

GAO

Report to the Commander, Air Force  
Logistics Command

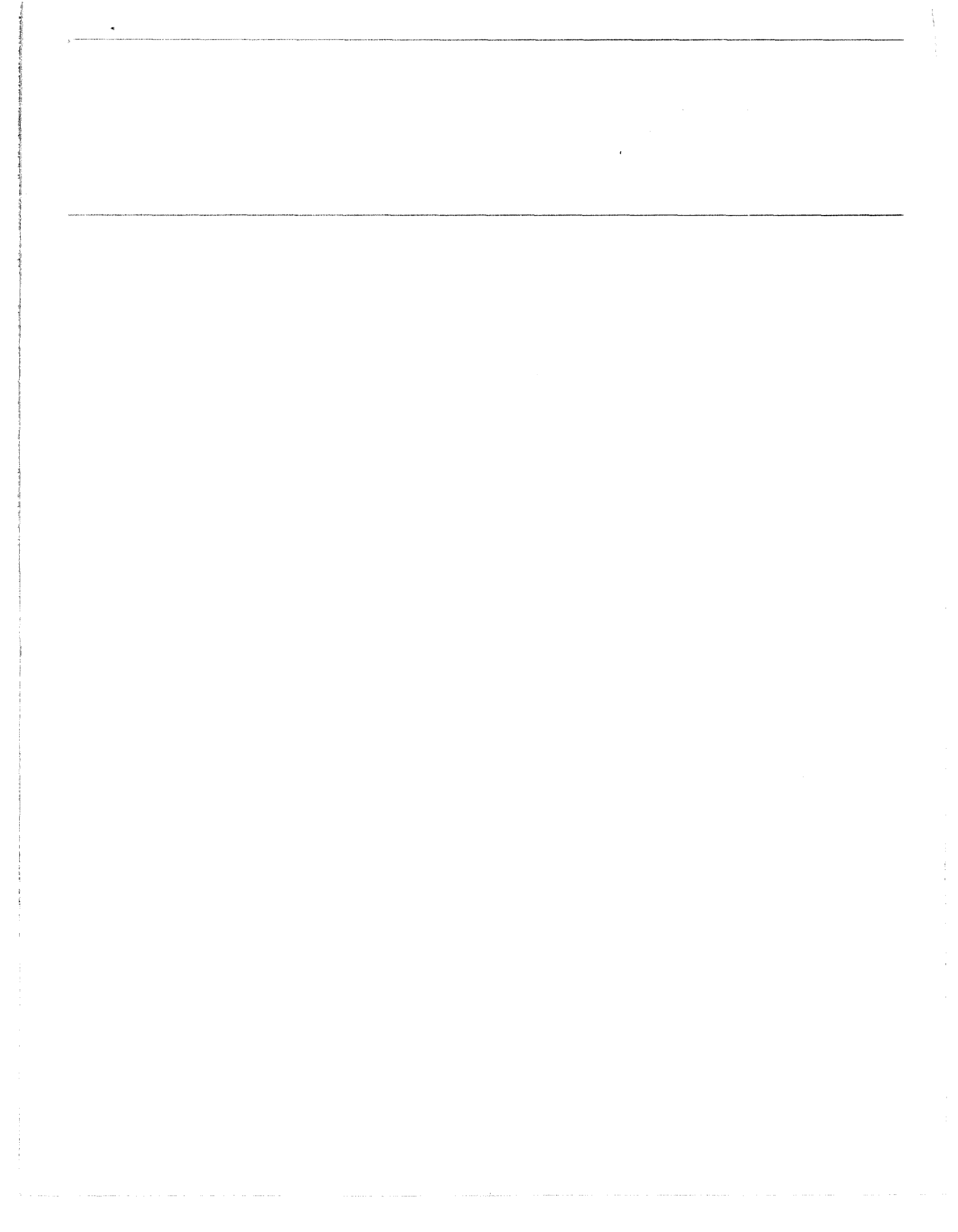
April 1991

# FINANCIAL AUDIT

## Financial Reporting and Internal Controls at the Air Logistics Centers



143550





United States  
General Accounting Office

Denver Regional Office

B-234326

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April 5, 1991

General Charles C. McDonald  
Commander, Air Force Logistics Command  
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Dear General McDonald:

This report presents the results of our review of the Air Force Logistics Command's financial management operations related to inventories at the Air Logistics Centers. It addresses internal control and financial reporting improvements needed within the Command. The report resulted from our examination of the Command's fiscal years 1988 and 1989 financial reporting.

Logistics Command managers are responsible for billions of dollars in appropriations and inventories. The internal controls and accounting procedures, however, are not sufficient to provide adequate and reliable financial information for effective management and reporting of these resources. Our report discusses these problems and recommends corrective actions.

This report contains recommendations to you. We would appreciate receiving a written statement on the actions taken on our recommendations within 60 days.

We are sending copies of this report to the Secretary of Defense, the Secretary of the Air Force, and other parties who request them.

Sincerely yours,

David A. Hanna  
Regional Manager

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# Executive Summary

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## Purpose

As part of GAO's audits of the Air Force's financial management and operations for fiscal years 1988 and 1989, GAO evaluated the Air Force Logistics Command's (AFLC) internal accounting controls and financial reporting systems related to the \$37 billion of inventories it controls. AFLC performs most of its operations through five Air Logistics Centers (ALCS), and this report presents the results of GAO's audit work at the ALCS.

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## Background

AFLC provides supply and maintenance support to Air Force units and other customers worldwide through its ALCS. It manages over 33 percent of the Air Force budget and maintains 63 percent of Air Force inventories. AFLC's business activities would make it one of the 10 largest corporations in the United States. The next decade promises to be a period of tightly controlled defense budgets with unprecedented emphasis on financial management.

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## Results in Brief

AFLC needs to strengthen its accounting for the billions of dollars worth of inventories under its control. Accurate and reliable inventory records are vital to effective inventory management; their reliability directly affects purchasing decisions, budgets, and financial reporting. However, GAO found the inventory records and accounts did not accurately portray either the quantities or values of AFLC inventories.

Problems with inventory accuracy at the Department of Defense (DOD), including the Air Force, have been identified by GAO and others for years. While AFLC has developed internal controls intended to provide more reliable inventory data for decision-making, GAO's review showed that inventory accuracy continues to be a serious problem. GAO noted specific weaknesses that contributed to these inaccuracies, including basic transaction processing errors, numerous internal control breakdowns, duplicate reporting of inventories, late correction of errors, and valuing unusable and obsolete items the same as serviceable inventories.

AFLC sells relatively low-cost inventory items through the Systems Support Division of the Air Force stock fund. Due to operating losses, the fund has increased its surcharge on sales from 13 percent in 1987 to 20 percent in 1989—a \$180 million total add-on in fiscal year 1989—to stay solvent. Poor cash collection practices, excess inventories, and accounting problems all contributed to the poor financial condition of the fund.

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## Principal Findings

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### Inaccurate Perpetual Inventory Records

To assist ALC managers who are making inventory financial management decisions, perpetual inventory records should provide up-to-date, accurate information on any item in inventory. However, inventory inaccuracy has been a continuing problem at the ALCS and the subject of many GAO reports. In fiscal year 1989, GAO's physical counts of a statistical sample of 1,771 high-dollar investment items at four ALCS found that an estimated 18.3 percent of perpetual records differed from quantities actually in storage. Projecting the sample results to the \$14 billion in high-dollar value inventories reportedly held by the four ALCS, GAO estimated that overstatements in inventory records totaled \$1.5 billion and understatements totaled \$0.8 billion as of September 30, 1989. Overstated record balances could lead to delays of procurements creating shortages of needed material, and understated records could result in procurements of excess material and, thus, wasted resources.

These errors in perpetual inventory records were caused by internal control breakdowns, including transaction processing errors, late correction of erroneous records, ignoring certain high-dollar errors found by physical inventories, and warehousing practices that did not comply with Air Force policies. In recent years, ALCS have instituted additional control procedures to improve the accuracy of inventory data used when deciding to purchase replenishment items. However, such efforts have not consistently prevented inappropriate decisions, as evidenced by excess inventories.

Reports on inventory accuracy statistics to ALC top management present an unrealistic picture. Inventory errors for which the cause was identified in the inventory research process are excluded from final accuracy statistics. Thus, top managers are not receiving information that clearly depicts the severity of problems with inventory record inaccuracy.

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### Inventory Values Are Inaccurately Reported

Reported dollar values for ALC inventories were inaccurate and unreliable; GAO's audit found over \$7 billion in errors in general ledger inventory accounts at the ALCS for fiscal years 1988 and 1989. Systems problems and inadequate accounting procedures caused duplicate reporting of billions of dollars worth of inventories. Additional billions of dollars in accounting errors were caused by inadequate reconciliation

procedures, poorly integrated information collection systems, and little management attention to the quality of data.

Financial reports of inventories were also unreliable due to inaccurate valuations of inventories. First, unserviceable and obsolete inventories were valued, contrary to requirements of generally accepted accounting principles and reporting standards, the same as new items. Second, inaccurate values were assigned to many high-dollar items because Air Force inventory pricing policies were not followed. About \$11 billion worth of high-value inventory items stored at the ALCS needed to be repaired before reissuance to customers, and repair costs are estimated at \$2 billion. However, the unserviceable inventory items are assigned the same value as new items, and repair costs are not disclosed on financial reports. The ALCS have inventory items that are obsolete, but no reliable data exist on the amount of obsolete inventory items because some of them are improperly classified as current. Inaccurate pricing of inventory items was also a problem. GAO found that 34 percent of the items it reviewed were not priced in accordance with Air Force policy, causing \$464 million worth of overpricing on items tested.

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### Rising Prices and Inaccurate Accounting in the Stock Fund

AFLC manages the Systems Support Division (SSD) of the Air Force stock fund, and it sharply increased SSD prices to its Air Force and other DOD customers in recent years to cover operating losses which resulted from (1) some customers not being billed for goods purchased and (2) the costs incurred in maintaining excessive inventories. GAO estimates that the stock fund lost from \$30 million to \$60 million in revenues in fiscal year 1989 due to billing problems. Further, the stock fund has about 7 years of inventory on hand, and, in fiscal year 1989 alone, recognized a loss from disposal of excess inventories of \$146 million. Thus, in fiscal year 1989, it imposed a 20 percent surcharge on sales, adding about \$180 million to sales revenues.

Financial analysis of stock fund activity by AFLC managers is hindered by inaccuracies in stock fund financial reports. In fiscal year 1989, SSD trial balances prepared by the ALCS contained errors of at least \$278 million. Causes of these errors were mistakes in processing accounting transactions, improper timing of accounting entries, and inadequate guidance to SSD accountants.

SSD cash balances reported at the end of fiscal year 1989 did not reflect the results of operations because billings were delayed to purposely reduce cash. This was done to avoid the potential situation of having to

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refund cash that the Secretary of the Air Force might have considered excess to the stock fund's needs.

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## Recommendations

GAO is making a number of specific recommendations to the Commanding General of AFLC to improve the processes for (1) ensuring accuracy of perpetual inventory records, (2) reporting financial data on ALC inventories, and (3) improving financial stewardship of SSD stock fund operations. The recommendations are intended to ensure that inventory and accounting data and reports are accurate, consistent, and adequately informative to be useful to Air Force managers in carrying out their financial management responsibilities.

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## Agency Comments

DOD and Air Force officials, in commenting on GAO's principal findings, agreed that improvements are needed in inventory and stock fund accounting. Air Force Logistics Command officials stated that, in spite of limited staff resources in the financial management area, they are giving new emphasis to improving the accuracy of financial information from Command organizations.

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## Abbreviations

AFAFC	Air Force Accounting and Finance Center
AFB	Air Force Base
AFLC	Air Force Logistics Command
ALC	Air Logistics Centers
DFAS	Defense Finance and Accounting Service
DOD	Department of Defense
GAO	General Accounting Office
MM	Material Management Directorate
NSN	National Stock Number
SSD	Systems Support Division, Air Force stock fund

# Introduction

The Air Force Logistics Command (AFLC) is vital to America's defense structure; it provides worldwide supply and maintenance support to Air Force units and other customers. It also is accountable for an important share of the Air Force's total financial resources, controlling \$37 billion in inventories. Twenty billion dollars worth of these inventories are high-dollar investment items stored at the Air Logistics Centers (ALC). AFLC military and civilian managers face unprecedented financial management challenges, with the 1990s promising to be a period of tightly controlled defense budgets and unprecedented emphasis on financial management.

The objective of good financial management in a federal agency is to ensure that, to the maximum practical extent, the resources entrusted to the agency are acquired and used lawfully, efficiently, and effectively. During fiscal year 1990, as part of our overall evaluation of Air Force financial management for fiscal years 1988 and 1989, we completed an audit of AFLC's internal controls related to inventory as well as of its financial management operations and systems.

## Air Force Logistics Command

AFLC, headquartered at Wright-Patterson AFB near Dayton, Ohio, has the mission of providing worldwide supply and maintenance support to Air Force units and other customers. AFLC is responsible for managing:

- over 33 percent of Air Force funds;
- 63 percent of total Air Force inventory;
- business activity that would make it one of the top 10 industrial corporations in the United States;
- stock fund sales of about one billion dollars a year; and
- over 90,000 civilian employees, about one-third of the Air Force civilians.

AFLC has five ALCS, and each center has a unique mission in terms of the types of aircraft or missiles it supports. Each center is organized into the same four major directorates: material management, distribution, procurement, and maintenance, with financial management support from a large computer center and the comptroller office.

Each ALC has stock balances of 150,000 to 270,000 inventory items. About 80 percent of the items are classified as stock fund, which are generally relatively low-cost expendable items, such as filters, gaskets, or small electronic parts. The remaining 20 percent are classified as investment items. Investment items are generally more expensive and

consist of such categories as equipment and reparable assemblies. Examples of investment items would be a guided missile launcher, a landing gear assembly for an aircraft, or a radar set. Investment item inventory represents about 76 percent of the dollar value of ALC inventories.

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## AFLC Financial Reporting

AFLC allots budget authority to the ALCS to execute their appropriated fund programs, and the ALCS commit and obligate those funds for goods and services. ALCS report monthly to AFLC on the status of appropriated funds through a system called the Data Base Transfer. Values of assets, such as investment item inventory and equipment and amounts of liabilities, are reported by the ALCS to AFLC on the ALC's general ledger trial balances, which are submitted as of each March 31 and September 30. AFLC consolidates the ALCS' Data Base Transfer reports on the status of appropriations and forwards them monthly to the Air Force Accounting and Finance Center (AFAFC).<sup>1</sup>

The ALCS operate the Systems Support Division of the Air Force stock fund under a revolving fund concept whereby revenues from sales are used to fund operations and replenish inventories. Monthly general ledger trial balances are prepared, and the trial balances are forwarded to the AFAFC in Denver, as well as to the stock fund manager at AFLC. Stock fund inventory balances are included in these trial balances.

AFAFC prepares the Air Force's consolidated balance sheet and statement of operations each year and forwards them to the Department of the Treasury. These reports consolidate the operating results and financial position of appropriated and revolving fund activities and are prepared from a wide variety of sources, including the trial balances and Data Base Transfer reports originating at the ALCS, and other Air Force activities.

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## Objectives, Scope, and Methodology

We evaluated the ALCS' systems of internal controls to the extent we considered necessary to meet the following audit objectives:

- determine the accuracy of perpetual inventory records at the ALCS and identify control weaknesses affecting the accuracy of those records,

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<sup>1</sup>In January 1991, DOD established the Defense Finance and Accounting Service (DFAS), a single organization for all finance and accounting activities within the department. The Air Force Accounting and Finance Center was made a component of the new organization and is now known as the DFAS, Denver Center. However, within this report we will continue to refer to it by its former designation.

- determine the accuracy and completeness of accounting for and financial reporting of inventories by the ALCS, and
- determine the accuracy of stock fund trial balances, and identify any internal control problems in revenue collection or accounting practices.

We performed fieldwork during fiscal years 1988, 1989, and 1990. Our fiscal year 1988 review was made at three ALCS: Ogden at Hill Air Force Base (AFB), Utah; San Antonio at Kelly AFB, Texas; and Warner Robins at Robins AFB, Georgia. Our fiscal year 1989 review was made at those ALCS plus the two at Tinker AFB in Oklahoma City, and McClellan AFB in Sacramento. Our fiscal year 1989 review built on the tests we performed in fiscal year 1988. We expanded our testing in the 1989 audit to cover areas in which our 1988 audit indicated internal control weaknesses, such as inaccuracy of perpetual inventory records and inventory pricing. We reduced our testing in areas in which our 1988 audit found strong controls, such as fund accounting for central procurement appropriations.

Our audit tests in both years focused on those ALC organizations and systems responsible for the accountability, accounting, and financial reporting for inventories. To test the accuracy and effectiveness of financial management, we selected random samples of transactions from many aspects of the ALCS' inventory operations. We examined internal controls over the receipt, storage, and issue of material; made physical inventories of material in storage; and tested administrative and financial controls over the accounting for inventories. We studied the general control environment at computer operations centers at Ogden, San Antonio, and Warner Robins ALCS.

We were unable to perform certain portions of our audit at two locations due to unusual circumstances. First, our work at the San Antonio ALC was limited in our fiscal year 1988 review because of the disruption caused by a tornado that did major damage to its warehouses on September 17, 1988. San Antonio ALC officials estimated that the tornado destroyed warehousing locations for about 18,000 items. Our fiscal year 1989 work at Warner Robins ALC was limited because a new automated warehousing system was being installed at the time of our work.

The large maintenance activity operated at each ALC through the Depot Maintenance Industrial Fund was audited in a separate part of our overall audit. A separate report (GAO/AFMD-91-33ML, February 25, 1991) was issued on the maintenance segment.

We performed our audit in accordance with generally accepted government auditing standards and, accordingly, included such tests of the accounting records and such other auditing procedures as we considered necessary. Because it was not possible to verify all, or even a major portion, of the transactions comprising a year's operations, we assessed whether the internal controls in effect were adequate to ensure the integrity of the financial accounts. Based on an analysis of the internal controls, we then determined the extent of detailed testing necessary and designated the areas requiring intensive examination.

To study and evaluate the internal accounting controls of ALCS, we applied GAO's internal control evaluation methodology. The methodology is a risk-oriented approach used to ascertain the amount of reliance that can be placed on a system of internal controls. First, we reviewed the Air Force's policies and procedures and prepared a description of the internal control structure. We then subdivided the overall system of internal controls into transaction cycles in order to categorize groupings of events and the related transactions, systems, processing procedures, and data bases. For the purpose of this report, we have categorized the significant internal accounting controls into two cycles: the inventory cycle and the system support stock fund cycle.

We reviewed internal controls which (1) directly influenced the dependability of the accounting records and the financial statements and (2) related to authorization and resource accountability. Authorization controls concern top management's direction to ensure that activities are carried out in accordance with criteria established by law, regulation, and policy. Resource accountability involves maintaining physical controls over inventories and maintaining accurate perpetual inventory records. Our assessment of the internal controls directly influenced the nature and extent of the year-end audit procedures we applied to examine account balances. Our audit work focused on those control policies and procedures that (1) could have a material effect on account balances and (2) ensured compliance with laws and regulations.

We performed control testing to determine whether key internal control techniques were operating as described. We conducted detailed tests to determine the accuracy of account balances for those accounts related to the inventory and system support stock fund cycles. A major element of our examination was a physical inventory based on a statistical sample of high-dollar investment items.

To test the accuracy of as many inventory dollars as feasible, we used the dollar-unit sampling methodology (see appendix I), which dramatically increased the probability that high-dollar items would be included in the sample. At the four ALCS where we made physical inventories, we counted about 1 percent of the investment items which made up about 12 percent of the dollar value of investment item inventories at those locations. An explanation of our sampling methodology and sample results are in appendix I.

The Air Force reviewed its system of internal accounting and administrative controls in fiscal years 1988 and 1989 as part of the Department of Defense's overall compliance with the Federal Managers' Financial Integrity Act of 1982 (Public Law 97-255). In its reports to the Department of Defense, the Air Force noted several internal control weaknesses in the ALCS' key cycles. We reviewed those reports and considered their findings in our determination of the nature, timing, and extent of our audit tests.

Each chapter of this report discusses work we completed on specific financial management and internal control functions. Chapter 2 presents the results of our tests of the accuracy of perpetual inventory records. Chapter 3 discusses our examination of accounting and financial reporting of inventory account balances. Chapter 4 presents the results of our tests of trial balance information for the Systems Support Division of the stock fund.

# Inventory Quantity Records Are Inaccurate

The accuracy of ALC perpetual inventory records can affect whether too little or too much inventory is purchased. Over the years, GAO and the Air Force Audit Agency have reported that these records are chronically wrong. In fiscal year 1989, we conducted inventories at four ALCs based on statistical samples, and we determined that perpetual records were wrong for 18.3 percent of the investment items. Recognizing the importance of inventory accuracy, the ALCs have developed additional controls and new information systems to help avoid inappropriate purchasing decisions. However, in spite of such efforts, maintenance of proper inventory levels by the Air Force has continued to be a serious problem, as evidenced by large amounts of excess and obsolete inventories.

Air Force research to identify causes of the inaccurate inventory records found that errors occurred because of a variety of errors in processing and recording inventory transactions. Our reviews of systems and controls identified additional causes, including not acting upon questionable conditions identified by existing control systems, late correction of records known to be wrong, ignoring errors identified by physical counts, and warehousing practices that did not comply with policy.

## ALC Perpetual Inventory Systems

AFLC manages its \$19.8 billion of investment items on an item-by-item basis, each item having a unique national stock number (NSN). ALC inventory systems are highly computerized and mechanized to handle the thousands of transactions processed each day for over one million individual items stored at the ALCs. The ALC perpetual inventory systems are intended to provide management with current and accurate information on how many of each item are in the inventory. The perpetual inventory system should maintain a continuous record of stock on hand, increasing the balance when stock is received at the ALC and decreasing the balance when stock is removed from storage for a customer. It tracks quantities of stock on hand and maintains a history of transactions on each item. Further, every item in storage is assigned one or more of 16 condition codes that signify, for example, whether quantities of the item are new, need repair, or are obsolete.

Each ALC has a Material Management Directorate (MM) that manages each type of item individually, including deciding to purchase or repair an item to replenish stock. This MM process, called a requirements computation, considers the quantities of inventory items on hand, in transit, and in repair; projected usage rates; and procurement lead times.

Perpetual inventory record accuracy is critical to accurate decisions in the requirements computation process. A decision to buy the wrong quantity of an item can result in either excess inventory or in critical shortages. Sophisticated inventory systems have been designed to provide inventory information to decisionmakers promptly and accurately. In theory, a manager should be able to extract accurate and reliable data from the ALC perpetual inventory system at any time and be able to use the data in deciding how many of an item to buy. In practice, this too often is not the case.

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## Inventory Inaccuracy Is a Long-Standing Problem

Over the past 20 years, we have issued over 100 reports dealing with specific problems in DOD and Air Force inventory management and have recently noted that inventory remains an area highly susceptible to mismanagement, fraud, and abuse. Some recent issues reported have been the accumulation of excess DOD inventories and inventory management problems that demand increased attention by top management.

An example of an inventory management problem at the ALCs was cited in a March 1990 GAO report.<sup>1</sup> It stated that aircraft parts inventories grew from \$17.3 billion in 1980 to \$53.6 billion in 1988 and that unrequired aircraft parts increased at a faster rate than required stocks. (Unrequired inventory is inventory not needed to meet current needs and war reserve requirements.) Another example was in a June 1989 report<sup>2</sup> which stated that Air Force fiscal year 1989 requirements for stock-funded aircraft items did not consider \$185.2 million of applicable depot supply level assets that were available to satisfy these requirements. As a result, requirements for the affected items were overstated.

In response to such inventory management problems, AFLC has initiated a number of programs to improve inventory accuracy. One is an initiative called Logistic Management Systems, which is establishing new computerized inventory management systems. However, the systems are still being developed. In any case, existing data need to be accurate and reliable for current management of inventory programs as well as for conversion to the new systems.

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<sup>1</sup>Defense Inventory: Top Management Attention Is Crucial (GAO/NSIAD-90-145, March 26, 1990).

<sup>2</sup>Military Logistics: Air Force's Management of Backordered Aircraft Items Needs Improvement (GAO/NSIAD-89-82, June 2, 1989).



## Physical Inventories Disclosed Inaccurate Perpetual Inventory Records at ALCs

Using a statistical sample, during fiscal year 1989, we conducted physical inventories of 1,771 investment items valued at \$1.83 billion. We did this at four ALCs. Projecting our sample results, we estimate that 18.3 percent of the perpetual records differed from what was actually in inventory and that the \$14.8 billion of inventory records at the four ALCs contained dollar errors totaling about \$2.3 billion (15.5 percent). This estimate of dollar errors consisted of \$1.5 billion of overstated inventory records and about \$0.8 billion of understated records for a net overstatement of about \$0.7 billion. See appendix I, table I.2, for details on sample projections of inventory errors.

These projections were based on the physical inventories which were conducted in October 1989 with records reconciled to balances as of September 30, 1989. Table 2.1 provides details, by ALC, of these physical inventories:

**Table 2.1: Physical Inventory Results at Four ALCs as of September 30, 1989**

	Air Logistics Centers				Totals
	Ogden	Oklahoma City	Sacramento	San Antonio	
Value of items inventoried	\$514.2	\$282.6	\$706.3	\$324.6	<b>\$1,827.7</b>
Amount of understated records	18.2	8.5	5.2	13.5	<b>45.4</b>
Amount of overstated records	102.1	3.3	102.7	30.2	<b>238.3</b>
<b>Total value of errors</b>	<b>\$120.3</b>	<b>\$11.8</b>	<b>\$107.9</b>	<b>\$43.7</b>	<b>\$283.7</b>

Compared to the 15.5 percent value difference disclosed by the fiscal year 1989 physical inventory, our fiscal year 1988 physical inventories produced similar results. We observed physical inventories at Ogden and Warner Robins ALCs and found about a 13-percent dollar value difference between perpetual inventory records and warehouse balances. The counts we observed covered \$129.5 million of inventories, and the physical inventories disclosed gross errors totaling \$16.7 million.

ALC officials recognize that the perpetual inventory records have been chronically inaccurate over the years. In an attempt to compensate for this, MM managers have developed additional procedures to increase the accuracy of data used in the requirements determination process. For example, information available through the wholesale stock control and distribution system used by item managers provides supplementary data on inventory balances, but managers can be assured of accurate data only by a confirming physical count. As a result, we were told by item managers that they often request special physical inventories to

ensure that accurate amounts are used when making requirements computations for high-dollar or critical items. Although such procedures are probably often effective in compensating for inaccurate perpetual inventory records, they are not an adequate substitute for the kinds of systemic internal controls needed to ensure reliable inventory information. Considering the chronic problems identified by audits of DOD inventory management, it is apparent that controls have not been effective. To the extent that MM officials use inaccurate perpetual inventory data to make decisions, inaccurate budget requests and inventory procurements of inappropriate quantities will result.

AFLC officials acknowledged the possibility of inappropriate procurements due to inaccurate inventory records, but emphasized that procedures exist to prevent errors in the requirements process. They stated that many of the variances in inventory balances are corrected through day-to-day supply operations such as location surveys, location reconciliations, and the ongoing physical inventory process.

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## Causes of Inaccurate Inventory Records Are Numerous

ALC research on inventory errors showed that most errors were caused by problems in inventory transaction processing. Our work confirmed that transaction processing caused many errors; it also identified several other factors resulting in inaccurate inventory records:

- not following up on irregular conditions identified by existing control systems,
- late correction of records known to be wrong,
- ignoring the results of inventories that identified errors, and
- warehousing practices that did not comply with policy.

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## Transaction Processing Errors Are a Common Cause of Inaccurate Inventory Records

After a physical inventory is completed, counts are compared to perpetual records and any differences are referred to a research process that attempts to isolate the cause of the errors. In accordance with AFLC regulation 67-9, chapter 5, errors under \$16,000 generally receive limited research. However, if an error is over \$16,000 or involves controlled items (for example, small arms or classified or pilferable items), the ALC researches item transaction histories and also reviews subsidiary inventory systems to search for causes of errors.

Although research on errors under \$16,000 often produced no conclusive results, research on errors over \$16,000 generally found the causes. For errors exceeding \$500,000, the cause was almost always identified.

Errors commonly identified by the research process were transactions that were either inaccurately or incompletely recorded in the perpetual inventory system. For example, research results found examples where a shipment of material was made, but no corresponding reduction to the perpetual inventory record was recorded. Other examples of inaccurate or incomplete transactions were (1) receipts of material for which the entry recorded the wrong quantity or (2) receipts of material which were not posted to the perpetual record.

### Proper Use of Existing Control Systems Could Have Prevented Errors

Perpetual inventory records would have been more accurate if the ALCs had properly followed up on major inventory errors identified by internal control systems. The Comptroller's inventory accounting system at each ALC is linked with the perpetual inventory systems to obtain inventory data for financial reporting. The inventory accounting system is programmed with edits that identify probable high-dollar errors in perpetual inventory records; however, because the potential errors were not adequately researched, some high-dollar errors identified by the edits were not corrected. The following example identified at the Ogden ALC illustrates this point.

A digital indicator was identified as a questionable item on a July 1989 exception report because a receipt transaction had been recorded in the perpetual inventory record involving a quantity increase of 10,021 units at \$20,720 each, for a total transaction of \$207,630,911. Although the dollar amount was extraordinarily large, this transaction was not researched. After we pointed out its questionable nature, ALC staff researched it and found that it should have been posted for a quantity of only 21. Ogden ALC's inventory balance was not reduced for this transaction until January 1990, leaving the perpetual inventory record overstated by 10,000 units and \$207 million for over 6 months.

Our audit tests at the Sacramento ALC in fiscal year 1989 disclosed similar situations causing errors of \$245 million in perpetual inventory records. We identified three transactions, each of which overstated the quantity of the item by 10,000 units. These three transactions were researched and corrected only after we pointed them out to local officials.

ALC officials told us that the research was not completed because of staffing shortages. When we briefed AFLC top officials on this matter, they agreed that staffing shortages were severe, but stated that more emphasis was needed on training to ensure the full utilization of limited

staff. They agreed that research needed to be completed, especially on high-dollar transactions.

**Late Correction of Erroneous Records Increased the Error Rate**

Perpetual inventory records known to contain high-dollar errors were not promptly corrected. The ALCS do not correct records until they have completed research to determine the causes, a process which often takes weeks or months. However, AFLC regulation 67-9 states that "Under no circumstances will the inventory adjustment voucher . . . be held beyond 21 days. If the discrepancy cannot be resolved, the adjustment must be processed . . . ." We tested compliance with this provision of the regulation by reviewing promptness of research on the errors identified by our physical inventory sample.

Our fiscal year 1989 tests showed that ALCS did not complete research within 21 days on 36.5 percent of the errors, and, to compound the significance of the problem, noncompliance was most frequent on high-dollar errors, where 63.2 percent of the errors were not researched within 21 days. Since the ALCS do not correct errors until research is complete, high-dollar errors are left uncorrected for extended periods. The following table illustrates the extent of compliance with research requirements for errors over and under \$500,000.

**Table 2.2: Inventory Error Research Is Not Prompt**

Errors and research time	Error amounts		Totals
	Over \$500,000	Under \$500,000	
Number of researched errors	95	341	<b>436</b>
Number exceeding 21 days	60	99	<b>159</b>
Percent exceeding 21 days	63.2	29.0	<b>36.5</b>

While some of the research delays exceeded the 21-day criteria by only a few days, 68 (43 percent) of the 159 errors were in research for over 60 days.

ALC managers stated that lengthy research is sometimes necessary to ensure that the cause of high-dollar inventory variances is correctly identified. AFLC officials also made this point, but acknowledged that ALC staff are prone to leave high-dollar errors in research rather than admitting to an error exceeding \$500,000 that must be processed through the ALC Commander's office.

## Some Inventory Errors Were Ignored and Not Corrected

Some high-dollar inventory errors were left uncorrected because the inventory results were simply ignored or "canceled" rather than processed as inventory adjustments. Cancellation of an inventory at an ALC means that the inventory count is never entered into the inventory record so that it appears that the physical count was never made. The effect is that a known error is left in the perpetual inventory record.

We reviewed selected items on which inventory cancellations had occurred at the Ogden ALC and found serious problems in inventory records. We counted 14 high-dollar items on which cancellations had occurred in fiscal year 1989 and found perpetual inventory errors in all 14. For example, on January 24, 1990, we counted guided missile launchers and found 640 of these items in the warehouse. However, a quantity of only 579 items was recorded on the perpetual inventory record. The inventory error (61 items) at the time of our test count amounted to \$1.31 million. An ALC count of this item had been canceled on September 26, 1988. The canceled inventory discrepancy then was \$1.25 million. The item was counted and canceled again by the ALC on April 16, 1989, when the inventory discrepancy was \$1.27 million.

In our view, this is an example of a significant inventory error that ALC staff were aware of, but left in the system to avoid taking a high-dollar inventory adjustment. From September 1988 through January 1990, the perpetual inventory record for this item was understated by about \$1.25 million. If an inventory manager used this information in a requirements decision for this item, the result would probably be a purchase of an excess quantity. Furthermore, year-end inventory financial reports for both fiscal years 1988 and 1989 included this \$1.25 million error.

We were told by Ogden ALC staff that the reason for some of the cancellations was to avoid making, and having to report to ALC management, a high-dollar inventory adjustment. High-dollar errors, especially those exceeding \$500,000, are generally retained in the ALC research process until a cause for the error can be identified. When a cause is found, the appropriate corrections are made. If no cause is found, a physical inventory adjustment must be processed and, for errors over \$500,000, must be approved by the ALC Commander. We were informed that such items are often kept in research for extended periods, sometimes exceeding 180 days, and then canceled because the data are old. This practice violates an April 1988 AFLC policy memo which prohibits the use of cancellations to avoid high-dollar adjustments and states that extensive research time is not a valid excuse for cancellations.

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## Warehousing Practices Do Not Comply With Policy

Errors in perpetual inventory records are also frequently caused by problems in warehousing practices at ALCs. Our audit disclosed two types of problems. First, recounts were not always done as required during the physical inventory process. Second, storage locations were recorded erroneously, creating errors in physical counts because the material was not in expected locations.

During fiscal years 1988 and 1989, we observed ALC physical inventory procedures and made extensive test counts of items. We concluded that Air Force personnel generally complied with inventory guidelines and that their counts were usually accurate. However, we noted at some ALCs that recounts were not always being made when required. When the person making the physical inventory enters a count quantity into the computer, the computer compares the count to the quantity recorded in the system. If the data disagree, the computer automatically demands a recount. No disclosure is made to the warehouse worker of the quantity or amount recorded in the system.

We observed several occasions in which warehouse workers simply re-entered the original counts rather than recounting the items as required. The computer is programmed to automatically accept the recount quantity. Although certain additional controls exist to identify inaccurate counts, failure to recount substantially increases the risk that erroneous data are being entered into the inventory system. For example, at the Ogden ALC, an internal evaluation found over \$800,000 of inventory (122 items) had fallen from pallets and had either dropped to the floor or were lodged between storage racks. This evaluation covered just one large bay of an active warehouse. Properly conducted recounts would increase the probability that such mislocated items would be discovered.

We observed other faulty warehousing practices at ALCs leading to inaccurate location information for items. An example was at San Antonio ALC, where, for 148 items, we identified 27 instances where inventory was stored in locations other than those identified in the perpetual inventory records. San Antonio ALC officials stated that this condition is not uncommon in their warehouse system, and that they are correcting this problem during the research process associated with inventories.

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## Some Inventory Transaction Problems Are Not Disclosed to Management

The ALCs' reporting of inventory errors focuses on developing statistics showing high rates of accuracy as opposed to full disclosure and correction of recurring problems. The full extent of inventory errors is not disclosed to top management at ALCs or AFLC due to the process followed at ALCs in researching and correcting the errors. If the research process identifies an improperly processed transaction that caused the inventory error, inventory records are corrected by reversing or posting the incorrect transaction, and no disclosure is made to top ALC management that an inventory error occurred. An inventory error is acknowledged only when the transaction causing the error cannot be identified.

Current policy allows such use of reversals of transactions to correct inventory records. However, in a prior report, we took the position that reversals are inconsistent with ensuring complete inventory accuracy reporting.<sup>3</sup> This is because a reversal of an error is done within the ALC supply directorate and receives no visibility by top Air Force managers who have concerns with overall inventory accuracy, and official reports of inventory accuracy statistics exclude reversed errors from final accuracy rates.

ALC reporting practices on inventory accuracy statistics result in substantial differences between inventory error rates before and after research. For example, Ogden ALC's fourth quarter 1989 inventory sample showed a before-research dollar error rate of 17 percent; however, the after-research dollar error rate was reported at less than 1 percent. We believe that these statistics can lead a manager to conclude that inventory accuracy is excellent, as reflected by 99 percent accuracy after research, when in fact the before research data more accurately reflect the status of the inventory records at any point. This is because the before research data essentially take a "snapshot" of the extent of inventory record accuracy at a particular point. We believe that the snapshot view of inventory records is the important measure, because managers need to be able to obtain accurate inventory data on a perpetual basis to assist them in decision-making.

AFLC managers agreed with our information, but emphasized that AFLC management reviews both before and after research accuracy results, thereby taking into consideration the extent to which reversals had affected inventory accuracy statistics. Further, they pointed out that AFLC developed the use of before-research accuracy measures to produce

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<sup>3</sup>Inventory Management: Air Force Inventory Accuracy Problems (GAO/NSIAD-88-133, May 12, 1988).

more complete disclosure of inventory accuracy data. They also said that AFLC was responsible for policies requiring physical inventories based on statistical samples to provide better disclosure to management on inventory accuracy.

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## Conclusions

Perpetual inventory balances are the foundation of management decisions for Air Force inventories. However, ALC perpetual inventory records are substantially inaccurate and provide misleading inventory data to systems used in requirements computations and financial reporting. Chronically inaccurate records have led to the development of additional internal controls which attempt to improve the quality of data used in requirements decisions. However, such additional steps are not efficient and consistent in preventing inappropriate decisions. Furthermore, previous GAO work has identified the amount of excess DOD inventories as a serious problem.

ALC managers do not effectively use the valuable information provided by research of physical inventory errors to isolate and correct the causes of errors. Research shows that errors are often caused by problems in inventory transaction processing, and management needs to aggressively seek solutions to the problems. Recurring inventory management problems are not adequately disclosed to top management in AFLC because of the practice of not reporting reversed erroneous transactions rather than making full disclosure of the errors. We believe that more disclosure of inventory problems would increase management attention to resolving underlying causes of those problems.

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## Recommendations

We recommend that the Commander, Air Force Logistics Command, direct the ALC Commanders to

- increase management emphasis on the identification and correction of the major causes of inaccurate perpetual inventory records,
- require the thorough and prompt completion of research on known inventory problems,
- ensure that physical inventories are not canceled to avoid high-dollar adjustments,
- ensure that required recounts are made during the physical inventory process with an emphasis on surveying the area for mislocated material, and



- 
- require reports, based on physical inventory findings, to top management on the amount of reversals made to correct erroneous perpetual inventory records.

# ALC Financial Reports of Inventory Values Are Inaccurate

The financial systems for accounting for inventories could not be relied upon for accurate information on the dollar values of AFLC inventories, and financial reports of inventory values provided to AFLC by the ALCs were substantially inaccurate. We identified ALC errors totaling \$7 billion in general ledger inventory accounts for fiscal years 1988 and 1989.

Also, reported inventory values were further misstated due to Air Force policies which required that unserviceable and obsolete inventory be valued the same as new items. AFLC assigns values to its inventory items based on the most recent representative procurement cost. The ALCs store over \$11 billion of unserviceable inventories with an estimated cost to repair of about \$2 billion. Similarly, obsolete inventory items—those unlikely to ever be used—are not valued as such in the records. Instead, such items are valued the same as items currently in demand. We tested 329 items valued at \$804 million and found that 34 percent were not valued in accordance with Air Force policies. Considering these valuation problems plus the quantity errors noted in chapter 2, we have concluded that the AFLC cannot develop an accurate total value for its inventory.

## Inventory Values Were Distorted by Large General Ledger Errors

Although accurate inventory accounts can provide valuable information for use in financial management of Air Force inventories, this opportunity is lost at the ALCs under present conditions. General ledger accounts for fiscal years 1988 and 1989 at the ALCs we audited contained seriously flawed information.

Our audit tests identified about \$7 billion in general ledger errors in inventory accounts during the 2 fiscal years. Table 3.1 summarizes the errors:

**Table 3.1: General Ledger Errors in AFLC Inventory Accounts in Fiscal Years 1988 and 1989**

Dollars in billions		
Reason for error	Amount of error	
	1988	1989
Duplicate reporting of inventory		\$2.63
Unsupported account balance	\$2.16	
Account not accurately reconciled to subsidiary system	0.98	0.10
Subsidiary system errors not researched and recorded on the general ledger		0.78
Accounting errors in posting to accounts		0.49
<b>Totals</b>	<b>\$3.14</b>	<b>\$4.00</b>

Three major problem areas caused these general ledger errors:

- Inadequate control procedures over general ledger balances resulted in errors and duplicate reporting.
- Large errors in subsidiary accounts were automatically recorded in general ledger inventory accounts.
- Computer system problems in subsidiary inventory systems caused duplicate reporting.

### General Ledger Compilation Procedures Were Inadequate

At every ALC we visited during both years of our audit, we found inadequate general ledger accounting procedures. We pointed out \$3.1 billion in inventory accounting errors at the three ALCs visited during fiscal year 1988, and found an additional \$4 billion of errors at the five ALCs we visited in fiscal year 1989. The errors were primarily caused by the lack of reconciliations between the general ledger account balances and supporting data in subsidiary systems and reports, and by the same inventories being included in more than one subsidiary system.

The \$3.1 billion of general ledger errors identified by the fiscal year 1988 audit were:

- At two ALCs, the general ledger accounts for “inventory dropped but not shipped—foreign military sales” contained unsupported balances totaling \$2.16 billion. At Warner Robins ALC, the account had a credit (negative) balance of \$2.1 billion as of September 30, 1988, on the final general ledger. The general ledger accountant had no support for the balance, agreed that the account was in error, and stated that the account had been in error since at least 1983. Subsequent research indicated the account should have contained a debit (positive) balance of only \$1.4 million. The Ogden ALC had an overstatement of \$90.7 million in this same account as of September 30, 1988. Ogden comptroller staff were uncertain as to how to compile this account. After several consultations with headquarters, it was finally determined that the account was overstated and needed to be adjusted from \$110.9 million to \$20.2 million. The adjustment was made in November 1988.
- At the San Antonio ALC, we noted \$0.98 billion of errors in general ledger accounts because the accounts had not been accurately reconciled to subsidiary systems. The accounts for contractor-held material and for material (repair items) with contractors were not reconciled as required with data in the Contractor Repair Inventory System. After performing the reconciliation at our suggestion, the San Antonio general ledger accountant corrected the account balances with adjustments of \$696.8

million and \$169.2 million, respectively. In addition, the account for "material in stores—other" contained an error of \$109.3 million. The general ledger accountant advised us that he had corrected this account in fiscal year 1988 when his verification work showed that he had not been receiving the correct data from the Electronic Security Command.

Our fiscal year 1989 audit also disclosed significant problems in general ledger compilations.

- At Warner Robins ALC, we found \$0.49 billion in accounting errors. The material in stores—other account was overstated by \$443.6 million as of September 30, 1989, due to erroneous postings to the account during the year. In addition, the account for ammunition stored with other government agencies was understated by \$46.8 million. This error was caused partially by a clerical error in posting and partially by several inventory items recorded at zero value when, in fact, they had a value of \$24.4 million.
- At the Sacramento ALC, the account for progress payments to contractors was overstated by \$100 million. The reporting error resulted from an inaccurate reconciliation of data in the Central Procurement Accounting System when compiling general ledger information.

We believe several important factors have caused these general ledger accounting problems. First, compilation of the general ledger has historically received little management priority at the ALCs. Comptroller officials at the ALCs told us that they were not aware of the use that is made of the general ledger at headquarters, and, accordingly, they have given insufficient priority to its accuracy. Second, we found that at most of the ALCs we visited the persons assigned the job of compiling the general ledger were new to the position and were not well-versed in basic accounting principles. For example, several asset accounts carried credit (negative) balances, but the general ledger accountant had not questioned this condition.

Third, we found that general ledger compilation procedures at the ALCs did not include accurate and complete reconciliations of account balances to underlying systems and reports. Fourth, the general ledgers at the ALCs were not updated by each transaction or even a periodic summary of transactions. Instead, accountants computed from various sources, a net monthly change to each general ledger account and provided it to the general ledger accountant for posting. These procedures left an incomplete audit trail for the amounts in the general ledger.

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**Errors in Subsidiary  
Systems Were  
Automatically Entered in  
the General Ledger**

The financial inventory accounting system at each ALC identifies possible high-dollar errors in information furnished to it from the perpetual inventory records. However, because the potential errors were not researched, some high-dollar errors causing overstatements of inventories were not corrected. These overstated balances were included in the general ledgers at Ogden and Sacramento, causing overstatements in general ledger inventory balances totaling \$784 million as of September 30, 1989.

The following example illustrates how the general ledger overstatements occurred. At Ogden ALC, a September 11, 1989, edit report error list noted a transaction in a subsidiary supply system that was recorded in the amount of \$333,074,000. The edit is designed to note any transaction over \$10 million so that the transaction can be verified. Even though this single transaction represented over 10 percent of the entire dollar value of off-base ammunition inventory for which the Ogden ALC was accountable, it was not researched for accuracy. On September 30, 1989, a month-end procedure was performed by the computer which forced the \$333 million transaction into the general ledger account. That is, the procedure brought the financial inventory accounting system and the general ledger into balance with the underlying subsidiary supply systems simply by adjusting the general ledger data to agree with the subsidiary systems. After we pointed out this high-dollar transaction to Ogden ALC staff, they researched it and found that the transaction was a large error and should have been posted for only \$888,000. It resulted in an overstatement of \$332 million in the general ledger.

All five of the ALCs made billions of dollars in automated inventory adjustments to force the general ledger into balance with the perpetual inventory records. In spite of the billions of dollars involved, none of the ALCs was researching causes for the large differences between the general ledger and the balances in perpetual inventory systems. The lack of research substantially increases the risk that erroneous transactions are being entered into ALC general ledgers. Further, failure to conduct research on these adjustments violates the provisions of AFLC Regulation 177-24, which requires that research be completed when amounts are determined to be significant. ALC comptroller officials said that severe staffing shortages precluded completion of the required research.

**System Problems Caused  
Duplicate Reporting of  
\$2.6 Billion of Inventories**

The item manager stock control and distribution system, which passes inventory data to the financial inventory accounting system, included about \$2.6 billion of inventory balances for stock items that were also recorded in other inventory systems as of September 30, 1989. This duplicate reporting of inventories was caused by programming errors in this new system, which was implemented during fiscal year 1988 as an element of AFLC's long-term program to upgrade its inventory systems.

Our fiscal year 1989 variance analyses of inventory balances at the five ALCs showed substantial growth in inventories reported through the item manager stock control and distribution system. We followed up with ALC and AFLC officials within the comptroller and computer support offices and learned that a programming error was causing duplication of reported inventories. The following table shows the amount of duplicate inventory reported by each ALC in its general ledger as of September 30, 1989.

**Table 3.2: Duplicate Inventories  
Reported by the Five ALCs Due to  
Programming Error**

Dollars in millions	
ALC	Duplicated Inventory
Ogden	\$0
Oklahoma City	751
Sacramento	442
San Antonio	380
Warner Robins	1,058
<b>Total</b>	<b>\$2,631</b>

Comptroller staff at the Ogden ALC had become aware of the problem by following up on information we had presented on inventory growth, and they had adjusted their post-closing general ledger to remove the duplication. However, the other four ALCs forwarded their final general ledgers to AFLC with the duplicate inventories in the accounts. Our review of AFLC's consolidated general ledger forwarded to the Air Force Accounting and Finance Center showed that the same duplications were passed to that level.

AFLC's Comptroller agreed that general ledger accounting for investment item inventory was poorly controlled and inaccurate. He stated that because Air Force inventory managers do not use data on the overall valuation of inventory, little management emphasis has been given to its accuracy and completeness.

## Values of Unserviceable and Obsolete Inventory Are Overstated on Financial Reports

Use of financial information as an aid in managing inventories is even further hindered by Air Force policies for valuing unserviceable and obsolete inventories. Air Force inventory pricing policy does not require different valuations based on the condition of an item. Therefore, unserviceable and obsolete items are valued the same as new items.

Title 2 of the GAO Policy and Procedures Manual for Guidance of Federal Agencies requires that the value of unserviceable inventories be reduced by the cost to repair the items. It also requires that the value of obsolete inventories be written-off or reduced to their salvage value. The reduction of unserviceable and obsolete inventory values should be charged as an expense when the condition is determined. Conversely, as unserviceable inventory items are repaired, the inventory value should be increased for the repair cost.

ALC inventory condition codes show that about 58 percent (about \$11.4 billion) of the investment items at the five ALCs are unserviceable, that is, they need repair or restoration before they can be issued to a customer. Although the network of inventory systems at the ALCs contains historical data on the cost to repair some of the inventory items, no adjustment for repair costs is made to the general ledger valuation.

We computed ALC investment item inventories by Air Force condition codes using the ALC's inventory data base. Table 3.3 shows that billions of dollars of Air Force inventory is in unserviceable condition.

**Table 3.3: Unserviceable Investment Item  
 Inventory as of September 30, 1989**

Dollars in billions

<b>ALC</b>	<b>Unserviceable inventory<sup>a</sup></b>	<b>Total investment inventory</b>	<b>Percent unserviceable</b>
Ogden	\$2.42	\$3.91	61.9
Oklahoma City	1.99	3.55	56.1
Sacramento	1.98	3.38	58.6
San Antonio	2.02	3.89	51.9
Warner Robins	2.95	4.90	60.2
<b>Totals</b>	<b>\$11.36</b>	<b>\$19.63</b>	<b>57.9</b>

<sup>a</sup>The ALCs had balances on hand in four different condition codes which identify its unserviceable inventory: E = Limited Restoration-Use, F = Repairable, G = Incomplete, and P = Reclamation. About 94.6 percent of the unserviceable inventory at ALCs was code F, repairable.

We performed this same unserviceable inventory analysis in fiscal year 1988 at Ogden, San Antonio, and Warner Robins and found the unserviceable inventory to be 57.4 percent of the total investment item inventory at these locations.

We obtained historical data on the actual cost of repair for a sample of 349 "F" condition, repairable, items at the four ALCs where we conducted sample physical inventories. For these items, we estimate that repair costs amounted to 17.6 percent of the items' book value.<sup>1</sup> If the actual cost of repair was applied to the \$11.4 billion of unserviceable inventory at the five ALCs, it would result in a write-down in value by approximately \$2.0 billion.

ALC officials emphasized that even though financial reports do not account for the cost to repair unserviceable inventory, their inventory management system does consider these data. The requirements computation systems used by MM contain data on the cost to repair unserviceable items, and we were told that these data are used when making decisions about the cost-effectiveness of repair versus purchase for individual items. In our view, this is a good example of where financial reports should contain parallel data to be more fully integrated with management systems.

Reporting thousands of unserviceable items at the same value as fully serviceable items, when many require the investment of significant dollars before they can be used, overstates inventory values on financial reports. We believe such a flaw in financial reporting misleads those trying to analyze inventory data.

The Air Force agreed that unserviceable material should be valued separately from serviceable material. The Assistant Secretary of the Air Force, Financial Management and Comptroller, stated in his March 8, 1990, testimony before the House Armed Services Subcommittee on Readiness, that the Air Force intends to program information into its inventory management systems which will compute a value for unserviceable inventories.

Inventory values are further overstated because, on financial reports, obsolete assets are valued the same as serviceable assets. This is in accordance with Air Force policy that requires the same values for all quantities of an investment item, regardless of condition. Obsolete items

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<sup>1</sup>Sample estimates on cost to repair data are in appendix I, table I.3.



probably will never be used, and their assigned values should be reduced or eliminated from inventory financial reports. However, because the ALCs have not clearly defined which inventory items are obsolete, the amount of obsolete AFLC inventory is unknown.

We believe that the Air Force has not properly classified some items that appear to be obsolete. For example, we observed relatively high-dollar value electronic and radar items at the Sacramento ALC that were condition coded "F" (reparable) but were apparently obsolete. These items were placed in outside storage yards in unlocked containers, and we were informed by ALC staff that the material had been there for many years, some having been placed there at the end of the Vietnamese War.

Examples of items we saw included two radar sets valued on the inventory records at \$2 million each and six containers of radio sets valued at \$150,000 each. These items had been in outside storage for several years and were acknowledged by ALC item managers to be obsolete items, even though they were condition coded as reparable. These and other obsolete items should be reduced to a zero valuation or salvage value for more accurate reporting of inventory values.

## ALC Inventory Valuation Practices Contribute to Inaccurate Inventory Values

Other misstatements of ALC inventory values occurred because established procedures were not followed and clerical errors occurred but were not detected. Our analysis of 329 high-dollar items found that 34 percent of the items tested were incorrectly valued, resulting in an overstatement totaling \$464 million.

The results of our pricing analyses are summarized in table 3.4.

**Table 3.4: Inventory Pricing Analysis Summary**

	Ogden	Oklahoma City	Sacramento	San Antonio	Warner Robins	Totals
Items tested	63	52	82	45	87	329
Items not complying with Air Force pricing policy:						
Overpriced	10	16	21	7	18	72
Underpriced	7	17	8	4	4	40
<b>Total</b>	<b>17</b>	<b>33</b>	<b>29</b>	<b>11</b>	<b>22</b>	<b>112</b>
Percent not complying	27	63	35	24	25	34

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The 329 items we tested for pricing compliance were high-dollar items which accounted for \$803.8 million worth of inventory. From this analysis, we identified overpricing totaling \$464.3 million. In fiscal year 1988, we found that 66 of the 113 (58.4 percent) items we analyzed at three ALCs did not comply with Air Force pricing policy.

Air Force investment item inventory valuation policy provides for a standard value for each item. This value generally is based on the cost of the most recent procurement of the item plus a three percent surcharge for government-furnished materials and transportation. According to this policy, all existing items in the inventory should be updated with a new standard cost when the price the Air Force pays for an item changes. Therefore, all items of a particular stock number are valued the same, and the value of inventory is computed by multiplying the quantity on hand by the standard cost.

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### Aircraft Modification Kits Incorrectly Valued

Incorrectly valued aircraft modification kits accounted for \$400 million of the \$464 million in overpricing identified by our analysis just discussed. Kits are valued based on an estimated cost of acquiring the kit, and the original estimate entered in the system is usually not updated, as required, for the actual cost after the kit has been procured.

An example of an overvalued kit at the Sacramento ALC illustrates the problem. This modification kit had a standard cost of \$1,500,000, and there were 172 of these kits at the Sacramento ALC. After meeting with the modification manager for this item, we determined that the kit should have a standard cost of \$13,342, based on the latest cost to the Air Force. As a result of this item, Sacramento ALC's inventory account was overstated by \$255.6 million as of September 30, 1989. Sacramento ALC officials responded that kits are not included in the same system as other investment items and cost updates are not triggered automatically for kits. Consequently, special actions are required to update kit costs, but due to an oversight, the cost of this item was not updated. After we pointed out the problem, the Sacramento ALC made a cost correction for this item in February 1990.

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### Other Valuation Problems Caused by Inaccurate Updates

In addition to the major problem with overpriced kits, we found two other causes of inaccurate inventory valuations. First, mispricing occurred because the inventory systems were not updated with the latest procurement price as required. Second, when items were updated based on the latest procurement price, errors were made.

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An example of an item on which the price had not been updated was a main landing gear door for the B-1B aircraft. This item was valued in the ALC inventory records at a standard price of \$315,980 each. We met with the item manager and determined that this door should have been valued in the system at \$62,600. The \$315,980 value had been recorded in the inventory system based on a 1982 initial estimate of the cost of this door. The Oklahoma City ALC had one door recorded in the inventory system as of May 1989. Mispricing of this item resulted in an overstatement of inventory of \$253,000.

An example of an error in updating the price in the inventory system was a brake part which was most recently procured in 1982 at a unit cost of \$2,390. Based on Air Force policy, a 3-percent surcharge should have been added to this item, and a price of \$2,460 recorded in the inventory system. Yet, the item price recorded in the system was \$24,600. The Ogden ALC had 20 of these items on hand, resulting in an overstatement to the inventory account of over \$400,000.

In addition to financial reporting errors caused by inaccurate inventory prices, the Directorate of Material Management at an ALC uses inventory prices when computing procurement requirements for an item. MM officials emphasized, however, that they do not routinely accept the standard price in the inventory system when computing requirements and budgets. Because they know that these prices are sometimes unreliable for projecting future costs, they try to obtain more accurate pricing from other sources. We believe that this is an example where the lack of system integrity creates problems in financial management of inventories. Whenever a decision needs to be made, special efforts must be exerted to obtain accurate data rather than relying on existing, expensive systems to provide that data immediately.

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## Conclusions

AFLC manages 65 percent of Air Force inventories, but it cannot produce an accurate total value for its inventory. In addition to the improper valuation of inventory caused by the quantity errors discussed in chapter 2, problems in accounting practices, inappropriate valuation policies for unserviceable and obsolete items, and errors in assigning prices to items have combined to thoroughly distort inventory values. The accounting practices at the ALCs clearly fall short of what will be required to meet the demands of the 1990s for better financial management.

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## **Recommendations**

We recommend that the Commander, Air Force Logistics Command, instruct his ALC Commanders to

- reconcile general ledger accounts with subsidiary systems,
- research the accuracy of questionable high-dollar transactions identified through regular system edits,
- review general ledger accounts for large variances,
- disclose in financial reports obsolete and unserviceable inventories along with related costs to repair, and
- review inventory values to ensure that ALCs comply with Air Force policy.

# Operating Losses Drove Up Stock Fund Prices and Financial Reports Were Unreliable

The Systems Support Division (SSD) of Air Force's stock fund, managed by AFLC, records about \$890 million a year in net sales of parts which are generally weapons-systems related. Revenues collected from sales are used to replenish inventories and to pay for the cost of operations. In the past 3 years, AFLC sharply increased the surcharge added to the cost of goods sold to SSD customers from about 13 percent in fiscal year 1987 to over 20 percent in fiscal year 1989. Contributing to the need for these sharp price increases were lost revenues due to billing problems and costs arising from excessive inventories, including losses from disposal of unneeded items. In addition to the operational losses, we found (1) major errors in trial balance amounts equal to about 30 percent of sales and (2) improper changes in collections processing procedures affecting reported amounts of cash on hand. These errors and inconsistencies hindered management decisions affecting SSD prices and the refund of cash to stock fund customers.

## Stock Fund Financial Operations

The Air Force provides relatively low-dollar value supplies to authorized customers through its stock fund divisions. SSD, one of the largest of these divisions, sells weapons systems-related parts to its customers, which are almost always DOD organizations or foreign governments for which 100 percent payment for these parts should be expected. ALCs sell the items, bill customers, and collect payment for those sales principally through an automated billing and collection system, called Interfund. For those customers not in the Interfund system, the ALCs prepare manual bills.

Air Force stock funds operate under a revolving fund concept, whereby sales revenue generates funds which are then used to replenish inventory levels. SSD prices are based on the replacement cost of material and include a percentage added on, or surcharge, to cover operating costs. According to Air Force policy, new surcharge rates are set at the beginning of each fiscal year and are not changed until the following year.

AFLC uses ALC trial balance data and considers the following components of the surcharge to arrive at an overall rate:

- **Inventory expenses:** includes factors for net gains and losses from physical inventory adjustments; losses resulting from inventory shrinkage, theft, deterioration, damage, contamination, defects, and obsolescence; and adjustments to reconcile internal records.

- Price stabilization: includes factors for inflation or deflation of suppliers' prices, refunds made to customers, and maintenance of required cash balances with Treasury.
- Transportation: covers the cost of shipping material to customers, both within the United States and overseas.
- Inventory maintenance: finances the acquisition of inventories required to maintain item quantities at the currently approved stock level.

According to AFLC officials responsible for stock fund accounting and surcharge calculations in fiscal year 1989, the components of inventory expenses and price stabilization were the primary causes of increases in SSD surcharge rates.

As the figures in table 4.1 show, AFLC increased SSD surcharge rates sharply in recent years.

**Table 4.1: SSD Surcharge Rates, Fiscal Years 1987 Through 1990**

Fiscal year	Surcharge percent
1987	13.35
1988	14.93
1989	20.36
1990	25.68

Such substantial surcharge increases have the effect of increasing costs to Air Force and other DOD customers to pay higher prices from their appropriated funds. Accordingly, appropriations may have to be increased to enable customers to purchase needed items from SSD.

## Operating Losses Contributed to Need for Increased Prices

We believe that these sharp increases in SSD prices were largely caused by the Air Force's (1) failure to properly bill for all SSD sales transactions and (2) need to dispose of excessive and obsolete inventories. However, because ALC records were inadequate for tracking the amount of unbilled sales, we were unable to compute actual revenue losses from this cause for fiscal year 1989. To estimate the amount, we obtained data for the Ogden ALC which indicated losses of about \$5.5 million. Extending this amount to all five ALCs, which had average net sales twice the size of the Ogden ALC, we calculated that poor billing practices may have caused losses ranging from \$30 million to \$60 million in fiscal year 1989. SSD incurred further losses when it identified and disposed of unneeded and obsolete inventories during the year. Excess and obsolete

inventories at the ALCS resulted in asset write-offs and recognition of about \$146 million in losses.

Most SSD customers are agencies within DOD or foreign governments, and collection of sales revenue depends on proper billing. However, we found major problems in billing for SSD sales. Our tests disclosed that weaknesses existed in internal controls for recording sales transactions. Further, documentation for some transactions was incomplete, preventing corrections to the records. Finally, the supply systems did not contain edit checks to reject problem transactions. As a result, errors and omissions in source data used for billing purposes prevented accounting personnel from billing customers for all issuances of SSD material. For example, we found that forms used to record data on sales transactions at the San Antonio ALC did not have space for key financial codes. At the Ogden ALC, sales records sometimes contained erroneous codes which, when processed into the automated billing system, resulted in charges to incorrect appropriations and to Air Force units that were not SSD customers. Many sales transactions were rejected by the billing system because records with missing and erroneous data were not corrected before they were submitted for billing.

Since the ALCS do not maintain consistent or complete information on sales transactions which are not properly billed, we could not determine total losses caused by billing problems. For example, when sales documentation at the San Antonio ALC was inadequate to properly bill a customer, the original sales transaction was treated as a clerical error and removed from the accounting records. At the Sacramento ALC, such transactions were reversed and rebilled. No estimates were available on the amount of sales transactions eliminated from ALC records or kept on the records but not successfully rebilled in fiscal year 1989.

We performed additional audit work at the Ogden ALC to estimate the amount of losses caused by billing problems in fiscal year 1989. We examined receivables listings showing the age and amount of receivables and journal vouchers documenting write-offs. Top officials in the Ogden ALC Comptroller Office stated that an average of 20 percent of the dollar value of rejected sales transactions is never collected; using that percentage, we estimated that the Ogden ALC lost about \$5.5 million in fiscal year 1989 alone. We also identified journal vouchers documenting write-offs of about \$3.4 million in specific accounts receivable. The write-offs were caused by errors and omissions in billing data and unexplained differences in reported account amounts which researchers could not resolve.

AFLC officials responsible for SSD accounting and systems expressed concern over the ALCS' billing process and stated that they were aware of the need to better control sales data entered in computer systems. These same officials acknowledged that any lost revenue from sales of SSD material would cause an increase in surcharge rates.

## Losses Caused by Disposals of Excess and Obsolete Inventory Items

In addition to the billing problems, we believe an important factor in SSD operating losses and resulting surcharge increases is large quantities of excess and obsolete stock fund inventories at the ALCS. We analyzed inventory balances for the base support stock record account, which reflects over 95 percent of all SSD retail activity, and found extremely large inventories relative to sales, as shown by table 4.2.

**Table 4.2: Years of SSD Inventories on Hand at the End of Fiscal Year 1989 (Base Support Stock Record Account)**

Dollars in millions			
ALC	Inventories	Net sales in FY 1989	Years of Inventory <sup>a</sup>
Ogden	\$784.6	\$90.9	8.6
Oklahoma City	1,684.6	242.7	6.9
Sacramento	554.3	78.1	7.1
San Antonio	1,918.9	323.4	5.9
Warner Robins	1,215.7	150.9	8.1

<sup>a</sup>Average years of inventory item: 7

Although stock fund analyses prepared by the AFAFC contained no standard for the overall inventory-to-sales ratio, we believe that 7 years of inventory is clearly excessive. SSD items are procured based on individual item requirements computations with many controls in place to ensure valid requirements. However, the accumulation of 7 years of inventory raises questions as to the effectiveness of those controls.

One result of high inventory levels is increased operating costs and surcharge rates. Appropriations have been invested for years in stock which cannot be sold or is seldom needed by customers. Thus, the Air Force had to pay for the cost of storing and handling the extra items. To control such operating costs, AFLC must identify and dispose of inventories which can no longer be sold. AFLC has a program to dispose of excess and obsolete inventories, which caused SSD to record a loss from disposal of over \$146 million in fiscal year 1989. This loss was equivalent to about 16 percent of fiscal year 1989 sales and was a major cause of the need to add \$180 million to the cost of SSD items in fiscal year 1990.



## Tests Showed Major Errors in SSD Trial Balance Reports

The ALCS reported inaccurate inventory and financial data to AFLC managers during fiscal year 1989. These data were then used to assess the results of operations, calculate annual surcharge rates, and manage stock fund activities. Our tests of SSD records disclosed numerous reporting errors in stock fund trial balances. We found that a major cause of errors in SSD reports was inadequate controls over accounting and reporting functions, including a lack of clear guidance for ALC accounting personnel. Finally, our analysis of SSD account balances disclosed changes in the timing of collections processing which resulted in artificially low cash balances. These errors and processing changes would also affect AFLC's inventory pricing decisions, since components of the surcharge reflect accounting data on gains and losses from operations and the current value of inventories.

Our tests of SSD trial balance reports for fiscal year 1989 disclosed errors totaling over \$278 million resulting from (1) mistakes in accounting entries, (2) errors in inventory data provided to accounting personnel, and (3) problems with the timing of accounting entries and reports. Because amounts for some accounts included in trial balance reports did not accurately reflect activities for the year, we believe that financial information on operations was unreliable. Table 4.3 summarizes the errors.

**Table 4.3: Causes and Dollar Amount of Major SSD Reporting Errors, Fiscal Year 1989**

Dollars in millions	
<b>Causes of inaccurate accounting</b>	<b>Amount</b>
Errors in entries	\$173
Errors in inventory data	79
Errors in timing of entries	26
<b>Total</b>	<b>\$278</b>

Financial reporting errors of \$278 million in SSD equal about one-third of net SSD sales for fiscal year 1989. In our opinion, errors of this magnitude must hinder management's ability to make effective use of SSD financial reports when evaluating the fund's financial condition, results of operations, and prices.

## Errors in Accounting Entries

Our tests indicated that accounting personnel at the five ALCS made over \$173 million in errors when making entries to the stock fund trial balance reporting system. These errors were caused by failure to (1) correct

records containing duplicated inventory amounts or (2) properly compute the cost of material valued at standard price.

About \$169 million in errors in ALC trial balances was caused by the failure to make AFLC-directed correcting entries at the Warner Robins ALC. Computer problems caused two inventory systems to pass duplicate data to trial balance reports. Although AFLC directed accounting personnel at all ALCs to reduce affected account balances, the accountant at the Warner Robins ALC improperly stopped making these entries in the middle of fiscal year 1989. As a result, the total value of SSD inventories reported on the trial balance was overstated.

Additional errors of about \$4 million were made at Sacramento ALC because of a lack of guidance on estimating the cost of items shipped to the ALC from procurement sources. Some entries made to purchases, accounts payable, and orders outstanding are based on a conversion of inventory values reported at standard price. Because accounting staff were not properly trained, this conversion was not accurately made and entries made to six different accounts were overstated.

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## **Errors in Inventory Data**

Missing and erroneous inventory data caused about \$79 million in accounting errors because inaccurate quantities and prices were not identified or corrected at the source of the transaction. ALC personnel compounded the problem by adopting inconsistent or improper methods of accounting when making entries based on the data.

The most significant problem of which we became aware was at the Warner Robins ALC, where about \$70 million in reporting errors affecting inventory and revenue accounts resulted from a single pricing error. Air Force personnel did not detect the error until fiscal year 1990; as a result, assets and operating results were overstated for the fiscal year ending September 30, 1989.

Our tests also disclosed that reported values for inventory shipped to the Ogden ALC were abnormally high or missing for several months during fiscal year 1989, causing reporting errors of about \$9 million. Amounts of inventory in transit reported to the SSD accountant were poorly controlled. In one month, these amounts were overstated by about \$43 million. In another month, information was not provided in time for reporting purposes. Nevertheless, the problems were not detected and corrected by accounting personnel responsible for researching error listings before in-transit data is passed to the SSD

accountant. This information has a significant impact on SSD accounting since the dollar amounts are typically quite large and since they are used to update six different accounts in SSD trial balance reports.

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### **Errors in Timing of Entries**

We identified about \$26 million in errors resulting from not recording transactions in the appropriate reporting period. The primary causes of these errors were (1) limitations in ALC computer programs used to report values for purchases in transit and (2) improper timing of general ledger account updates reflecting gains and losses from variances in recorded inventory values.

Our year-end tests showed over \$10 million in timing errors relating to data on material in-transit from procurement. ALC accountants did not have accurate, complete, and current information on shipments to use as a basis in accounting for material in transit. This condition affected the accuracy of entries to several accounts made at the beginning and end of the year. At the Sacramento ALC, reports provided to SSD accountants at the end of fiscal year 1989 contained information only through July 1989, excluding about \$2.7 million of August and September data from the year-end inventory balance. We identified an additional \$7.7 million in timing errors at the other ALCs relating to accounting for inventory items being shipped to the ALCs from procurement sources.

Other tests showed about \$16 million in errors relating to the timing of accounting entries for adjustments to internal inventory records. Quarterly entries to bring the accounting system inventory account amounts into balance with supply system amounts were not timed to coincide with the quarters in a fiscal year. As a result, gains and losses reported in fiscal year 1989 SSD trial balance reports included amounts relating to fiscal year 1988 and excluded final entries relating to the end of fiscal year 1989. We identified net timing errors of \$10 million at the San Antonio ALC and \$6 million at the Warner Robins ALC.

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### **Inadequate Disclosure of Problem Receivables**

Significant portions of the \$57 million in accounts receivable reported as unbilled at the end of fiscal year 1989 may never be collected. Title 2 requires that accounts receivable balances be reduced by an allowance for estimates of uncollectible amounts. The allowance is charged to the cost of operations. The Air Force records a receivable when SSD material is issued, rather than when customers are billed. Typically, the older a receivable becomes, the less likely it is that the Air Force will be able to bill and collect amounts owed. SSD trial balance reports, however, do not

disclose the age and amount of problem transactions that have not yet been billed. Disclosure of this information would alert management to the problems with data quality and the need to follow up on older unbilled transactions.

Substantial amounts of these unbilled accounts receivable were undoubtedly uncollectible because of errors and omissions in the billing data. As a result, trial balance reports systematically overstate expected future revenues from collections. Some sales transactions classified as unbilled receivables remained on trial balance reports for periods of a year or more, but their age and doubtful collectability were not disclosed.

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**Inconsistent Collection  
Practices Produced  
Misleading Cash Balances**

SSD cash levels reported during fiscal year 1989 were unreliable because of inconsistent processing of stock fund collections. Because of changes in collection practices, data on collections reported from period to period were not comparable and the cash balance reported at fiscal year-end did not accurately reflect the proper year end amount. We found that about \$44 million of September 1989 bills were not processed until October 1989, resulting in a year-end cash balance that was lower than it would have been under normal processing.

The ALCS processed collections under three different sets of instructions from AFLC during fiscal year 1989. Officials at the ALCS initially processed stock fund collections on the 3rd and 20th days of each month. In midyear, AFLC suggested that the ALCS change to the 3rd and 15th days of each month in an effort to speed collections to prevent a negative cash position. Finally, in the last month of the year, as directed by the AFAFC, AFLC instructed the ALCS to collect from stock fund customers only on the 3rd day of each month. The ALCS were specifically instructed to hold the mid-September bills, which would have been automatically produced by the ALC systems, until October 1989. Air Force communications show that the year-end billing change was made because of a concern that cash collected in September 1989, together with a \$200 million transfer anticipated to reimburse the fund for prior lost accounts receivable, would have caused a cash surplus and might have been reallocated by the Secretary of the Air Force. Ogden ALC finance officials recently informed us that shortly after the end of fiscal year 1989, the ALCS, at the direction of the AFLC, reverted to billing SSD customers twice a month.

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## Conclusions

Stock fund prices have increased sharply in recent years, claiming larger portions of customer's budgetary resources and increasing the need for DOD appropriations. Losses from unbilled sales and from excess and obsolete inventories contributed to the need for increased surcharge rates. When the surcharge is increased because some customers are not billed, other customers must pay disproportionately higher prices for SSD items. Even though nearly all SSD customers are DOD organizations or foreign governments, the Air Force was unable to consistently bill and collect revenues on a significant portion of its \$890 million of annual net sales. ALC billing activities were plagued by errors and omissions in records created by supply system personnel at the time of SSD sales, causing some transactions to be unbillable.

ALC stock fund trial balance reports form the basis for key management decisions concerning pricing and allocation of cash balances. Our tests disclosed over \$278 million in errors in SSD reports for fiscal year 1989, or about 30 percent of net SSD sales. We also found that the cash balances were unnecessarily low by over \$44 million at fiscal year-end due to inconsistent billing practices. Errors, inconsistencies, and misstatements of this nature undermine the effectiveness of management decisions.

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## Recommendations

In order to improve the collection of revenues from sales, and thereby reduce stock fund surcharge rates, and to ensure that trial balance reports are accurate, complete, and sufficiently reliable to be useful to stock fund managers, we recommend that the Commander of the Air Force Logistics Command direct the manager of the Systems Support Division to revise that organization's policies and procedures to provide for

- effective internal controls at the source of sales transactions, including testing of source data for accuracy, full documentation of transactions, and computer edits to reject transactions with errors and omissions;
- disclosure of unbillable sales transactions with missing or erroneous information;
- disclosure of write-offs of specific bills or receivable balances, including an explanation of cause;
- a review of inventory disposals, including an examination of requirements computations for questionable items;
- consolidated written guidance and consistent training on accounting principles and practices for transactions at the ALC level, including detailed illustrations and examples;

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**Chapter 4**  
**Operating Losses Drove Up Stock Fund Prices**  
**and Financial Reports Were Unreliable**

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- increased analysis and follow-up on abnormal procurement, inventory, and billing data generated by source computer systems prior to provision of the data to accounting personnel for inclusion in trial balance reports;
- recording and prompt reporting of data on the value of SSD material actually in transit from procurement sources each month; and
- prompt and consistent adjustments to accounts reflecting differences between inventory account amounts recorded in ALC supply and accounting systems.

We further recommend that the Commander of the Air Force Logistics Command direct the Comptroller of the Air Force Logistics Command to establish and maintain consistent billing practices and procedures for the Systems Support Division.



# GAO Sampling Methodology

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We used statistical samples to assess the accuracy of the ALCs' investment item inventory records and to obtain historical data on the actual cost of repairing unserviceable inventories.

First, we obtained from each ALC, computer tapes containing the master record files of their perpetual inventory system (D033 system) as of May 31, 1989. To assess the accuracy of the inventory records, we used dollar unit sampling for those investment items which had a balance on hand as of May 31, 1989, and a simple random sample for those investment items with no balance on hand (zero balance) as of that date. Dollar unit sampling is a statistical sampling procedure where the higher dollar items in the inventory are more likely to be selected.

To obtain historical data on the cost of repairing unserviceable inventories, we selected a random subsample of the items previously selected for the physical inventories, items that had a balance as of May 31, 1989. (See table I.1.) For this subsample, we obtained and used actual costs to repair items to estimate overall repair costs for the investment item inventories. (See table I.3.)

The sampling error consists of two parts: confidence level and range. Our samples were designed so that the statistics derived from them could be projected to the universe with a 95 percent level of confidence that each statistic falls within a given range. The universe of the inventories, location of the ALCs, and the sample and subsample sizes are presented in table I.1.



**Table I.1: ALC Investment Item Inventory Universes and Sample/Subsample Sizes**

Location of Items with balance on hand	Number of types of items (universe)	Book value (in millions)	Number of types of items counted (sample)	Number of items for which cost to repair was obtained (subsample)
Ogden	41,245	\$3,724	337	69
Oklahoma City	31,205	3,919	255	71
Sacramento	44,798	3,560	445	142
San Antonio	31,445	3,604	349	67
Warner Robins <sup>a</sup>	0	0	0	0
<b>Location of items with zero balance</b>				
Ogden	24,335	0	121	0
Oklahoma City	16,604	0	96	0
Sacramento	27,927	0	168	0
<b>Totals</b>	<b>217,559</b>	<b>\$14,807</b>	<b>1,771</b>	<b>349</b>

<sup>a</sup>Warner Robins was not included in the physical inventory sample.

Table I.2 presents the results of our estimates of the accuracy of inventory records. It combines the results of the sample of investment items which had a balance as of May 31, 1989, with those of investment items which had no balance as of that date. Based on the results of our sample, we estimated that with about 18.29 percent of the investment items, there was a difference between the perpetual records and the actual count. This large percentage of discrepancies was one of the primary reasons GAO was unable to express an opinion on the Air Force's fiscal year 1988 financial statements (Financial Audit: Air Force Does Not Effectively Account for Billions of Dollars of Resources (GAO/AFMD-90-23)).

**Table I.2: Projected Estimates of Accuracy of Inventory Records**

Dollars in millions		
Category	Estimate	Range (+/-)
Percent of items where the GAO count differed from perpetual records	18.29%	3.09%
Number of items where the GAO count differed from perpetual records	39,082	7,444
Gross difference between GAO count and perpetual records	108,968	39,613
Value of items where GAO count exceeded perpetual records	\$1,501	\$717
Value of items where GAO count was less than perpetual records	\$816	\$207
Gross difference between GAO count and perpetual records	\$2,317	\$742

Table I.3 presents the estimates of the cost of repairing unserviceable items. Based on our subsample, we estimated that the percent of the actual cost to repair an item to its book value is about 17.58 percent. This is significant since the Air Force reports the value of unserviceable items the same as fully serviceable items, even though many require the investment of large sums of money before they can be used.

**Table I.3: Projected Estimates of the Cost of Repairing Unserviceable-Reparable Items**

Dollars in millions		
Category	Estimate	Range (+/-)
Percent of items for which the actual cost to repair was available	29.76%	9.48%
Number of items for which cost to repair was available	195,164	74,290
Book value of items with actual cost to repair	\$2,939	\$353
Cost of repair for items with records	\$516	\$94
Cost to repair an item to its book value	17.58%	3.82%

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