply position and that improvement of that position was dependent upon return of unserviceable scanners for rebuilding. As a result of these inquiries, the commands advised MICOM in April 1966 that 13 unserviceable scanners were on hand and that action was being taken to return them to the depots. According to available records, as of October 7, 1966, these items had not yet been received by the depots.

We found no indication that the inventory manager had initiated follow-up action to determine the disposition of the 13 scanners which cost about $77,000, and the manager could offer no satisfactory reason for not having followed up on the return of the scanners. Furthermore we found that recurring demands for 85 scanners had been received during the period covered by the July 13, 1966, study, compared with only 53 unserviceable scanners returned, or a difference of 32 with a replacement cost of about $173,000. We found no record of action by the inventory manager to improve the reversion rate as a result of this study. The

inventory manager stated that a follow-up on unserviceable returns would be made at the time of the next study.

Unserviceable assets returned to the supply system for repair and reissue represent an important source of supply which should be fully utilized prior to new procurement. Therefore the failure of user activities to promptly return unserviceable assets or the failure of inventory managers to follow-up on nonreturn of unserviceable assets can result in needless procurement.

In our report to the Congress on the "Need for Improvement in the Army's Supply System to Ensure the Recovery of Repairable Spare Parts" (B-146874, January 23, 1968), we pointed out the adverse effects which had resulted from the failure of user activities to return unserviceable assets to maintenance facilities for repair and reissue. The Department of the Army concurred in our findings and took action to improve its management of all repairable spare parts. The Army's actions should improve substantially the recovery of repairable items and reduce costs.

Discrepancies in the preparation and review of supply control studies

During the course of our review, we noted that (1) supply control studies were not being prepared in a timely manner, (2) questionable supply data was being used in preparing supply control studies, and (3) completed supply control studies were not being adequately reviewed.

Army regulations in effect at the time of our review required that a complete supply control study for super-high-dollar-value repair parts be made at least quarterly. It appeared that failure to comply with this requirement had contributed to emergency procurements. For example, as of March 29, 1966, 12 supply control studies had been prepared for a transmitter (FSN 1430-444-9641), of which only four had been prepared within the quarterly review period requirement. The remaining eight studies had exceeded the quarterly review requirement by from 22 to 169 days and in three instances emergency procurements were required. We were advised that a heavy workload was the principal reason for studies' not being prepared within the prescribed time frames.

We found that the supply data in several of the supply control studies reviewed had been misstated because inventory managers had not made adequate analyses of the data and, in some cases, had not used the most current data available. For example, inventory and back-order reports used by inventory managers in determining the back-order quantity contained discrepancies, and it appeared that little or no attempt had been made to detect and reconcile such discrepancies. When we compared the information in these reports with stock status reports, a number of differences were found, as illustrated by the following example.

> Wave guide receiver circuit block (FSN 1430-925-7366)--A supply control study dated October 29, 1966, and related supply records showed that the inventory manager had used a weekly inventory report and an "off-line" requisition listing in arriving at the 52 back orders shown on the study. (An off-line requisition listing is a listing of those requisitions rejected by the computer for manual editing and therefore not shown on the inventory and back-order reports until reentered into the computer.)
>
> We found, however, that the quantity of back orders should have been 43, because of errors in the inventory report. Of the 52 back orders, 12 had been filled as early as April 1966, and there was one additional back order that had not been shown on the weekly inventory report. As a result of these discrepancies and errors, the back orders shown in the study had been overstated by $57,780. Thus the requirements had been overstated. Although the inventory report contained erroneous and incomplete data, these discrepancies could have been detected had the inventory manager considered the back-order quantity, as reflected in the stock status reports, rather than relied solely on the weekly inventory report and off-line requisition listing.

Timely and accurate data are of paramount importance in preparing supply control studies. In this area, our review showed a need for improvement in the input data furnished to inventory managers as well as in their review and analysis of such data.

Although MICOM regulations required that unit and section chiefs verify specific factors in the supply control study, we noted that several supervisors had approved studies containing significant errors in the factors required to be reviewed, as illustrated by the following example.

Actuator-launcher pad (FSN 1440-051-3877)--A supply control study dated June 8, 1966, showed that the inventory manager had used erroneous factors for major end-item densities which had resulted in projected requirements being overstated by about $47,000. This discrepancy could have easily been detected by comparing the program-change factors used by the inventory manager with the factors shown in a document referred to as a program file.

There was no indication that supervisory personnel had requested the inventory manager to explain or correct this discrepancy.

When we brought this discrepancy to the attention of MICOM personnel, they initiated a detailed review of all supply data used in the supply control study, for the purpose of correcting the data.

Since regulations specifically required that program-change factors be reviewed prior to approval of a study, it was evident that this supply control study had not received adequate supervisory review prior to authorization of the procurement totaling $132,000. This amount included an overstatement of $47,000, which had resulted from the use of erroneous program-change factors.

We believe that a number of the discrepancies previously discussed in this report would also have been detected had MICOM supervisors made adequate reviews of supply control studies prior to approving them.

Agency actions

We brought our findings to the attention of the Department of Defense and proposed that the Secretary of the Army direct MICOM to institute aggressive managerial action to require uniform compliance with basic Army supply management concepts. We proposed also that the Army take necessary steps to improve the accuracy of demand coding of requisitions and reporting of asset and demand data by user activities.

We further proposed that MICOM internal procedures be amended to require that inventory managers (1) obtain supporting documentation from requisitioning activities prior to changing demand codes, (2) make more adequate reviews of historical demand data, and (3) secure current data from the procurement activities prior to establishing PROLTs to be used in supply control studies. In addition, we proposed that supply control studies be more thoroughly reviewed by supervisory personnel, especially those for super-high-dollar-value repair parts.

By letter dated January 5, 1968, the Deputy Assistant Secretary of the Army (Installations and Logistics) informed us that the Department of the Army agreed generally with our findings and conclusions. He outlined various changes to Army regulations and other actions currently in process, in response to our proposals, which were designed to (1) provide uniformity in the preparation, analysis, and review of supply control studies, (2) provide timely transaction reporting, up-to-date assets reporting, and accurate demand coding by user activities, and (3) ensure the timely preparation of supply control studies.

In January 1968 we contacted MICOM to obtain clarification on two statements in the Department's letter to the effect that (1) actions to solve most of the problems identified in our report had been under way prior to our review and (2) inventory managers, in arriving at PROLTs for use in supply control studies, were complying with current procedures which stated that, when actual PROLTs based on normal replenishment were not available, they should, after conferring with the procurement activities, exercise best judgment.

MICOM informed us that the actions referred to were actions by a committee, comprising Department of Army and Army Materiel Command personnel, that had met in December 1965 to begin a comprehensive review and evaluation of Army supply control policies and procedures for the determination of requirements for secondary items with the view toward overall revision of Army Regulations 710-45.

We were aware that, during the period covered by our review, the Army was reviewing and evaluating the adequacy of its logistical support and management for high-cost, low-density missile systems. For example, we met several times with the Missile Support Study Group, headquartered at MICOM. This Group was assigned the mission of studying all facets of the effectiveness of the logistical support and management of Army missile systems. At the completion of our review, the Group's report on suggested improvements in the logistical system was being coordinated.

MICOM stated that its current procedures required the inventory managers to contact the procurement activities for PROLTs on items that had not been procured during the past 2 years or longer. MICOM further stated that there was no requirement or necessity for the inventory managers' contacting the procurement activities to obtain current lead-time data on items for which the inventory managers had current procurement history. This requirement was not in effect at the time of our review, and the new procedures referred to were not issued until August 25, 1967, after our review was completed.

We agree with the intent of the new procedures and with MICOM's statement that it would not be necessary for inventory managers to contact the procurement activities for PROLTs when such data are already available on current procurements, provided that such data represent realistic lead times. These new procedures, if properly monitored by supervisory personnel, should improve the accuracy of PROLTs used in supply control studies.

We believe that, for the most part, the proposed actions outlined in the Army's reply, if properly implemented, should result in improvement in requirements computations for

expensive missile repair parts. We plan to make a follow-on review to evaluate the effectiveness of these actions at a later date.

Conclusions

The problems being experienced in the computation of requirements for expensive missile repair parts indicated a need for increased managerial emphasis on the preparation and review of supply control studies. Considerable improvement was also needed in the accuracy and completeness of asset and demand data required to be supplied by using activities.

Generally speaking, we believe that existing Army regulations and procedures provide the basis for sound management and control of super-high-dollar-value repair parts. However, many personnel making supply control studies which precipitate supply actions were not adhering to the prescribed regulations and procedures. An important factor in effective management of repair parts is the degree of care and attention given to preparing such studies. Substantial improvement was possible, in our opinion, through proper attention of, and surveillance by, management officials.

In our report to the Congress on the readiness status of HAWK missile systems deployed overseas (B-160154, April 5, 1967), we pointed out that shortages of spare parts were having an adverse effect on the readiness position of the HAWK missile systems. In our opinion, the weaknesses disclosed by our review of requirements computations for expensive missile repair parts at MICOM were contributing factors to the shortages of repair parts for, and the reduced combat readiness of, HAWK missile systems.

APPENDIXES

PRINCIPAL OFFICIALS OF THE DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF THE ARMY RESPONSIBLE FOR THE ADMINISTRATION OF ACTIVITIES DISCUSSED IN THIS REPORT

	Tenure of office	
	From	To
DEPARTMENT OF DEFENSE		
SECRETARY OF DEFENSE:		
Clark Clifford	Mar. 1968	Present
Robert S. McNamara	Jan. 1961	Feb. 1968
DEPUTY SECRETARY OF DEFENSE:		
Paul H. Nitze	July 1967	Present
Cyrus R. Vance	Jan. 1964	June 1967
ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND LOGISTICS):		
Thomas D. Morris	Sept. 1967	Present
Paul R. Ignatius	Dec. 1964	June 1967
DEPARTMENT OF THE ARMY		
SECRETARY OF THE ARMY:		
Stanley R. Resor	July 1965	Present
Stephen Ailes	Jan. 1964	July 1965
ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS AND LOGISTICS):		
Dr. Robert A. Brooks	Oct. 1965	Present
Daniel M. Luevano	July 1964	Oct. 1965
COMMANDING GENERAL, ARMY MATERIEL COMMAND:		
Gen. Frank S. Besson, Jr.	July 1962	Present

PRINCIPAL OFFICIALS OF THE

DEPARTMENT OF DEFENSE AND THE DEPARTMENT OF THE ARMY

RESPONSIBLE FOR THE ADMINISTRATION OF ACTIVITIES

DISCUSSED IN THIS REPORT (continued)

	Tenure of office	
	From	To
DEPARTMENT OF THE ARMY (continued)		
COMMANDING GENERAL, ARMY MISSILE COMMAND:		
Maj. Gen. Charles W. Eifler	July 1967	Present
Maj. Gen. John G. Zierdt	Sept. 1962	June 1967

DEPARTMENT OF THE ARMY
OFFICE OF THE ASSISTANT SECRETARY
WASHINGTON, D.C.

5 JAN 1968

Mr. William A. Newman, Jr.
Director, Defense Division
US General Accounting Office
Washington, DC 20548

Dear Mr. Newman:

This is in response to your letter of October 25, 1967 to the Secretary of Defense requesting comments on your draft report titled: "Review of Requirements Computations for Expensive Missile Repair Parts" (OSD Case #2682).

The inclosed statement provides the Department of the Army position on your report. This reply is made on behalf of the Secretary of Defense.

Sincerely,

Vincent P. Huggard
Deputy Assistant Secretary of the Army (I&L)

1 Incl
a/s

DEPARTMENT OF THE ARMY POSITION

ON

GAO DRAFT REPORT, DATED 25 OCTOBER 1967

REVIEW OF REQUIREMENTS COMPUTATIONS FOR EXPENSIVE

MISSILE REPAIR PARTS

(OSD CASE #2682)

I. POSITION SUMMARIES

A. GAO POSITION SUMMARY

The General Accounting Office review of the requirements management of expensive missile repair parts by the U. S. Army Missile Command (USAMICOM) disclosed a number of areas affecting the computation of requirements that need improvement in order for the Missile Command to be able to provide effective and economical supply support to Army missile units. These areas primarily relate to (1) the inadequacy of supply data received from user activities, (2) failure of inventory managers to accurately compile, review, and use historical supply data, and (3) inconsistency in the implementation of supply procedures and guidelines. Problems noted during the review contributed to imbalances in the supply system. In some cases, significant errors in projected requirements resulted in underprocurements, which will eventually lead to supply shortages and deadlined equipment. In other instances, overstated requirements lead to unnecessary procurements which could result in excess materiel on hand in the future. GAO concludes that the problems being experienced in the computation of requirements for expensive missile repair parts indicate a need for increased managerial emphasis on the preparation and review of supply control studies and for considerable improvement in the accuracy and completeness of asset and demand data required to be supplied by using activities. The GAO recommends that the Secretary of the Army direct the Missile Command to institute aggressive managerial action that will require uniform compliance with basic Army supply management concepts. In addition, the GAO suggests that the Army take steps to improve the accuracy of demand coding of requisitions and reporting of asset and demand data by user activities. GAO also recommends that MICOM internal procedures be amended to require that inventory managers (1) obtain supporting documentation from requisitioning activities prior to changing demand codes, (2) make a more adequate review of historical demand data, and (3) secure current data from the procurement activity prior to establishing a PROLT to be used in supply control studies. Further, that supply control studies involving super-high dollar value items be more thoroughly reviewed by supervisory personnel.

B. ARMY POSITION SUMMARY

The Army generally agrees in the GAO findings, conclusions, and the intent of the recommendations. The examples cited in the GAO findings are basically factual. The specific discrepancies are directly related to basic problem areas in the supply system that are well known to the Army. For the most part, actions to solve these basic problems were underway prior to the GAO review and are reflected in the various changes to Army regulations and supply concepts as discussed in detail in paragraph V below. Implementation of these new supply management concepts and procedures will provide uniformity in the preparation, analysis, and review of supply control studies; provide timely transaction reporting, up-to-date asset reporting, and improvement in demand codings by requisitioning activities. These actions currently in process are considered responsive to the GAO recommendations.

II. BACKGROUND FOR ARMY POSITION

The Army has long recognized that the forecasting of material requirements is not an exact science. Because of the many uncontrollable factors that have a bearing on customer demands placed on the supply system, it will perhaps never be possible to completely preclude shortages or excesses of some items. However, in order to improve the forecasting of material requirements and supply support to the field, supply control techniques are constantly undergoing review and new methods are being developed and implemented. Actions by the Army, discussed in detail in paragraph V below, are designed to improve the computation of requirements and supply support to the field.

III. ARMY POSITION ON GAO FINDINGS

The Army generally agrees with the findings of the GAO concerning the need to improve the accuracy of asset data being reported and demand data being utilized in the requirements computation of expensive missile repair parts.

A. The Army agrees with the GAO statement that it is important that requisitions be coded properly as to whether they are recurring or nonrecurring demands. However, contact with the requisitioning activity for clarification of demand codes is not always feasible for CONUS requisitions and is seldom feasible for overseas requisitions because of the time element involved. Inventory managers must have the flexibility to adjust demand codes on requisitions received particularily in the case of initial fielding of units. Inventory managers are cautioned to use discretion in the adjustment of demand codes but since this is a judgment factor, no specific guidelines can be issued covering all contingencies to totally negate the possibility of recoding errors. Inventory managers are instructed to review and analyze historical demand data prior to use in average quarterly demands. To provide inventory managers with more

accurate and timely asset data for utilization in the computation of requirements of these expensive repair parts, plans are currently in process for AMC NICP's to take over accountability of super-high dollar value depot stocks in all overseas locations with the exception of Vietnam. This is discussed in more detail in paragraph V.

B. Regarding the GAO allegations concerning the use of emergency procurement lead time and arbitrary lead time, inventory managers do comply with current procedures which state that when actual PROLT based on normal replenishment is not available, best judgment in coordination with the procurement activity is to be exercised. In the case of HAWK Missile items, currently and for the past eighteen months, most procurements of expensive spare parts have been of an emergency nature. The transition from peace-time procurements to combat procurements during the SEA build-up had a tremendous impact on commercial facilities and resulted in increased production lead time (PLT). While it is true that USAMICOM implemented a 60-day increase to PLT at one time during this period, this was not an arbitrary increase but an increase based on best judgment in coordination with the procuring activity due to current conditions.

C. With respect to Recoverable Assets not being returned, the Army is well aware of the adverse effects caused by unserviceable assets not being promptly returned for repair and reissue. However, the single example of a HAWK item cited by the GAO in the draft report is by no means indicative of an overall condition. Actually, through the persistent efforts of USAMICOM inventory and project managers in contacting user activities, through liaison visits to using activities, and other actions, the reversion rate of all HAWK items (PEMA) during the 12-month period, September 1966 to September 1967, exceeded 100 percent.

D. In regard to instances where some supply control studies were not prepared in a timely manner, consideration must be given to the fact that during the period covered by the GAO review the build-up of SEA and subsequent draw-down of Army stock resulted in many of these expensive items being studied more frequently than required in the normal review cycle. Supply control studies are normally prepared by the inventory manager, every 90 days for super-high and high dollar value items. However, when the asset position of an item falls below the reorder warning point, or where the actual demands exceed projected demands by 25%, the computer kicks this item out for additional study. This condition affects the programmed workload of the inventory manager and can result in some items not being studied in a timely manner. Actions currently in process at USAMICOM should alleviate this situation. This is discussed in detail in paragraph V below.

IV. ARMY POSITION ON GAO CONCLUSIONS

The Army agrees with the conclusions of the GAO that there is a need for increased managerial emphasis on the preparation and review of supply control studies and a need for improvement in the accuracy and completeness of asset and demand data utilized in the computation of requirements. Supply control techniques are constantly undergoing review and new methods implemented in order to improve Army requirements forecasts. New actions currently in process are discussed in detail in paragraph V below.

V. ARMY POSITION ON GAO RECOMMENDATIONS

The Army generally concurs in the intent of the GAO recommendations. Actions, that were underway prior to the GAO review, are currently in process and are considered to be responsive to the recommendations as outlined below.

A. The Army concurs in the intent of the recommendation that: "the Secretary of the Army direct the Missile Command to institute aggressive managerial action that will require uniform compliance with basic Army supply management concepts." The following actions are being taken:

> Army Regulation 710-45, Supply Control and Procedures for Determination of Quantitative Requirements for Replenishment of Secondary Items, which is directive upon all commodity commands, has been revised and is currently being implemented. As the result of implementing DODI 4140.30, the revised AR 710-45 introduces a new category of super-high items. Items with demands, procurements and/or rebuild of $1 million or over have been designated for special management and, appropriately, have been identified as special management items (SMI). The revised AR as pertains to special management items is effective 1 October 1967 and will be effective 1 January 1968 for all other items. Supply control studies for special management items will be reviewed on a monthly basis and a supply control study will be made when demand trend indicates a 20% increase or decrease in current projections. A complete supply control study will be made not less frequently than quarterly. Items which cost $100 or more in this category must consider requirements and asset data below the depot level. Hence, data such as we have and can obtain will be used to forecast requirements separately for USARPAC and USAREUR. An improvement in this area should be realized during 1968 when AMC assumes accountability for overseas depot assets for items currently identified as super-high dollar value. This will provide timely transaction reporting, up-to-date stock status reports and also provide accurate demand coding through utilization of AMC representatives that will be physically located in the overseas commands.

B. The Army concurs in the recommendation that: "the Army take necessary steps to improve the accuracy of demand data by user activities." The actions being taken by the Army relative to accuracy of demand data as described in subparagraph A above are considered responsive to this recommendation.

C. The Army generally concurs in the recommendation that: "MICOM internal procedures be amended to require that inventory managers (1) obtain supporting documentation from requisitioning activities prior to changing demand codes, (2) make a more adequate review of historical demand data, and (3) secure current data from the procurement activity prior to establishing a PROLT to be used in supply control studies." The following actions are being taken:

1. Regarding the recommendation that inventory managers obtain supporting documentation from requisitioning activities prior to changing demand codes, an improvement in this area will be realized at the time AMC assumes accountability for overseas depot assets for super-high dollar items. This will be achieved through utilization of AMC representatives physically located at the overseas activities.

2. In connection with the recommendation that inventory managers make a more adequate review of historical demand data, the MICOM Quality and Reliability Office has selected 150 items for a detailed examination which, by use of the scientific computer, will show a comparison of the original projection made with what actually occurred. An analysis of the data obtained from this study will show the flaws in projections made and hopefully provide a basis for their improvement.

3. Regarding the recommendation that inventory managers secure current data from the procurement activity prior to establishing a PROLT to be used in supply control studies, MICOM's NICP memo dated 25 August 1967 (Inclosure 1)[1] requires inventory managers to use PLT based on the most current actual leadtime experience.

4. In addition to the above, MICOM is taking action to mechanize those supply control studies which are prepared on the Net Conus Depot Method. This will encompass 85% of the supply control studies being prepared by the inventory managers. ADP programming is currently underway and a test run is anticipated sometime prior to 1 January 1968. Master ADP files are being constructed to store and maintain up-to-date data necessary for the preparation of the supply control study. The program files from which the program change factors are derived, as well as demand data, will be accumulated in these master files. This will assure that the correct program change factor will be used in the preparation of the studies. As an interim measure, MICOM has acquired four Underwood Olivetti Programma 101 Desk Top Computers for use in the Supply Control Division to verify 100% of the mathematical

[1]GAO note: Inclosure not included.

computations in the supply control studies. The above actions currently in process at USAMICOM will assure timeliness in the preparation of supply control studies, the use of accurate data elements, and assure the validity of all mathematical computations.

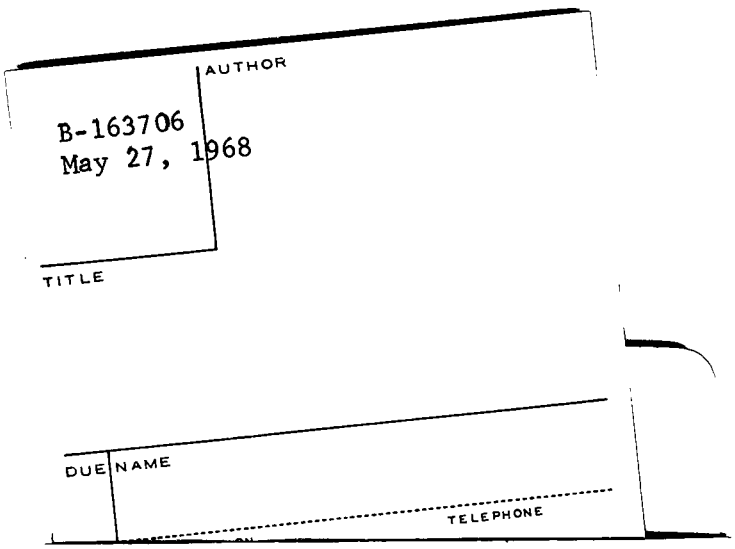
D. The Army concurs in the recommendation that: "supply control studies be more thoroughly reviewed by supervisory personnel especially where super high-dollar value repair parts are involved." The following actions are being taken by the Missile Command.

1. An Inventory Managers' Handbook of all pertinent regulations, procedures, policy and guidelines is being assembled to be used by inventory managers and supervisory personnel to promote accuracy and uniformity in the preparation, analysis, and supervisory review of supply control studies.

2. Use of the Desk Top Computer (paragraph C.4. above) which provides for complete verification of all mathematical computations, will permit more time for supervisory review of other facets of the supply control studies.

3. Supply control studies that involve annual procurement and/or rebuild of $500,000 or more are being reviewed by the missile system project managers, Comptroller and Director of Programs, Procurement and Production Directorate (when appropriate), and approved by the Commanding General.

1 Incl
as



B- 163706
May 27, 1968