REPORT TO THE CONGRESS

Army Inventories--Inaccuracies, Effects, And Ways To Improve B-146828

Department of the Army

BY THE COMPTROLLER GENERAL OF THE UNITED STATES

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

B-146828

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

This is our report on Army inventories--inaccuracies, effects, and ways to improve. Our examination 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).

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

Comptroller General
of the United States

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D I G E S T

WHY THE REVIEW WAS MADE

To make sound decisions on the allocation of Federal resources, the Congress and Federal administrators must have timely and accurate data. Data on inventory levels is an example. If the information is incorrect, funds may be used for unneeded supplies at the expense of other defense programs, or, funds could be incorrectly diverted from the supply area with resulting impairment of the Nation's readiness position.

A 1967 General Accounting Office (GAO) report on Department of Defense (DOD) inventory controls (B-146828) described extensive inaccuracies in inventory records. In 1966, because the inventory records were wrong, $1.8 billion of adjustments (up or down) were made--17.6 percent of the $10.4 billion average DOD continental United States inventory for that year. In other words, DOD thought that it had $835 million of inventory that did not exist; DOD also found $1 billion of inventory that it did not know it had.

The Army had the highest adjustment ratio within DOD--23.5 percent, or $375 million of an average inventory of $1.6 billion. One major weakness was the Army's failure to make regular physical inventories.

DOD, as a result of the 1967 GAO report, prescribed new procedures to improve the accuracy of recorded inventories. This review of Army inventory procedures is the first follow-up that GAO will be making in all of the services and the Defense Supply Agency to determine the effectiveness of DOD's improvements.

FINDINGS AND CONCLUSIONS

The Army is now attempting to schedule and take physical inventories on a regular basis, and its depots seem to be doing a good job in the physical inventory program. Significant improvement in the accuracy of inventory control point records, however, was not achieved. (See p. 8.)

Army inventories in the continental United States grew to $3 billion in 1969. The adjustment ratio also grew--27.7 percent, or $830 million. In other words, the Army thought it had $439 million of inventory in 1969 that did not exist; the Army also found $391 million of inventory in 1969 it did not know it had. (See p. 7.)

Tear Sheet

FEB.26,1971

In Europe, adjustments of $643 million were necessary in 1969--an error ratio of 58 percent for an average inventory of $1.1 billion. (See p. 7.)

Those errors were found through regularly scheduled physical inventories. The records also had to be adjusted by another $773 million because of special physical inventories during the year. Thus, the gross adjustments during the year were $1.4 billion. Similar to the situation in the United States, the Army thought it had $648 million of inventory that did not exist. The Army also found $768 million of inventory that it did not know it had. (See pp. 7 and 8.)

Record accuracy was not improved because the Army underestimated the magnitude of the task. As a result, resources provided--personnel and automatic data processing equipment and programs--were either insufficient or ineffectively applied. (See p. 14.) Factors contributing to that situation were

- --scheduling of physical inventory work loads at depots without adequate consideration of available data processing and manpower resources (see pp. 11, 12, 23 and 24);
- --failure of inventory control points to use statistical sampling techniques to minimize their work loads (see p. 27); and
- --lack of quality control over stock record accuracy at inventory control points to reduce daily errors in recording inventory transactions. (See p. 31.)

Consequently:

- --Inventory schedules could not be adhered to. (See pp. 10 and 11.)
- --Reconciliation and adjustment of inventory records were not accurate or timely. (See p. 14.)
- --Research necessary to identify the causes of inventory errors could not be accomplished. (See pp. 25 and 26.)
- --Controls to ensure that records are kept accurately were not fully implemented. (See p. 31.)

The Army Materiel Command's inventory-monitoring team and other Army internal review groups found and reported on matters similar to those found by GAO. (See p. 33.)

Price tagging the total adverse effects of inaccurate inventory records is impossible, but the cost must be high. For example, if stock exists but is not on the inventory record, an inventory manager may decide to buy unneeded stock. When the unrecorded stock is found later by

inventory, the manager may be forced to dispose of excess stock at a loss. Conversely, if the inventory manager thinks he has stock, he will not replace it. When that stock is needed, it cannot be supplied to the troops. GAO has found that such adverse effects can and do happen because of reliance on inaccurate data. (See pp. 8, 21, 22, and 23.)

RECOMMENDATIONS OR SUGGESTIONS

To improve the accuracy of the Army's inventory records for meaningful management and legislative decisions, the Secretary of Defense should require the Secretary of the Army to

--ensure that scheduling procedures for physical inventories are fully understood (see p. 13);

--adequately plan the effort, determining the resources available in relation to the job to be done (see pp. 24 and 28);

--allocate sufficient resources to do the job (see pp. 24 and 28);

--clarify Army depot research procedures, establishing firm selection criteria and stressing the need to uncover the underlying causes (see p. 28);

--explore use of statistical sampling to select items for research (see p. 28);

--establish quality control procedures at inventory control points (see p. 32); and

--resolve the many deficiencies reported by the Army Materiel Command inventory-monitoring team and other internal review groups. (See p. 33.)

AGENCY ACTIONS AND UNRESOLVED ISSUES

The Army generally agreed with GAO's findings, conclusions, and recommendations and has initiated action on each of the recommendations. (See pp. 39 to 47.) GAO believes that the Army's actions, if effectively implemented and pursued on a continuing basis, will bring about substantial improvements in inventory record accuracy.

MATTERS FOR CONSIDERATION BY THE CONGRESS

GAO is reporting this matter to the Congress because of its continuing interest in the adequacy of management control over military inventories. Recent and anticipated budgetary restraints require particular emphasis on accurate data to make meaningful choices among alternatives.

Tear Sheet

Contents

ABBREVIATIONS

AMC	Army Materiel Command
ADP	automatic data processing
CONUS	continental United States
DOD	Department of Defense
GAO	General Accounting Office
PEMA	Procurement of Equipment and Missiles, Army

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CHAPTER 1

THE PHYSICAL INVENTORY PROGRAM

Managing the far-flung Army supply system which provides support to troops throughout the world is a gigantic and costly task involving thousands of items and billions of dollars. To do this job effectively and economically, decisionmakers must have up-to-date, accurate, and reliable data; they must know what stock they have, where the stock is located, and the condition of the stock. This means that they must have accurate inventory records. Essential to this is a sound and workable physical inventory program.

What represents a sound and workable physical inventory program? In simple terms, we think that it includes:

--Adequate planning and scheduling of physical inventories which, as a minimum, should include determinations of anticipated work loads and resources needed and available to do the job.

--Proper identification and accurate counting of stock.

--Control over transactions affecting stock quantities during counts.

--Timely and accurate reconciliation and adjustment of records.

--Research to find out why the records were wrong.

--Elimination of the underlying causes for record errors.

--Keeping the records accurate after correction.

--Reviewing the program to provide timely reporting of deficiencies to top management.

As of December 31, 1969, the Army was managing 816,000 items--357,000 items it stocked and 459,000 items it did not

stock. For Continental United States (CONUS) alone, the value of stocked inventory was $10.4 billion.[1] Because the 357,000 stocked items are located in various depots throughout the world, millions of individual pieces must be stored, accounted for, and inventoried.

To cope with this colossal task, Army Materiel Command (AMC) was designated as the agency to manage the CONUS physical inventory program. The principal AMC inventory activities that carry out the physical inventory program are its seven inventory control points and 19 depots.

Because these activities are independent of each other and responsible only to AMC, a high degree of coordination is necessary in carrying out the inventory program. For example, in February 1969 each of the seven inventory control points had stock stored in 12 or more of the 19 depots.

To assist in its overall review of the physical inventory program, AMC established an inventory-monitoring team. This team was directed by AMC to review resources, schedules, and overall program status so that top management would have timely information on obstacles to the physical inventory program. The team visited various depots and inventory control points and made significant recommendations for corrective action.

The Army also has inventory control agencies overseas. In Europe it is the Theater Army Support Command. It has one inventory control point that stores stock in eight major depots. Seven are under the control of the inventory control point.

The inventory control points are responsible for systemwide control of designated categories of similar stock items. They determine availability for issue, facilitate distribution, and provide the overall management for stock under their control. Thus, their primary responsibility in the physical inventory program is maintenance of accurate inventory records. They must know, at any point in time, what stock is available and where the stock is located.

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[1]Includes major items--tanks, trucks, trailers, etc.

The depots are responsible for storing and protecting stock and for maintaining records of storage locations. Thus, their primary responsibilities in the physical inventory program are to know where stock is located, to have accurate records on the stock, and to take physical inventories.

Accurate records at both inventory control points and depots are vital. If the inventory control point records are inaccurate, the control point cannot meet its responsibilities for directing the worldwide distribution of stock to the troops. If the depot records are inaccurate, the depot cannot meet its responsibilities for locating stock and filling orders of the inventory control points.

CHAPTER 2

CONDITION OF THE INVENTORY RECORDS AND WHAT IT MEANS

Managing Army inventories involves critical day-to-day decisions concerning such vital matters as what to stock, what to buy, what to repair, and what to dispose of. These decisions affect funds requested and appropriated which have a direct bearing on allocation of Federal resources. If funds are unnecessarily diverted to stockage of supplies because of reliance on bad data, other Defense programs may suffer. Conversely, if funds are diverted incorrectly from the supply area because of bad data, our Nation's readiness position may be impaired.

Each supply management decision is based in some way on stock quantities shown in inventory records. In the past, we found that these records were seriously inaccurate. This situation still exists. In 1966, 23.5 percent ($375 million) of the $1.6 billion[1] of average Army inventories in CONUS required adjustment because the inventory records were wrong. In 1969 the inventories grew to $3 billion.[1] The adjustment ratio which was 27.7 percent, or $830 million also grew. In other words, the Army thought that it had $439 million of inventory that did not exist; the Army also found $391 million of inventory that it did not know it had.

In Europe, adjustments of $643 million were necessary in 1969 because of incorrect records found through regular scheduled physical inventories--an error ratio of 58 percent for an average inventory of $1.1 billion.[2] The records also had to be adjusted by another $773 million because of special inventories during the year. Thus, the gross adjustments during the year were $1.4 billion--exceeding the average inventory value by $.3 billion. Similar to the

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situations in CONUS, the Army thought it had $648 million of inventory that did not exist; the Army also found $768 million of inventory that it did not know it had.

If the stock exists but is not on the inventory record, an inventory manager may decide to buy unneeded stock. When the unrecorded stock is found by inventory, the manager may be forced to dispose of excess stock at a loss. Conversely, if the inventory manager thinks that he has the stock, he will not replace it. When the stock is needed, it cannot be supplied. For an urgent troop requirement, this can be costly. To meet such needs, the inventory manager may be forced to take special measures, such as cannibalizing items for parts or making small quantity purchases.

The Army has had to make extensive use of special and costly procedures to get urgently needed supplies to the troops for several years. These have included "Red Ball," a special processing system for Vietnam; "Fast Fix," a special processing system for Europe; and "Quick Fix," a special processing system for the United States. Better records should enable a reduction in the need for such special systems.

Inaccurate inventory records may not be the only cause of the Army's supply problems, but there seems to be a correlation between lack of improvement in inventory records and a lack of improvement in supply effectiveness.

For example, in 1966 the Army could fill only 68 percent of its orders on time. In 1969 it could fill only 61 percent of its orders on time.

The new procedures prescribed by the Army, since the 1967 General Accounting Office report, to improve record accuracy are generally adequate. The Army is also now scheduling and taking physical inventories on a regular basis and its depots generally seem to be doing a good job in the physical inventory program. Despite these achievements, however, significant improvement in the accuracy of inventory control point records has not resulted. These are the records used to make critical day-to-day supply decisions. Those improvements which were made by the Army and the

reasons why the Army was not able to substantially improve the accuracy of its inventory records are discussed in the following chapters.

CHAPTER 3

PHYSICAL INVENTORIES--THE PROCESS TO DETERMINE WHAT QUANTITIES EXIST

A sure way of determining what quantities exist is to schedule physical inventories and to correctly count all stock on hand.

In 1966 one major weakness was the Army's failure to accomplish regular periodic physical inventories. Although the Army is now scheduling and taking physical inventories on a regular basis, proper scheduling of physical inventories is still a problem, and more emphasis must be given to greater accuracy in counting.

INVENTORY SCHEDULING

Prescribed scheduling procedures are generally adequate. Quarterly, depots advise each inventory control point of the number of items that they can inventory for the control point in the next quarter. Reported depot inventory capability for each inventory control point is based on the number of items stored for the inventory control point in relation to the total number of items stored for all. The inventory control points are responsible for scheduling inventories in accordance with the depots' reported capabilities.

Many CONUS inventory control points, however, were not following procedures. As shown below, the depots were either overscheduled or underscheduled during the first three quarters of 1969.

Depot (note a)	Percent of scheduled inventories to depot capability in 1969		
	1st quarter	2d quarter	3d quarter
Anniston	147.4	27.8	173.8
Atlanta	110.0	67.7	108.7
Charleston	97.6	12.6	62.3
Granite City	15.8	48.4	83.0
Letterkenny	91.7	66.5	53.4
Lexington-Blue Grass	47.9	61.9	64.7
New Cumberland	34.3	53.4	118.7
Pueblo	58.5	80.6	98.8
Red River	84.1	60.9	135.9
Sacramento	67.9	42.4	79.5
Savanna	-	97.7	72.8
Seneca	85.4	79.1	167.6
Sharpe	50.6	24.1	200.8
Sierra	50.0	72.4	120.7
Tobyhanna	54.8	54.3	65.6
Tooele	94.8	66.4	76.1
Umatilla	14.3	56.9	-

[a]Ammunition items were not considered. Also, depots were not shown where information was incomplete.

Generally, the overscheduling or underscheduling was caused by the failure of inventory control points to adhere to reported depot capabilities, because they did not provide the automatic data processing (ADP) support needed or did not have a proper understanding of the procedures. For example:

--The AMC inventory-monitoring team reported that one inventory control point did not give adequate ADP support to the physical inventory program. Therefore, the inventory control point was extremely slow in starting the 1969 program and subsequently had to initiate crash programs.

--In its analysis of inventory control points that did not schedule properly, the team stated that some misunderstood the scheduling procedures and that additional guidance was needed for preparing inventory schedules.

A feast-or-famine situation--where depots are given either too few items to count or too many--is not conducive to efficient and effective physical inventories. It results in the constant need for reassignment of depot personnel and rescheduling of inventories. Further, there is a chain reaction effect on inventory control point workloads--too few completed inventories to reconcile or too many.

INVENTORY COUNTING

Count procedures are generally adequate, but more emphasis should be given to increased accuracy. Our tests--including counting of stock at four selected depots during physical inventories--showed the following first-count error rates by counters.

Depot	Items	Errors	Percent
Atlanta	639	28	4.4
Red River	1,432	140	9.6
Tooele	351	42	12.0
Kaiserslautern	224	32	14.3

Under present procedures, first counts are compared with the quantities on a depot's records. If first counts do not agree with the records--adjusted for stock changes during the inventory--additional counts are taken until a count agrees with the adjusted record or two counts agree. Thus, good first counts are essential; otherwise, unnecessary additional counts increase the cost of physical inventories and divert needed resources elsewhere. Most count errors can be attributed to human error.

CONCLUSIONS

We believe that the Army needs to improve its scheduling of physical inventories and to give more emphasis to accurate counting.

Good planning for physical inventories is essential. Depots must carefully analyze their capability and advise the inventory control points; the inventory control points must schedule inventories in accordance with these capabilities; and depots must provide the necessary resources to

meet these schedules. The failure to fully carry out these respective roles hampers, if not defeats, this essential phase in the physical inventory program.

Good counts are also essential; counters must be trained and carefully supervised.

RECOMMENDATION

The Army's prescribed procedures for scheduling and taking inventories are generally adequate. More aggressive action is needed, however, to ensure that the established procedures are followed to achieve the goals of adequate scheduling and accurate counts.

We propose that the Secretary of Defense require the Secretary of the Army to take appropriate action to provide greater assurance that scheduling procedures are properly understood so that available resources are not misused because of over and under scheduling of inventories. Additionally, we believe that there may be a need for continued or increased emphasis on training and supervision of inventory counters.

CHAPTER 4

RECONCILIATIONS AND ADJUSTMENTS--

CORRECTING THE RECORDS

Counting the inventory is not enough--and really does no good--unless the inventory records are then adjusted to agree with the physical inventory. This is the next step in the physical inventory program. This phase of the work must be as well planned as the scheduling of physical inventories--otherwise, sufficient resources to do the job may not be available when the physical inventories are completed. Here is where the Army encountered some of its most serious problems in its 1969 physical inventory program.

Reconciliation and adjustment procedures appeared adequate, but the Army did not provide sufficient resources to do the job. Available resources--personnel, ADP equipment, and ADP programs--were either not sufficient or not effectively applied. As a result, Army inventory activities, particularly the inventory control points, were unable to cope with the work load. Consequently, inventory reconciliations and adjustments were untimely, inaccurate, or incomplete.

DEPOT RECONCILIATIONS AND ADJUSTMENTS

Generally, the CONUS depots that we visited were not encountering significant problems in reconciling physical counts with record balances and in adjusting the records. By contrast, the European depot had many problems. Records for many items were incorrectly adjusted. However, this depot, unlike those in CONUS, relied primarily on manual controls because of inadequate ADP equipment.

CONUS depots

According to Army procedures, counts and depot records are reconciled after consideration of material receipts, issues, and other transactions occurring during a document control period. This is done to ensure that indicated

differences disclosed by the counts are actual differences. Through this process the depots determine the necessary adjustments to their records.

With exception of a few minor errors, our test of selected items at three CONUS depots showed that procedures were adequately followed and that adjustment of records was proper.

European depot

Tests similar to those made at the CONUS depots were also performed at Kaiserslautern. The tests showed a number of invalid adjustments and inadequate support for others. Generally these conditions were caused by the use of manual control procedures--needed because of insufficient ADP capability--without clearly defining the responsibilities of the storage, inventory control, and ADP personnel.

For example, after adjusting physical counts for receipt and issue transactions, inventory personnel forwarded the adjusted count data, together with the transaction data, to ADP. ADP personnel, unaware of the adjustments already made to the counts, assumed these to be the actual counts and changed them again for the in-process transactions before making the adjustments to the inventory records. After we brought this matter to the attention of depot officials, they identified 1,387 items that had been incorrectly adjusted in 1969. The depot again counted these items to correct the records. It discovered $547,000 worth of items not recorded and $1 million worth of items recorded but not existing.

In addition, control over receipts and issues was lacking. Personnel reconciling the counts with the records did not know whether transactions entered on the records during the period of the inventory had been recorded at the stock location. Normally, inventory stack cards--cards placed at storage locations to enable the recording of receipts and issues occurring during the inventory--should provide the needed information. In many instances, however, the stack cards were either not prepared or not properly annotated by storage personnel for receipts and issues. Without positive knowledge that the stock has been placed

at or removed from a location at the time of physical count, inventory control personnel must make assumptions on what they think might have happened. Incorrect assumptions cause incorrect record adjustments.

The Army has plans for providing additional ADP support for its European inventory activities, and once this support is available, some of the problems discussed should be minimized. Until that time, however, manual procedures will be necessary and these procedures should be clarified.

INVENTORY CONTROL POINT RECONCILIATIONS AND ADJUSTMENTS

After the depots adjust their records, it is up to the inventory control points to finish this phase of the physical inventory program. The inventory control points must reconcile their records with the corrected depot balances and make the necessary adjustments. It is essential that the inventory control points be ready for the reconciliation and adjustment task and that they complete it promptly and accurately. Inventory control point records are the official records that the inventory managers must rely upon to decide on a day-to-day basis what to stock, buy, repair, or dispose of. Untimely or inaccurate reconciliation actions perpetuate the unreliability of the data that the inventory managers depend upon. And, good decisions do not come from unreliable data.

Generally the inventory control points that we visited--in CONUS and in Europe--had not fully implemented the prescribed procedures nor provided the needed resources to ensure that the reconciliations and adjustments were timely or accurate. Also similar conditions were found by the AMC inventory-monitoring team at other CONUS inventory control points.

Reconciliation and adjustment delays

At the beginning of the month after the completion of the depot reconciliation and adjustment process, the depot and inventory control points establish a 30-day document control period. Document control was established to ensure that all in-process transactions--at the depot and at the inventory control points--are considered in the reconciliation and adjustment of inventory control point records. Depending on the count dates, count results are available from 1 to 30 days prior to the establishment of the 30-day depot/inventory control point control period. Therefore, there is a built-in delay of 30 to 60 days (1 to 30 days for counts plus the 30-day control period) before inventory managers could have knowledge of the actual stocks in existence. This delay--because the depots' records are adjusted first--is minor in comparison with delays experienced by inventory control points in attempting to carry out their responsibilities.

For example, on the basis of our test of selected inventory lots (groupings of up to 5,000 items) at one CONUS inventory control point, we found that there was an average delay of 133 days from receipt of depot inventory data to the adjustment of the records. This delay, together with the built-in delay of 30 to 60 days, results in an average period of about 6 months from physical count at the depots to adjustment of the inventory control point records. The delays at this inventory control point were caused primarily by inadequate ADP support. The inventory control point failed to program its computer to enable it to process adjustments automatically. Therefore extensive and time-consuming manual effort was required for its reconciliation and adjustment process.

Our review at the other CONUS inventory control point also showed long delays in reconciliations. In addition, this inventory control point failed to process millions of dollars of inventory adjustments. At this inventory control point, inventory adjustments in excess of $25,000 were removed from the reconciliation process and set aside for further investigation. As a result, many of these adjustments were not processed. For example, our review of four selected inventory lots showed a total of 132 unprocessed adjustments totaling over $12 million.

The AMC inventory-monitoring team also found, at another CONUS inventory control point, that suitable ADP programs to support the inventory activities were not in existence or fully operational until 10 months after the start of the 1969 physical inventory program. At that time, only 36 of 207 inventory lots had been reconciled and the records had been adjusted.

The team concluded that the computer had not been used effectively. This ineffective use caused excessive manual effort, slippage of the inventory program, and inaccurate records. Similar critical comments were made by the team concerning the operations of other inventory control points that it visited.

In Europe, the period between the count and adjustment of inventory control point records was even longer than at the CONUS inventory control points. For example,

inventories taken in March 1969 and earlier at one depot were not reconciled and adjusted by the inventory control point until October 1969--7 months or more after the count.

Erroneous adjustments

In addition to making untimely reconciliations and adjustments, inventory control points made incorrect adjustments because certain controls either did not exist or were improperly applied. Although our tests were limited--primarily because of voluminous data on each adjustment--we believe this problem shows a need for greater concentration of effort for accuracy at these and other inventory control points.

Neither of the two CONUS inventory control points that we visited were determining whether items inventoried at the depots were the same as those scheduled by the inventory control points. As a result, one inventory control point erroneously adjusted its inventory records by several million dollars. The AMC inventory-monitoring team estimated that, for one depot alone, 6,000 items valued at $10 million were erroneously dropped from this inventory control point's records. The inventory control point subsequently had to reverse all of the erroneous adjustments.

This happened because the inventory control point included special control items in the inventory lots scheduled for inventory by statistical sampling. Special control items are not to be inventoried by this method--they must be counted on a 100-percent basis. The depot properly excluded these items from the lots. When the depot results were reconciled by the inventory control point computer, however, the ADP program caused the inventory control point records for the special control items to be adjusted to zero because the depot did not report balances for these items. Balances were not reported because the items were not inventoried.

At the CONUS inventory control points, our review of a number of completed adjustments showed that:

--At one inventory control point--due to slippage in implementing the program for mechanized

reconciliation--the adjustments were being manually computed. We reviewed 20 adjustments and found six to be incorrect--a 30-percent error rate. In addition, we found that one adjustment had not been recorded because the analyst had missed it. No verification of this work was performed. Officials said that they had not reviewed the adjustments but had relied upon the ability and experience of their people. Moreover, work load assignments were not clearly defined and in some instances officials had to analyze the handwriting on adjustment documents to determine who had prepared them.

--At the other inventory control point, the adjustments were being mechanically computed. We reviewed 100 adjustments and found 19 to be incorrect. These errors resulted because transaction processing, at either the depot or the inventory control point, was not performed as expected. Although errors may be reduced by mechanized processing, errors still can be made and some review of the completed actions is necessary. Three errors were obvious and would have been detected if reviewed.

We did not test the European inventory control point's adjustments. Its own review, however, showed many adjustments were erroneous.

ADVERSE EFFECTS

Putting a price tag on the total adverse effects from outdated and inaccurate inventory records is impossible. Sheer volume prevents it, since thousands of items, transactions, and decisions must be reviewed. What value should be placed on not being able to supply troops on time or on the harmful effects on morale when supply personnel at all echelons lack confidence in the supply system?

At one inventory control point, we selected one of the many inventory lots which had not been reconciled and adjusted timely. To determine adverse effects because of the delay, we screened this inventory lot to identify those items that had a zero balance at the inventory control point even though stocks were on hand at the depot. Nineteen items met this criteria.

We reviewed the files for these 19 items to determine whether procurement actions had been initiated because the inventory control point did not know it had the stock. Procurement action was initiated for three of the 19 items during the 80- to 87-day period taken to reconcile and adjust its records. We selected one of these procurement actions for further review and found that:

--Prior to the physical inventory, the inventory control point's stock record showed a zero balance. On June 2, 1969, the depot, on the basis of its inventory, reported on hand quantities of 541 units. Unaware of the units stored at the depot because the inventory control point did not adjust its record until August 21, 1969, the inventory control point inventory manager, on June 21, 1969, took action to buy 1,451 units at a cost of about $3,600. After the units were recorded, the manager attempted to cancel the procurement action, but the contract had been awarded. The items found by physical inventory plus the quantity purchased resulted in excess stock.

We also reviewed these 19 items to determine whether there were any on back order during the period that reconciliation and adjustment was delayed. Seven items had

outstanding back orders. We selected one of these for further review and found that:

--Prior to the physical inventory, the inventory control point's stock record showed a zero balance. On June 2, 1969, a depot, on the basis of its inventory, reported on hand quantities of 387 units. On August 21, 1969, when the records were finally adjusted, the inventory control point released 12 back orders for filling, including four high-priority orders. Since these orders were received during the period January 11 to July 9, some could have been filled as much as 80 days earlier. The latest order received could have been filled 43 days earlier.

Our tests of 51 items at the other CONUS inventory control point disclosed similar adverse effects due to reconciliation delays, incorrect adjustments and unprocessed adjustments. In reviewing the files for these items, we found three instances of unnecessary procurements and 13 instances of delays in supplying troops. Examples follow.

--Prior to physical inventory, the inventory control point's stock record showed a zero balance. On January 14, 1970, the inventory control point should have adjusted its record for 1,867 units reported by a depot, but, because of the $25,000 adjustment policy mentioned on page 18, the inventory control point did not process the adjustment. On January 27, 1970, the inventory control point ordered 1,457 units at a total cost of $115,686. In this instance, the inventory manager, upon being informed by us of the existence of stock at the depot, was able to cancel the procurement action.

--On October 24, 1969, the inventory control point improperly reduced its recorded balance from 130 to zero for an item because of the procedural deficiency discussed on page 19. On October 30, a high-priority requisition for 22 units was back ordered because the inventory control point thought it had no stock. The back order was released for filling on November 19, when the improper adjustment to the record was corrected. There was an unnecessary delay of 19 days in supplying troops.

Although these examples may not seem too significant in and of themselves, it must be remembered that inventory managers are making these kinds of judgments each and every day--before inventories are taken, while inventories are being taken, while waiting for the reconciliation and adjustment process to be completed, and after the records have theoretically been corrected. When this type of continuous decisionmaking is considered in the light of the condition of the Army's inventory records--27.7 percent wrong for CONUS in 1969--the overall adverse effect has to be substantial.

Further, adverse effects are not always related to specific stock items. For example, the AMC inventory-monitoring team noted that one inventory control point dispatched search teams of as many as seven people intermittently to visit depots to locate quantities of stock to satisfy urgent requirements. The team summed up this other type of effect very well. The team said that it was ironic that many of the items the search team physically located were on depot records and would have also been on the inventory control point's records if the inventory control point had properly completed inventory reconciliation and adjustment processes. Also the team believed that the dollars and manhours expended on the search teams would have provided greater benefits if they were used properly to improve inventory control point record accuracy.

And, what of the cost of maintaining inventory records that are not reliable? We could not determine the cost of these operations, and the Army was unable to tell us what it was. But, it must be a sizable amount. This too is an adverse effect--adverse because the money was spent to achieve something of value, but the value was not received.

CONCLUSIONS

The Army encountered some of its more serious problems in attempting to reconcile and adjust its inventory records. On the basis of the problems noted, we believe that Army management has underestimated the complexity and scope of the reconciliation and adjustment task. Consequently ambitious physical inventory programs are established without sufficient consideration of the resources available to

accomplish the resulting reconciliation and adjustment work load.

Resulting delays and inaccuracies in adjustments led to improper management actions--ordering unneeded stock and denying, for a time, delivery of needed items to the troops--and other costs. Though not precisely measurable, the cost of not being ready is high.

RECOMMENDATIONS

We proposed that the Secretary of Defense require the Secretary of the Army to:

--Determine the capability of its inventory activities to carry out the annual inventory program prior to scheduling and taking physical inventories. This determination should include not only the determination of the number of physical inventories that can be taken by the depots but the number of reconciliation and adjustment actions that should be expected by the depots and inventory control points as a result of physical inventories.

--Either allocate new resources or redirect present resources as necessary to ensure timely and accurate accomplishment of reconciliation and adjustment actions.

CHAPTER 5

RESEARCH--FINDING OUT WHY THE RECORDS WERE WRONG

Lessons can be learned from past mistakes, but only if the underlying causes of the mistakes are identified. Once identified, reasons for recurring errors can be eliminated and accuracy can be improved. Finding out what went wrong, and why, must be an integral part of a sound and workable physical inventory program.

The Army has prescribed procedures for accomplishing this task, but the depots and inventory control points were unable to do the job. This was primarily due to a lack of adequate guidance for the depots and a lack of sufficient resources for the inventory control points.

DEPOT RESEARCH

Although procedures require depot research, criteria for selecting inventory discrepancies for research are not specified for uniform use. Further, the Army has made no provision for tabulating and analyzing results of depot research to enable the identification and correction of underlying causes of recurring errors. As a result the selection criteria employed and the depth of research performed varied considerably.

For example, one CONUS depot was researching inventory discrepancies in excess of $200, another was researching discrepancies in excess of $100 or 10 percent of the quantity on record, and the third was researching discrepancies with the highest value first and continuing downward as time permitted. The European depot had no selection criteria since it was unable to perform research because of insufficient personnel and time.

Only one CONUS depot, at its own initiative, was attempting to tabulate and analyze research results.

INVENTORY CONTROL POINT RESEARCH

Although prescribed inventory control point research procedures were generally adequate, inventory control

points--primarily because of insufficient resources--were unable to do the research necessary to determine what went wrong and why.

Inventory control points are generally required to research all inventory adjustments in excess of $5,000. Also they are to record the causes of adjustments and to initiate corrective actions to eliminate these causes. The inventory control points we visited did not follow this criteria and did not get the needed research done. For example:

--One CONUS inventory control point adopted a more stringent research criteria than required ($2,500 rather than $5,000). As of February 1970, it had not researched any adjustments for either the 1968 or 1969 inventories. Officials said that they were unable to do the research because of large workloads, limited numbers of personnel, and lack of ADP capability at the depots.

--At the other CONUS inventory control point, procedures provided for researching only loss adjustments of $5,000 or more. Although this reduced the number of items to be researched, the control point was still unable to do the job. Under this criteria 5,775 adjustments required research in 1969. As of December 31, 1969, only 1,010 adjustments had been reviewed--most of these were reviewed to reverse incorrect previous adjustments that had come to the control point's attention. No attempt was made to tabulate and analyze the underlying causes of the recurring errors. Officials said that they did not have sufficient staff to keep up with their work load.

--The European inventory control point procedures generally provided for research of loss adjustments in excess of $5,000 and gain adjustments in excess of $100,000. Under this criteria 17,805 adjustments during 1969 required research. As of January 1970, 13,651 of these adjustments had been researched, but only to the extent that a justification code (showing what had happened) had been assigned to each item. Although this research effort appeared impressive in relation to the accomplishments of the CONUS inventory control points, the European inventory control

point did not analyze what had happened to identify and correct basic underlying reasons for recurring-type errors. Identifying what happened--such as erroneous adjustment, duplicate posting, and documentation not posted--is not enough. To stop this from happening again the control point should have found out why there had been erroneous adjustments, why there had been duplicate posting, and why documentation had not been posted.

Other CONUS inventory control points had problems keeping abreast of their research work load. For example, the AMC monitoring team found that one had requested authority to waive research of its 1968 backlog of 4,311 adjustments. The team found also that another had experienced difficulty in accomplishing its research because of the lack of adequate ADP support.

CONCLUSIONS

Inventory records cannot be maintained accurately if no one knows what causes them to become incorrect. Finding out what happened to cause an error is just the first step. Finding out why it happened is what is really needed to initiate corrective and preventive action.

The purpose of research procedures is to gain this type of knowledge, but this is not being done. The lack of clear guidance concerning what is uniformly required and the lack of sufficient resources to do the job are the basic deterrents to the accomplishment of this essential phase of the Army's physical inventory program. In regard to resources, it appears that the present research selection criteria may be too restrictive and that the resulting work loads may be too high in relation to available resources. The use of statistical-sampling techniques may offer opportunities for reducing work loads and providing the means for more in-depth analysis of the reasons why errors occur.

RECOMMENDATIONS

To ensure that research is done so that recurring errors can be prevented, we recommend that the Secretary of Defense require the Secretary of the Army to:

--Clarify its depot research procedures by establishing firm selection criteria and stressing the need to uncover the underlying, rather than surface, causes.

--Take action similar to that recommended in chapter 4. In other words, ascertain the anticipated research work load as a part of the overall planning for the annual inventory program and provide the resources needed to do the job.

--Explore the use of statistical-sampling techniques to select items for research rather than selecting the items solely on the basis of a fixed-dollar value. This would result in reduced work loads and more comprehensive data on why things go wrong.

CHAPTER 6

QUALITY CONTROL--THE WAY TO KEEP THE RECORDS ACCURATE

The stock is counted, the records are adjusted, and the causes of errors are researched, but this is not all there is to a sound and workable physical inventory program. The records must be maintained accurately or errors, new or recurring ones, can creep in and make the records unreliable again. If this happens, the decisionmaker is no better off than he was before the records were corrected. He will still have to depend on unreliable data and his decisions may be wrong.

The answer is an adequate quality control system that:

--Periodically tests the accuracy of the data recorded daily in depot stock locator records and inventory control point stock balance records.

--Evaluates and corrects, on a continuous basis, the underlying causes of errors in recorded data that are disclosed by daily quality control tests.

The Army has established a quality control system to ensure that stock locator records at depots are accurately maintained on a daily basis. Similar quality control checks have not been established for stock balance records maintained by inventory control points despite the importance of these records in day-to-day management.

DEPOT QUALITY CONTROL

The Army depot quality control system provides for daily checking of the accuracy of supply data recorded in stock locator records. Errors are investigated by a quality control group on a continuous basis in an effort to prevent their recurrence by identifying and correcting the underlying causes.

Depots perform periodic location surveys to measure locator record accuracy, to correct location errors, and to assess the effectiveness of the quality control system.

A location survey consists of a comparison of item identification and location data as shown on stock locator records with the actual physical identification and location of item assets.

A complete survey of all records and stock locations is required each year. Another survey is made during the year, but only on a statistical-sampling basis. If this sampling survey fails to meet prescribed accuracy levels (98.4 percent for 1969 and 95 percent for future years) another complete survey is required.

The table below shows the results of the earliest and the latest 1969 surveys available to us at the four depots that we visited during our review. Shown also are the results of our independent surveys at these depots.

	Location surveys					
	By the depot				By GAO	
Depot	Month	Accuracy	Month	Accuracy	Month	Accuracy
Atlanta	Mar.	80.2%	Nov.	86.0%	Oct.	87.5%
Tooele	Mar.	97.9	Oct.	93.8	Oct.	90.7
Red River	May	94.5	Oct.	98.4	Oct.	97.9
Kaiserslautern	Jan.	88.7	Nov.	91.7	Dec.	91.0

Our results were similar to those of the depots, which indicated that procedures were adequate and reliable as a means to measure quality control effectiveness and locator record accuracy. Only one depot achieved the 98.4-percent accuracy goal for 1969, although another depot came close. Two depots met the 95-percent accuracy level required for future years, and one almost reached it.

To determine remaining obstacles in achieving desired accuracy goals, we reviewed depot quality control evaluation reports and discussed the problems with depot officials. Apparently, these are "people problems." For example, at one CONUS depot, 58 percent of all errors found by quality control checks in 1969 were location errors--errors made by warehousemen. Because of these errors, the depot was giving

training to its warehouse personnel. Similar problems, including personnel shortages, were noted at the other depots we visited.

INVENTORY CONTROL POINT QUALITY CONTROL

Stock balance records at inventory control points must be accurately maintained on a day-to-day basis if proper management decisions are to be made on such vital matters as what to buy, what to repair, and what to dispose of or redistribute.

Despite the fact that vital day-to-day management decisions are dependent on the accuracy of stock balance records, the Army has not prescribed quality control procedures for inventory control points to make daily checks on the accuracy of data being recorded and to investigate and correct basic causes of errors disclosed by such checks.

Inventory control point records and depot records are compared annually by means of locator record audits to ascertain their compatibility. These audits consist of matching supply data which are common to both sets of records. The accuracy goals for location record audits are the same as for depot location record surveys--98.4 percent for 1969 and 95 percent for future years. Results of locator record audits taken in 1969 for the inventory control points that we visited (comparing their records with those of all the depots where their stock was stored) showed that there were significant differences between the records of the inventory control points and the records of their depots. For example:

Inventory control point	Results of locator record audits
Army Tank-Automotive Command	60.4%
" Aviation Systems "	63.6
" Materiel Command, Europe	85.8

In view of the relatively high accuracy levels of the depots (see p. 30) compared to the results of the locator record audits of the inventory control points, it appears that the depot records, because of daily quality control

checks, are more accurate than those of the inventory control points.

CONCLUSIONS

The results of depot location surveys indicate that depot quality control procedures have been fairly effective. Continued attention to the problems disclosed by their quality control procedures should enable depots to achieve or surpass the future accuracy goal of 95 percent.

We believe, however, that the accuracy level sought for the compatibility of depot and inventory control point records is not likely to be achieved until the inventory control points have implemented quality controls comparable with those of the depots and the means to measure their effectiveness. Ironically, it is the inventory control point records that must be correct if proper management decisions are to be made--yet there is less scrutiny of the data being recorded daily in these records than there is at the depots.

RECOMMENDATIONS

We proposed that the Secretary of Defense require the Secretary of the Army to establish quality control procedures at inventory control points comparable with those in effect at depots to ensure that transactions are processed timely and correctly and thus provide the needed assurance that data is recorded accurately at inventory control points.

CHAPTER 7

REVIEWING ACTIVITIES

To be sure that programs are progressing as intended, management must have timely reports on deficiencies, made by persons independent of the operations involved. During 1969 various Army review groups issued reports on the physical inventory program. The largest number were by the AMC inventory-monitoring team. It visited six of the seven CONUS inventory control points and eight of the 19 CONUS depots.

The reviews of the AMC inventory-monitoring team were quite penetrating and identified many significant problems. Reviewing is not enough, however, problems identified must be resolved.

RECOMMENDATION

We recommend that the Secretary of Defense require the Army to resolve the many deficiencies reported by the AMC inventory-monitoring team and other review groups.

CHAPTER 8

AGENCY COMMENTS

In its September 14, 1970, reply (see app. I) to our draft report, the Army

--concurred in our findings,

--concurred in our recommendations, and

--concurred in our conclusions, except for the nature of our overall conclusion that the Army's progress since 1966 has been limited.

As a result, the Army has initiated action on each of the recommendations made. (See pp. 39 to 47.)

Regarding the Army's nonconcurrence with the nature of our overall conclusion, it contends that GAO's comparison of gross adjustment ratios for 1966 and 1969 is not a valid basis for an overall assessment of progress since adjustment ratios are dependent not only on the accuracy of inventory records but also on the number of inventories taken. The Army contends that the 1966 and 1969 ratios are not comparable since the number of inventories taken in 1969 were greater than in 1966. The Army cited the following examples of gross adjustment ratios for the years it considered comparable: 1968, 31.5 percent; 1969, 27.7 percent; and 1970 (projected), 25.3 percent. The Army further commented that the 1969 ratio used in the report excluded Procurement of Equipment and Missiles, Army (PEMA), principal items (tanks, trucks, etc.) which account for about 70 percent of depot inventories--in terms of dollars--and that the adjustment ratio was lower when such items were included.

Admittedly, the comparison of the Army's gross adjustment ratios for 1966 and 1969 is not a precise measurement, primarily because it cannot be determined how much higher the 1966 ratio would have been if more inventories had been taken. It clearly demonstrated, however, that the inventory records were significantly incorrect in 1966 and were significantly incorrect in 1969. In contrast to the Army's

1969 ratio of 27.7 percent, the Navy and Air Force experienced adjustment ratios of 5 and 6.6 percent, respectively.

Also we agree that the Army's adjustment ratio for 1969 would have been lower (19.8 percent instead of 27.7 percent) had PEMA principal items been included in the computation base for the adjustment ratio. Our prior review disclosed, however, that the Army's inventory record problems were largely confined to stock fund and PEMA secondary items. The 1969 ratio for CONUS used in the report excluded PEMA principal items solely to make it comparable with the 1966 ratio for CONUS also used in the report. The 1966 data and ratio computation, furnished to us by the Army at the time of our prior review, did not include PEMA principal items.

The comparison of 1966 and 1969 ratios alone would not be a sufficient basis for making an overall assessment of progress. But, this was not our only basis. We fully recognize that some improvements have been made, and we have included comment on them throughout the report. These improvements include such things as:

--Prescribed procedures that are now generally sound.

--Taking physical inventories on a regular basis.

--Intensive reviews by the AMC inventory monitoring team.

--An apparently good job now being done by the depots.

The fact remains, however, that the inventory records, maintained by the inventory control points and used for day-to-day management decisions, continue to be significantly incorrect because Army inventory control points fail to properly schedule inventories, to make timely and accurate reconciliations, to make timely and accurate adjustments, to do the necessary research to find out why errors are caused so they can be corrected, and to establish sound quality control over the recordkeeping.

We believe that actions initiated by the Army to correct the conditions cited in this report will, if effectively implemented and pursued on a continuing basis, bring about substantial improvements in inventory record accuracy.

CHAPTER 9

SCOPE OF REVIEW

Our audit, completed in March 1970, included a review of the regulations, procedures, and practices for the Army's physical inventory program. And, to the extent deemed appropriate, we tested these procedures and practices at selected inventory control points and depots. We reviewed inventory reports, prior audit reports, statistical data, and other records. We also interviewed officials who were knowledgeable regarding the matters under review.

Our work was done at the following installations:

Army Materiel Command, Headquarters, Washington, D.C.
Army Aviation Systems Command, St. Louis, Missouri
Army Tank-Automotive Command, Warren, Michigan
Atlanta Army Depot, Forest Park, Georgia
Red River Army Depot, Texarkana, Texas
Tooele Army Depot, Tooele, Utah
Theater Army Support Command, Headquarters, Worms, Germany
Army Materiel Command, Europe, Headquarters, Zweibrucken, Germany
Kaiserslautern Army Depot, Kaiserslautern, Germany
Germersheim Army Depot, Germersheim, Germany
Army Aviation Maintenance Center, Sandhofen, Germany

APPENDIXES

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

14 SEP 1970

Mr. C. M. Bailey
Director, Defense Division
US General Accounting Office
Washington, D.C. 20310

Dear Mr. Bailey:

This is in response to your letter of 3 July 1970, to the Secretary of Defense requesting comments on your draft report titled: "Army Inventories--Inaccuracies, Effects and Ways to Improve." (OSD Case #3142).

The inclosed statement, providing the Department of the Army position on each finding and recommendation agrees in many of the detailed recommendations on ways to improve record keeping. The Army recognizes the opportunities for improving inventory record accuracy and the enclosure outlines progress being made in this direction. However, the general tone of this draft report together with the selective use of calendar year 1969 and fiscal year 1969 inventory data tend to misrepresent Army improvements in physical inventory control.

It is important to note that, during the period covered, Army inventory managers had responsibility for supply system inventories valued at $10 billion. Yet the audit report on "Army Inventories" presents performance data on $3 billion of inventories which under selective management principles do not receive the same intensive management devoted to high investment inventories. The data presented in the enclosure serves to present a more current and representative picture of progress toward reducing Army inventory inaccuracies. It is suggested that data in this letter and the enclosure be considered for use in preparing the final GAO report on this subject.

This reply is made on behalf of the Secretary of Defense.

Sincerely,

Joseph C. Zengerle, Jr.
Deputy for Supply, Maintenance and Transportation

1 Incl
Army Position Statement

DEPARTMENT OF THE ARMY POSITION

ON

GAO Draft Report GAO Code 62209, dated 3 July 1970

Army Inventories -- Inaccuracies, Effects and Ways to Improve

(OSD Case #3142)

I. POSITION SUMMARIES.

A. GAO Position Summary.

The Army inventory procedures are basically sound, but inventory records are generally inaccurate, as they were in 1966. Army has made limited progress since the 1966 GAO review because inventory control points and depots were unable to accomplish the necessary inventory actions. The major deficiencies were found at inventory control points. Army did not provide adequate resources to inventory control points and depots. The GAO review was made in the first three quarters of FY 70 and covered three CONUS depots and two CONUS inventory control points, in addition to review of two depots, one depot activity, and an inventory control point accomplished in USAREUR.

B. Army Position Summary.

The Army concurs in the findings. The Army concurs in the conclusions except for the nature of the overall conclusion that the Army's progress since 1966 has been limited because the Army's resources were either insufficient or inadequately applied. This conclusion is discussed in paragraph III below. The Army concurs in the recommendations. Each recommendation is discussed in paragraph IV.

II. BACKGROUND FOR ARMY POSITION.

Prior to the GAO review of DOD physical inventory controls in 1966, the Army was taking only a limited number of inventories. As a result of the GAO report, DOD established a study group which resulted in the publication of DODI 4140.35, Physical Inventory Control of DOD Supply System Materiel, in January 1969. The Army implementation of DODI 4140.35 is AR 740-26, Physical Inventory Control, 3 November 1969 with a 1 January 1970 effective date. The major provisions of AR 740-26 were implemented by Army Materiel Command (AMC) and U. S. Army, Europe (USAREUR) prior to 1 October 1969. Implementation was completed by AMC by 1 January 1970 and USAREUR by 30 June 1970. In 1967 and 1968, AMC accomplished a physical inventory of every item in AMC stocks. In 1969, statistical sampling techniques were used

for all items except high value or controlled inventory items. In 1968 and 1969, USAREUR implemented Project Aim (Accelerated Inventory Method) and the Theater-Wide Reconciliation of Recorded Balances Program to reconcile depot records and ICP records.

III. ARMY POSITION ON GAO CONCLUSIONS.

The Army concurs in the conclusions except for the overall conclusion that the Army has made "only limited progress in gaining control over its inventories because inventory control points and depots have been unable to do the job required," because "available resources . . . were either insufficient or inadequately applied" since 1966. Significant progress has been made since 1966, as indicated by the following:

1. The GAO concluded that the Army procedures are now "generally sound." This is an improvement over 1966.

2. The GAO also found that the Army is now taking inventories on a regular basis, whereas, in 1966, Army was not. The GAO also concluded that "depots seem to be doing a good job in the physical inventory program."

3. In FY 66, the AMC denial rate for Army materiel release orders was 4.0%, computed in accordance with DODI 4140.35. In FY 67, the rate was 3.7%. In FY 68, it was 3.8%. FY 68 was the beginning of the AMC inventory actions as a result of the 1966 GAO review. As a result, the AMC denial rate dropped to 2.9% in FY 69 and to 2.5% in FY 70. In the 4th Qtr FY 70, the AMC denial rate was 2.3% and in June 1970, the rate was 2.1%. This is a significant decrease in denials and the trend is continuing.

4. Considerable improvement has been made in the control of inventories in USAREUR depots subsequent to the FRELOC period. This is evidenced by the decrease in materiel release denials from 5.2% at the beginning of calendar year 1969 to 2.5% at the end of June 1970, and an increase of 3% (85% to 88%) in the rate of fill for the six month period ending 30 June 1970.

5. The GAO report showed a comparison between adjustment rates in FY 66 and FY 69 indicating that the adjustment rate had risen from 23.5% to 27.7%. The adjustment rate used was a ratio of the gross physical inventory adjustments to the average dollar value of inventory recorded as on hand at the inventory control points, excluding PEMA principal items. The adjustment rate, calculated in this manner, is dependent not only upon the accuracy of inventory records, but also upon the number of inventories taken. If no inventories are taken, the adjustment rate will be 0%. Since the number of annual inventories increased since 1966, the FY 69 rate is not comparable to the FY 66 rate. The adjustment rate computation used is a valid comparison of accuracy only when the dollar value of items inventoried is comparable. This was true in FY 68, FY 69 and FY 70, but not before FY 68. In addition, the FY 69 rate used by GAO excludes PEMA principal items which account for about 70% of the AMC depot wholesale

inventory -- in terms of dollars. The following table shows a comparison of adjustment rates for the three comparable years, as well as a comparison of the denial rate.

	ADJUSTMENT RATE		DENIAL RATE
FY	Stock Fund and PEMA Secondary	All Items	
68	31.5%	24.6%	3.8
69	27.7%	19.8%	2.9
70	25.3% [1]	14.1% [2]	2.5

[1]Projected based on 3 Qtrs actual of 19.0%.
[2]Projected based on 3 Qtrs actual of 10.6%.

6. The GAO also noted that the Army was doing a good job in reviewing activities, primarily through the establishment of Inventory Monitoring Teams by AMC.

IV. ARMY POSITION ON GAO RECOMMENDATIONS.

A. The Army concurs in the recommendation to "assure that scheduling procedures are fully understood and that the resources needed to do the job are provided." The recommendation resulted from the finding that the number of inventories scheduled by CONUS inventory control points is frequently considerably higher or lower than the stated depot capability. It should be noted, however, that the depot statement of capability applies only to wholesale stocks and not to depot retail stocks which also must be inventoried by the depot. Additionally, the inventory control point must consider its own capability to process the inventories. Most depots perform inventories for several inventory control points and all inventory control points deal with a number of depots. This accounts for some of the difference between the stated depot capability and the final schedule. If the sum total of all scheduled inventories in a quarter differs from the depot capability, the depot reschedules the inventory of retail stocks, which is performed by the same depot personnel. A review of depot capability reports for FY 71 indicates that depots currently have sufficient resources to accomplish required inventory actions. In order to assure that CONUS depots and inventory control points understand scheduling procedures, the following actions have been taken or are in process:

1. The depot capability report has been revised to:

(a) Provide for a submission of capability reports for all four quarters prior to the beginning of the fiscal year. Previously, depots provided capability reports for only the next quarter.

(b) Provide for a statement of the number of items which must be counted, rather than just a statement of the number of items stored, as

was done previously. The FY 71 reports provided this.

(c) Provide for a statement of ammunition capability in terms of stock numbers as well as locations. Previously, capability reports were in terms of locations, but accomplishments were reported in terms of stock numbers. The June 1970 capability reports stated capability in terms of both.

2. A set of twelve illustrated DA Pamphlets on the physical inventory program is in preparation. The first two volumes have been sent to TAGO for final edit and publication. Submission of the remaining ten is scheduled for 1st Qtr FY 71. These pamphlets will emphasize and illustrate the scheduling process.

3. A revision to the inventory portion of TM 743-200-1, Storage and Materials Handling, is scheduled to be submitted in August 1970 to TAGO for publication. This section includes instructions on scheduling.

B. The Army concurs in the recommendation to "inquire into the need for additional training and supervision to improve counter accuracy, including the advisability of performance rating standards for counters." The DA pamphlets and TM 743-200-1, mentioned in paragraph IV.A. above, will assist in training since both emphasize accuracy in counting and proper counting methods. A study has recently been made of depot inventory organizational structure and grade structures. This study is currently in the final review stage. The recommendation for establishing performance rating standards for counters is amplified by the GAO findings to mean establishment of a minimum acceptable rate for count errors. This system has been studied and is not economically feasible for the following reasons:

1. Army inventories are conducted as open inventories, that is, receipts and issues are not stopped during the inventory process. This means that a recount may differ from a first count due to an intervening receipt or issue. In-float documentation would have to be considered before a counting error could be assessed against a counter. This would be time consuming.

2. AR 740-26 requires a two count method of inventory where custodial records are not maintained. Where custodial records exist, only one count is required when the count agrees with the custodial balance. When the count does not agree with the balance and in-float documentation does not explain the difference, recounts are required until:

(a) Two counts agree, or,

(b) One count and the custodial balance agree, or,

(c) Until the discrepancy is less than $200.

3. Where the one count system is used, a verification of counter accuracy would require a sample recount of over 10%. Since two of the AMC depots had an estimated count inaccuracy of less than 10% according to GAO, the control would cost more than the current errors. At the third depot, count accuracy would have to improve to 98% before the economic break even point is achieved.

C. The Army concurs in the recommendation to "re-emphasize the importance of good storage practices to facilitate counts." The following actions are in process to accomplish this:

1. The illustrated DA pamphlets, mentioned in paragraph IV.A. above, emphasize the relationship of storage practices to inventory.

2. TM 743-200-1, mentioned in paragraph IV.A. above, emphasizes the relationship of storage practices to inventory.

3. Poor storage practices were noted by the GAO to be most prevalent at the Kaiserslautern Army Depot (KAD). The depot is presently involved in an extensive warehouse construction project which, when completed, will provide covered storage space for those items presently located in unimproved outside storage areas. As of 1 July 1970, one warehouse of 180,000 square feet was completed. Warehousing of the new structure is in progress. Two additional warehouses with a total of 190,000 square feet are scheduled for completion not later than 31 December 1970. Completion of the warehouse construction project and elimination of unimproved outside storage areas will improve the overall storage posture of KAD and facilitate inventory and issuance of stock.

D. The Army concurs in the recommendation to "determine the capability of its inventory activities to carry out the annual inventory program prior to scheduling and taking physical inventories. This should include not only the determination of the number of physical inventories that can be taken by the depots, but the number of reconciliation and adjustment actions that should be expected by the depots and inventory control points as a result of physical inventories." The determination of inventory capability at inventory control points is an inherent part of the scheduling process and accounts, in part, for the differences between depot capability and final schedules. AR 740-26 currently requires both depots and inventory control points to determine manpower and data processing equipment support. Reconciliation and adjustment requirements are considered in manpower surveys and evaluations. The GAO found excessive time lags in accomplishing adjustments at inventory control points. The AMC Inventory Monitoring Team discovered that the primary reason for this within AMC was misinterpretation as to how much causative research was required prior to making adjustments and how much could be done subsequent to making the adjustment. The following actions have been taken:

1. AMC.

(a) In May 1970, instructions were furnished to AMC inventory control points stating that consideration of depot and inventory control point in-float transactions for a one month period is mandatory prior to adjustment processing. At the conclusion of thirty days following the discovery of a discrepancy between depot and inventory control point balances, the adjustment must be processed unless previously resolved. The remaining causative research is to be accomplished after the adjustment. This policy will result in more timely processing of adjustments.

(b) An AMC FY 71 command objective has been established and published specifying the percent of items, by quarter, which must have adjustment actions processed.

(c) The importance of timely processing of adjustments was emphasized at the AMC inventory conference, mentioned in paragraph IV.A. above.

2. USAREUR.

(a) The FY 70 Physical Inventory Program directly addresses the problem of the extended time period between physical count and reconciliation by requiring reconciliation in the month following the physical count. The first physical count of command assets for CY 70 was scheduled June 1970. The reconciliation of the physical count is scheduled for July 1970.

(b) Control over transactions being entered on accountable records during the reconciliation period will be implemented effective June 1970. Full transaction reconciliation between depots and USAMATCOMEUR is scheduled for implementation during CY 71.

(c) At the installation cited in the example, a further 100% inventory was conducted in May of 1970 in order to provide a sound basis for the regular schedules of the CY 70 Physical Inventory Program. This inventory was reconciled to USAMATCOMEUR accountable records and adjustments posted in early June 1970.

E. The Army concurs in the recommendation to "either allocate new resources or redirect present resources as necessary to assure timely and accurate accomplishment of reconciliation and adjustment actions." Manpower requirements for the inventory program, including reconciliation and adjustment actions, are considered in manpower surveys and allocations. The SPEEDEX (depot) and ALPHA (inventory control point) computer systems, scheduled to be installed at AMC depots and NICPs beginning in FY 71, provide additional processing capabilities for inventory actions. They provide greater capability for computer matching and evaluation of in-float transactions, thereby reducing manual effort. The study of depot inventory organization and grade structure, mentioned in paragraph IV.B. above, considered the reconciliation and adjustment requirements. A study of the AMC inventory

control point organization and grade structure will be conducted and is scheduled to be completed by January 1971.

F. The Army concurs in the recommendation to "clarify its depot research procedures -- establish firm selection criteria and stress the need to uncover the underlying rather than surface causes." The GAO recommended that the Army explore the use of statistical sampling to select items for research. DOD and Army regulations currently provide for sampling when the discrepancy is less than $200, but do not provide for sampling for larger discrepancies. Clarification of depot research procedures is dependent upon the development of revised research criteria which will use sampling techniques. The Army will convene a study group in August 1970 to develop revised depot research criteria and will submit recommendations to DOD by October 1970. Based on the results of this study group, depot research procedures will be clarified.

G. The Army concurs in the recommendation to "ascertain the anticipated research workload as a part of the overall planning for the annual inventory program and provide the resources needed to do the job." As in the case of the recommendation on depot research procedures discussed in paragraph IV.F. above, action on this recommendation is dependent upon the results of the evaluation of the use of statistical sampling. The Army study group, mentioned in paragraph IV.F. above, will also recommend a revision to inventory control point research criteria. Based on the results of this study group, resource requirements will be determined. The GAO emphasized the importance of causative research as a means of reducing future errors. Causative research that does not go back to the last inventory will frequently not find the source of the error and may, therefore, be wasted effort. The resource requirement for research is dependent upon the number of discrepancies and, according to current DOD and Army regulations, upon the dollar value of the discrepancies. To justify allocation of limited resources, the research criteria must be cost effective. The use of sampling techniques and other alterations to current criteria, which will be developed by the Army study group, will result in the determination of resources which ought to be provided for research.

H. The Army concurs in the recommendation to "explore use of statistical sampling to select items for research rather than selecting the items on the basis of dollar value. This would result in reduced workloads and more comprehensive data on why things go wrong." Current DOD and Army regulations provide for sampling research only when the discrepancy is less than $200. The Army study group, mentioned in paragraphs IV.F. and G. above, will develop a proposal to apply sampling as widely as appropriate. Losses and gains should be treated differently since Reports of Survey may be required on losses, but not on gains. Additionally, items in lots counted by sampling should not be researched unless the item was counted.

I. The Army concurs in the recommendation to "establish quality control procedures at inventory control points comparable to those in

effect at depots." Quality control procedures for AMC inventory control points will be developed by January 1971. These procedures will be used as models for other commands to use.

J. The Army concurs in the recommendation to "continue its emphasis on depot quality control procedures." The DA pamphlets mentioned in paragraph IV.A. above, emphasize quality control procedures.

K. The Army concurs in the recommendation to "perform a complete review of locator record audit procedures, as recommended by the AMC inventory monitoring team, prior to attempting another locator record audit." The report statement that "locator record audits are only to measure the accuracy of depot records" is not consistent with Army/DOD procedures and could give rise to misinterpretation of practices. Accuracy of depot records is assured and measured by the results of the location survey. Locator record audits, however, are intended to accomplish two functions: (a) to identify and initiate corrections to erroneous depot item data, and (b) identify and initiate corrective action to discrepancies in the inventory control point accountable record, i.e., a record exists for an item at the inventory control point but not at the depot or vice versa. AMC audit procedures have been reviewed completely. Several major deficiencies discovered in the 1969 audit have been corrected. The August 1971 audit will be conducted under completely revised procedures. A complete revision of the audit procedures could not be accomplished in time for the August 1970 audit and a delay in accomplishing the audit would adversely affect the inventory program. The corrected procedures which will be used in the August 1970 audit will contribute significantly to the inventory program.

L. The Army concurs in the recommendation to "continue to follow-up and resolve the many deficiencies reported by the AMC inventory monitoring team and other internal review groups." Follow-up and resolution of deficiencies is being accomplished and will continue. The AMC inventory monitoring team visits will also continue. In addition, inventory monitoring teams will be established for USAREUR, USARPAC and HQ Department of the Army.

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

	Tenure of office	
	From	To
DEPARTMENT OF DEFENSE		
SECRETARY OF DEFENSE:		
Melvin R. Laird	Jan. 1969	Present
Clark M. Clifford	Mar. 1968	Jan. 1969
Robert S. McNamara	Jan. 1961	Feb. 1968
DEPUTY SECRETARY OF DEFENSE:		
David Packard	Jan. 1969	Present
Paul H. Nitze	July 1967	Jan. 1969
ASSISTANT SECRETARY OF DEFENSE (INSTALLATIONS AND LOGISTICS):		
Barry J. Shillito	Feb. 1969	Present
Thomas D. Morris	Sept. 1967	Jan. 1969
U.S. EUROPEAN COMMAND:		
Gen. Andrew J. Goodpaster	July 1969	Present
Gen. Lyman L. Lemnitzer	Nov. 1962	June 1969
DEPARTMENT OF THE ARMY		
SECRETARY OF THE ARMY:		
Stanley R. Resor	July 1965	Present

	Tenure of office	
	From	To
DEPARTMENT OF THE ARMY (continued)		
ASSISTANT SECRETARY OF THE ARMY (INSTALLATIONS AND LOGISTICS):		
J. Ronald Fox	June 1969	Present
Vincent P. Huggard (acting)	Mar. 1969	June 1969
Dr. Robert A. Brooks	Oct. 1965	Feb. 1969
COMMANDING GENERAL, ARMY MATERIEL COMMAND:		
Lt. Gen. Henry A. Miley	Nov. 1970	Present
Gen. Ferdinard J. Chesarek	Mar. 1969	Oct. 1970
Gen. Frank S. Besson, Jr.	July 1962	Mar. 1969
COMMANDER IN CHIEF, U.S. ARMY EUROPE:		
Gen. J. H. Polk	June 1967	Present

U.S. GAO Wash., D.C.