United States General Accounting Office

GAO

Report to the Chairman, Subcommittee on Defense, Committee on Appropriations, U.S. Senate

October 1993

AIR FORCE LOGISTICS

Some Progress, But Further Efforts Needed to Terminate Excess Orders

GAO/NSIAD-94-3

GAO

United States
General Accounting Office
Washington, D.C. 20548

National Security and
International Affairs Division

B-252437

October 13, 1993

The Honorable Daniel K. Inouye
Chairman, Subcommittee on Defense
Committee on Appropriations
United States Senate

Dear Mr. Chairman:

Over the years, the Air Force's failure to terminate excessive materiel orders has been a major contributor to unnecessary growth in inventories. The costs of such decisions are significant: in fiscal year 1991, Air Force orders in excess of requirements totaled $1.4 billion. We previously reported that the Air Force terminated less than 6 percent of its potential terminations and made several recommendations for improving the Air Force's termination procedures. As you requested, this follow-up report addresses (1) the Air Force's progress in terminating excessive materiel orders and (2) additional opportunities, if any, for improvement and savings. The specifics of our scope and methodology appear in appendix I.

Results in Brief

The Air Force has taken a number of actions regarding our previous recommendations and is now placing greater management emphasis and oversight on potential terminations. As a result, in fiscal year 1991, the Air Force's terminations of excessive material orders increased to 47 percent ($676 million of $1.4 billion). While the Air Force has made significant progress, opportunities for improvements and economies still exist. The Air Force is missing potential terminations—amounting to $126 million in one quarter we reviewed—because it is using an unjustified 6-month level of stock above item requirements as a buffer in computing termination levels for consumable items.

In addition, weaknesses in policies and practices have resulted in some orders not being terminated when it was economical to do so, and others being terminated when it was not economical. Finally, the Air Force is not making use of the increased availability of deobligated funds from contract terminations to reduce its annual budget. By not doing so, the Air Force overstates its annual funding needs. From fiscal year 1991 to date, $610 million in deobligated funds has become available to the Air Force from such terminations.

Background

The Air Force Materiel Command is responsible for providing logistics support to ensure that Air Force weapon systems are kept at maximum operational capability at the least possible cost. The Command carries out its responsibilities largely at its headquarters at Wright-Patterson Air Force Base, Ohio, and at five air logistics centers: Ogden, Utah; Oklahoma City, Oklahoma; Sacramento, California; San Antonio, Texas; and Warner Robins, Georgia.

The centers use standard computer systems to determine the types and quantities of spare parts that must be purchased to meet requirements. Specifically, the systems calculate when reparable and consumable items[1] should be purchased based on parts on hand and on order, amount and timing of projected use, and procurement lead times. Each center runs these computations on a quarterly cycle, although they can be done more frequently should the need arise.

Changes in the number of hours aircraft are flown or the length of time needed to purchase or repair items can either increase or reduce requirements. Increases in requirements can result in new purchases or repairs, whereas decreases can result in materiel on hand and on order exceeding needs. Every cycle, the requirement systems identify potential terminations, formerly referred to as "excess on order."

Item managers validate the accuracy of the requirement system data used to compute the amount of potential terminations and, if necessary, correct the data files. Not all potential terminations can be realized because the item manager's economic analyses often show termination to be too costly. After correcting any errors, an item manager performs a termination analysis to determine if a contract should be terminated by comparing the cost of terminating the contract with the cost of accepting the items. The acceptance cost includes the purchase price plus the cost of holding excess inventory. The termination cost includes a termination penalty that the contractor charges and future reprocurement costs.

[1]Reparable items are those which can be repaired and reused after becoming unserviceable. Consumable items are not economically reparable and are discarded when worn out or broken.

In 1979,[2] 1983,[3] and 1987,[4] we reported that the Air Force was terminating less than 6 percent of the value of its potential on-order termination items because of inadequacies in procedures and practices coupled with a lack of management emphasis and oversight. We made a number of recommendations for improving the Air Force's policy and procedures to identify and act on potential terminations.

In 1990, we reported[5] that the largest rate of growth in Department of Defense (DOD) aircraft parts inventory was in unrequired stocks. As of September 30, 1991, the Air Force had $6.6 billion of unrequired inventory on hand. Not evaluating whether orders for unneeded materiel should be terminated was one of the contributing factors for this growth in unrequired inventories. For fiscal year 1991, the Air Force had $1.4 billion in unneeded materiel on order, subject to termination analyses.

Air Force Has Made Progress in Terminating Orders

Pursuant to our recommendations, the Air Force has developed management information systems that enable command and headquarters management to compare the performance and measure the progress of the five centers in terminating orders. The Air Force also has developed guidance on the cost factors to be used by item managers in making economic termination decisions and automated termination decision models to assist item managers in making the required detailed termination analyses in a timely manner.

As a result of these improvements, the Air Force has significantly increased the number of terminations. In fiscal year 1991, the Air Force terminated $676 million, or 47 percent, of the $1.4 billion on-order items exceeding termination levels, compared to the less than 6 percent we previously reported.

[2] DOD Can Save Millions of Dollars By Improving the Management of Air Force Inventories (LCD-80-6, Oct. 25, 1979).

[3] Continued Improvements Needed in Air Force Procedures and Practices for Identifying and Canceling Excess On-Order Stocks (GAO/PLRD-83-36, Feb. 7, 1983).

[4] Military Procurement: Air Force Should Terminate More Contracts for On-Order Excess Spare Parts (GAO/NSIAD-87-141, Aug. 12, 1987).

[5] Defense Inventory: Growth in Air Force and Navy Unrequired Aircraft Parts (GAO/NSIAD-90-100, Mar. 6, 1990).

Some Potential Terminations Not Identified

The Air Force does not identify and act on some potential terminations valued at millions annually because of its policy that restricts terminations for consumable items. Under this policy, orders are not identified for potential termination until the items on hand and on order exceed requirements by more than 6 months of stock. For example, orders valued at $126 million during one quarter in fiscal year 1991 were not identified for potential termination because of the policy.

Air Force Policy for On-order Termination Is a Continuing Problem

In 1979 and 1983, we reported that the Air Force did not identify and act on potential on-order terminations valued at millions of dollars because of its questionable policy for establishing on-order termination levels for consumable items. This policy specified the use of an additional 6-month level of stock above an item's requirement as a buffer in establishing the on-order termination level. As a result, the consumable item requirement computation system is programmed to identify, for potential termination action, only those items with on-hand and on-order quantities exceeding requirements by more than 6 months. Thus, up to 6 months' worth of an item's on-order stocks exceeding requirements could go undetected during any given requirement computation cycle.

The Air Force agreed with our prior finding that there was no historical support for the use of an additional 6-month stock buffer in computing on-order termination levels. However, it declined to eliminate or reduce the 6-month buffer as recommended.

Air Force officials believe a 6-month buffer is still necessary to prevent successive cycles of buying and terminating the same items caused by wide fluctuations in demand rates. As an alternative to our recommendation, the Air Force stated that it would change its policy so that orders exceeding item termination levels would be cut back to item requirement levels, rather than to termination levels, as was previously done. In other words, when items ordered were found to exceed even buffer quantities, the buffer quantities would be terminated as well. Our current review showed that this change had been made and had increased the amount of potential terminations by $152.2 million for the quarterly cycle ended June 30, 1991.

Buffer Requirement Is Unnecessary and Reduces Potential Terminations

The protection provided by the 6-month buffer is unnecessary because it duplicates protection already built into the requirement computation system. The consumable item requirement system compensates for item demand variability by averaging an item's monthly demands for the past 2 years in computing current requirements. Further, an item's normal requirement includes a built-in buffer of stock to prevent a repetitive series of uneconomical procurement and termination actions. Thus, the economic order quantity or reorder cycle portion of an item's requirement provides sufficient stocks to ensure that intervals between purchases average 6 months. Finally, the Air Force's procedures for determining whether it is economical to terminate orders take into consideration whether termination would result in uneconomical reprocurement actions.

Although the Air Force's alternative action to alleviate the impact of the 6-month stock buffer has merit and resulted in economies, additional significant economies could be realized by eliminating the buffer. The buffer excludes all affected stocks from consideration, whether analyses would show termination to be economical or not. Had it not been for this buffer, the Air Force could have identified an additional $126 million of potential terminations for the quarterly cycle ended June 30, 1991.

Termination Practices Not Always Cost-Effective

We tested $115 million of potential terminations during one quarter in fiscal year 1991 and found that cost-effective decisions were not made for $35 million, or 30 percent, of the amount tested. On-order quantities were not terminated when it was economical to do so because of inadequacies in procedures and practices for making economic termination decisions. Also, some quantities were terminated when it was not economical because of an Air Force policy that requires termination of some on-order stocks without benefit of an economic termination analysis.

Economic Termination Analysis Does Not Consider All Necessary Factors

To help determine the relative cost of continuing or terminating contracts, the Air Force developed two separate computerized economic decision models—one for consumable items and one for reparable items. These models compare the cost of amending or terminating a contract plus future reorder costs with the cost of accepting and holding excess inventory. By comparing these costs, the models determine whether it is more economical to terminate quantities on order or to accept their delivery.

The major expense of accepting delivery of excessive materiel is the cost of holding inventory in anticipation of future use. According to DOD regulations, the cost of holding inventory includes three factors: storage costs, losses due to obsolescence, and the interest charge for investment capital tied up in inventory. The Army, the Navy, and the Defense Logistics Agency use all three factors to determine the cost of carrying excess inventory. We analyzed the factors included in the Air Force's economic models to determine if all necessary costs were being considered. We found that when programming the reparable model, the Air Force omitted the costs of capital (interest) and obsolescence as part of the cost of holding excess inventory.

To determine the effect of excluding the costs of capital and obsolescence, we revised the reparable model to include these factors. We then analyzed 18 sample items that were not terminated because the model determined it would be uneconomical. The revised reparable model computed that it was economical to terminate the contracts for 11 items valued at $21.5 million. For these 11 items, the Air Force could have saved $5.2 million if the contracts had been terminated.

For example, in March 1991, the requirement system at the Oklahoma City Center reported orders for 455 nozzle segments valued at $2,810,963 for potential termination. The Air Force's reparable model compared the termination cost of $2,996,926 to the acceptance cost of $2,592,666 and determined it was uneconomical to terminate. However, the acceptance cost did not include $1,040,338 in capital (interest) costs and $520,169 in obsolescence costs. Adding these factors to the analysis increased the acceptance cost to $4,153,173, compared with $2,996,926 to cancel the contract. Thus, it would have been more economical to cancel the contract because the government could have saved $1,156,247.

Contracts Terminated Uneconomically

In some cases, the Air Force is terminating contracts when it is uneconomical to do so because of its policy to terminate quantities on order "regardless of cost" for items used on aircraft programs with declining flying hours or numbers of aircraft. In these instances, the contracts will automatically be terminated without termination analyses. Nineteen of our 79 sample on-order items were terminated based on this policy. Had termination analyses been performed, they would have shown that termination of contracts for seven items valued at almost $4 million was uneconomical.

Item Manager Errors and Delays Hinder Cost-effective Termination Decisions

Item managers are required to analyze potential terminations, and if economical, to terminate contracts in a timely manner. However, the Air Force is not consistently ensuring that proper termination decisions are being made and contract terminations are timely. For eight of our sample items, valued at $9.5 million, cost-effective termination decisions were not made because of item managers' errors and delays in making termination decisions.

The Air Force's policy for potential terminations provides that item managers can assume that action on potential terminations is uneconomical on repeat termination notices if there is no change in the quantity of the potential on-order termination previously found to be uneconomical. However, an item manager is required to perform an economic termination analysis if there is an increase in the quantity of the potential on-order terminations. Air Force policy also provides that item managers are to use maximum contractor termination penalty charges (100 percent of potential termination value) in making a termination analysis if a contractor does not furnish an estimate of such charges within 30 days after requested. If such maximum termination charges show that it is economical to terminate, the action is to be taken immediately. However, if the costs show that termination is not economical, the item manager must follow up by obtaining the contractor's estimate of termination charges and performing another termination analysis.

We found that cost-effective termination decisions were not made in some instances because item managers incorrectly interpreted these provisions to mean that (1) they could assume that it was uneconomical to terminate unneeded on-order items on repeat termination notices regardless of quantity increases and (2) no further action was required if the sensitivity test using maximum contractor termination costs showed it was uneconomical to terminate.

For example, in September 1990, the reparable item requirement system at the Oklahoma City Air Logistics Center identified orders for 86 shrouds, valued at $235,711, for potential termination. The item manager's decision that it was not economical to terminate the contract was incorrectly based on assumed maximum contractor termination charges. After an initial determination, the item manager should have obtained the contractor's estimate of termination charges and made a follow-up termination analysis.

Repeat termination notices were issued in December 1990 and March 1991 by which time the potential termination quantity had increased to 410 shrouds valued at $1.1 million. Because of the prior determination, the item manager incorrectly assumed that it was still uneconomical to terminate the contract. Because of the increase in the potential termination quantity, the item manager should have obtained the contractor's estimate of termination charges and performed an updated termination analysis. Although the contractor's termination charges had not been requested as required and were not available at the time of our review, we found it would have been economical to terminate the 410 shrouds if the contractor's termination charges did not exceed 50 percent of the contract value.

Another item manager error adversely affecting economic termination decisions involves failure to replace sample data in the termination model with actual data. The Air Force's reparable item termination model contains sample data on an item's potential termination quantity, unit cost, termination penalty costs, procurement lead time, and forecasts for 25 quarters. The sample data are used for training purposes in making simulated termination decisions. In practice, however, the sample data must be replaced with actual data. We found that item managers did not always correctly replace the sample data with actual data prior to making termination analyses.

For example, in March 1991, the requirement system at the Oklahoma City Air Logistics Center identified four high pressure turbine rotors, valued at $660,000, for potential termination. In making the decision not to terminate the contract, the item manager neglected to replace some of the sample data in the termination model. As a result, a sample unit cost of $4,655 was used instead of the actual unit cost of $165,000. Also, forecasted future buys were incorrectly shown to be 4,795 units versus actual forecasted buys of only 35 units.

We also found cases where termination analyses and contract terminations were unnecessarily delayed, which can lead to lost dollar savings and adding unneeded items to inventories. For example, at the Oklahoma City Air Logistics Center, orders for 79 turbine rotor disks, valued at $1,268,342, were determined to exceed termination levels as of March 31, 1991. In analyzing the potential termination, the item manager requested estimated termination charges from the contractor. The contractor advised the item manager on June 21, 1991, that the penalty charges would be less than 50 percent of the contract value for the next

30 to 60 days. After 60 days, the charge would then increase to at least 70 percent of the contract value. The item manager did not make the termination analysis until October 3, 1991, which was 104 days after the notification. The analysis showed it would be economical to terminate, and the Air Force is in the process of terminating the contract. However, the delay in analyzing the item increased the contractor's termination penalty charge by $206,980.

Deobligated Funds Not Considered in Budget Process

After the Air Force decides to terminate a contract, it notifies the contractor to stop production and determine final settlement charges. Although the contractor stops production immediately, it can take 1 to 2 years to negotiate final settlement charges. At that time, the Air Force will deobligate contract funds that will not be needed to cover the settlement charges. Deobligated funds from terminations of contracts for consumable and reparable aircraft items are available to the Air Force to make other procurements.

In our opinion, the availability of deobligated funds from contract terminations should be considered by the Air Force as an offset to its annual budget year's funding needs. The Air Force does consider estimated funds that will become available from other sources, such as revenues from foreign military sales. However, it does not consider the availability of deobligated funds from contract terminations as an offset to its budget year's funding needs. By not doing so, the Air Force overestimates its budget year's funding needs.

Availability of Deobligated Funds for Budget Consideration

The availability of deobligated funds from contract terminations is shown in table 1.

Table 1: Availability of Deobligated Funds

	Fiscal year		
Location	**1991**	**1992**	**1993[a]**
Oklahoma City Center	$35,949,000	$15,657,000	$79,272,000
Ogden Center	21,900,000	10,462,000	25,669,000
San Antonio Center	32,136,000	125,959,000	16,502,000
Sacramento Center	17,281,000	2,315,000	29,784,000
Warner Robins Center	35,106,000	98,488,000	64,182,000
Total	**$142,372,000**	**$252,881,000**	**$215,409,000**

[a]First 6 months of fiscal year 1993 through March 1993.

The deobligated funds shown in the table are for both consumable and reparable items, which are not broken out separately in Air Force records. However, on the basis of the dollar ratios of reparable item and consumable item terminations to total contract terminations, we estimate that reparable items account for 61 percent of the deobligated funds and consumable items account for 39 percent.

On the basis of the average annual availability of deobligated funds for the past 3 fiscal years, we estimate that $200 million of deobligated funds from contract terminations will be available to the Air Force to satisfy the next budget year's (fiscal year 1995) funding requirements for reparable items ($122 million) and consumable items ($78 million).

Recommendations

We recommend that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to

- eliminate the 6-month buffer from the consumable item requirement systems and identify all potentially terminable on-order items;
- revise the reparable item termination model to fully consider all costs of carrying excess inventories, including capital (interest) and obsolescence costs, as prescribed by DOD policy;
- revise policy to require that all potential contract terminations for excess orders, including those related to aircraft with declining programs, are subjected to economic termination analyses;
- ensure that potential on-order termination analyses are accurately performed and termination decisions are promptly made after receipt of contractor termination penalty costs;
- ensure that accurate and complete information is used in the economic termination analyses; and

- consider the average annual availability of deobligated funds resulting from contract terminations on a historical basis in determining the upcoming budget year's funding requests for consumable and reparable items.

Agency Comments and Our Evaluation

DOD agreed that the Air Force had improved its terminations of excessive on-order items but that more emphasis should be placed on the timeliness and accuracy of on-order termination analyses. It noted that the Air Force provided additional clarification on its termination policy to its logistics centers on April 6, 1993, and would reiterate to the centers the need for accurate and timely termination analyses. Also, DOD believes that full implementation of the new contract termination guidance contained in its Material Management Regulation issued in January 1993 will provide the additional emphasis needed on cost-effective termination decisions.

DOD believes that the above actions will bring about the needed improvements and that further actions are not needed. While we agree that the Air Force's recent clarification of its termination policy and DOD's new policy guidance on contract terminations are constructive, they do not deal with the problems addressed by four of our recommendations. DOD's full comments appear in appendix II.

DOD did not agree that the Air Force's use of a 6-month stock buffer in computing on-order termination levels is unnecessary and should be eliminated. DOD stated that the buffer serves to prevent substantial costs associated with constant termination and reordering of items and that its position is supported by a 1980 Air Force study. We do not agree that DOD's position on the 6-month stock buffer is supported by the 1980 Air Force study. We reported in February 1983 that the Air Force study contained shortcomings—such as differences in the Air Force's versus other services' minimum purchase policies—that distorted the results. Also, DOD's position does not respond to our finding that the protection provided by the buffer is unnecessary because it duplicates similar protection already built into the Air Force's requirement computation system and termination model. Accordingly, we maintain our recommendation that the Air Force eliminate its 6-month stock buffer.

DOD disagreed that the Air Force's termination model does not consider interest and obsolescence costs as a part of inventory holding cost, as prescribed by DOD policy. In support of its position, DOD stated that a July 1989 Air Force Audit Agency report found that interest and obsolescence costs should not be included as holding cost. According to the report, interest cost was unnecessarily included because the model already accounted for the time value of money by discounting the holding cost factor. Also, obsolescence cost was included in the procurement cost of the assets subject to termination.

We do not agree with DOD's position. As presently configured, the model's consideration of holding cost is limited to the cost of storage, which is discounted to present value. Since interest is based on investment cost, it is not associated with the discounted value of storage cost. Also, we could find no support for the position that obsolescence cost is a part of the procurement cost. Instead, we found that obsolescence cost is included as a surcharge to the price the Air Force charges its customers. Accordingly, we continue to recommend that the Air Force revise its termination model to fully consider all costs of carrying excess inventories.

DOD did not agree with our recommendation that the Air Force's termination policy be revised to require that all potential contract terminations for excess orders, including those related to aircraft with declining programs, are subjected to economic termination analyses. DOD acknowledged that there may be specific cases in which the Air Force's terminate "regardless of cost" policy is not properly applied. DOD noted that the policy is designed to terminate only those items used on aircraft being phased out for which there are no future demands or procurements. However, we found that the policy defines declining programs as future flying hours that are 85 percent or less of past flying hours, not as programs with no future demands or procurements. All seven of the uneconomical termination cases we found had future projected demands and procurements. Accordingly, we maintain our recommendation that the Air Force's policy of terminating orders on declining programs be revised.

DOD concurred with our recommendation that the availability of deobligated funds from contract terminations should be considered by the Air Force in preparing annual budget requests. However, DOD stated that Air Force budget requests routinely consider availability of deobligations as an offset to budget requests and that no additional action was necessary.

Budget data provided by the Air Force in support of DOD's position show that only unobligated funds remaining at the end of the current fiscal year were used to make end-of-the-year adjustments. The routine end-of-the-year funding adjustments made by the Air Force do not address our recommendation that budget year funding requirements reflect the value of deobligated funds estimated to be available during the budget year, based on historical data. For example, the Oklahoma City Air Logistics Center, which received $95 million in deobligated funds for fiscal years 1992 and 1993, deducted only $6.6 million of unobligated funds from final funding requirements for those fiscal years. Accordingly, we maintain our recommendation that the Air Force consider historical data on the average annual availability of deobligated funds in determining the budget year's funding requirements for consumable and reparable items.

We are sending copies of this report to the Chairmen, House Committees on Government Operations, on Armed Services, and on Appropriations, and Senate Committees on Governmental Affairs, on Armed Services, and on Appropriations; the Secretaries of Defense and the Air Force; and the Director of the Office of Management and Budget. We will also make copies available to others upon request.

This report was prepared under the direction of Brad Hathaway, Associate Director, who may be reached on (202) 512-4841 if you or your staff have any questions. Other major contributors are listed in appendix III.

Sincerely yours,

Frank C. Conahan
Assistant Comptroller General

Scope and Methodology

We performed our work at the Air Force Materiel Command Headquarters, Wright-Patterson Air Force Base, Ohio; the Oklahoma City Air Logistics Center, Tinker Air Force Base, Oklahoma; the San Antonio Air Logistics Center, Kelly Air Force Base, Texas; and the Sacramento Air Logistics Center, McClellan Air Force Base, California. We evaluated Air Force procedures and practices to identify, analyze, and act on potential terminations, as well as the Air Force's computerized economic models that are used to aid the item managers in determining if a contract should be terminated. We also interviewed Air Force Materiel Command and Air Logistics Center officials responsible for carrying out these activities and examined records to determine whether item managers effectively reviewed potential terminations.

We obtained computerized requirements information from the most recent cycle that data were available at the start of our review. For reparable items, our information was as of March 31, 1991; for consumable items it was as of June 30, 1991. We analyzed the information and identified a universe of items that had potential terminations that would be recommended by the systems. We stratified the universe based on the dollar value of the potential terminations and selected a sample of items to review from the strata comprised of the highest dollar values. Information on the number and value of our sample items for the three centers we reviewed is shown in the following tables.

Table I.1: Number and Value of Reparable Sample Items Reviewed

	Oklahoma City	San Antonio	Sacramento
Items in universe	558	835	496
Value of universe	$132,732,000	$178,826,000	$86,158,000
Items in sample	13	23	13
Value in sample	$22,436,488	$37,706,690	$35,831,021
Percentage of universe sampled (Based on dollar value)	17	21	42

Table I.2: Number and Value of Consumable Sample Items Reviewed

	Oklahoma City	San Antonio	Sacramento
Items in universe	259	791	774
Value of universe	$18,413,910	$38,578,720	$22,707,826
Items in sample	13	12	5
Value of sample	$7,641,282	$9,058,868	$2,504,359
Percentage of universe sample (Based on dollar value)	41	23	11

For the sample items, we reviewed the termination analyses performed by the item managers and evaluated the termination decisions using the Department of Defense's criteria for calculating inventory holding costs. We used the same computer programs, reports, records, and statistical reports that the Air Force uses to manage inventories, determine requirements, and make termination decisions. We did not independently verify either the source input data or the specific computer-generated requirements data.

We conducted our work from June 1991 to November 1992 in accordance with generally accepted government audit standards.

Comments From the Department of Defense

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, DC 20301-8000

JUN 2 8 1993

PRODUCTION AND LOGISTICS

(L/MRM)

Mr. Frank C. Conahan
Assistant Comptroller General
National Security and International
Affairs Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "AIR FORCE LOGISTICS: Progress and Problems in Terminating Excessive On-Order Items," dated May 17, 1993 (GAO Code 392689), OSD Case 9109-A. The DoD partially concurs with the report.

The DoD agrees with the GAO conclusion that the Air Force has achieved numerous improvements that have significantly increased the number of contract terminations. The DoD also agrees that greater emphasis needs to be placed on accurate and timely termination analyses. The Air Force is taking action to ensure that such emphasis is achieved.

The DoD also agrees that additional emphasis on cost-effective termination decisions is needed. Toward that end, the DoD issued a new Materiel Management Regulation (DoD 4140.1-R) in January 1993. Full implementation of the new guidance should provide the necessary emphasis on cost-effective termination decisions.

The DoD does not, however, agree with the GAO assertions that deobligated funds are not considered in the budget process (and that funding requirements are, therefore, overstated), that eliminating the so-called "buffer stock" would be cost-effective, or that capital and obsolescence costs are not considered in the Air Force termination model.

The detailed DoD comments on the report findings and recommendations are provided in the enclosure. The DoD appreciates the opportunity to comment on the draft report.

Sincerely,

David J. Berteau
Principal Deputy

Enclosure

GENERAL ACCOUNTING OFFICE DRAFT REPORT - DATED MAY 7, 1993
(GAO CODE 392689) OSD CASE 9109-A

"AIR FORCE LOGISTICS: PROGRESS AND PROBLEMS IN TERMINATING EXCESSIVE ON-ORDER ITEMS"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- FINDING A: Air Force Materiel Command Provides Logistics Support. The GAO observed that the Air Force Materiel Command provides logistics support to ensure that weapon systems are kept at maximum operational capability at the least possible costs. The GAO explained that the Command carries out its responsibilities at five air logistics centers. The GAO noted that the centers use standard computer systems to calculate the requirements for the types and quantities of reparable and consumable items. The GAO also observed that item managers validate the accuracy of the requirements system data used to compute the amount of potential terminations and, if necessary, correct the data files. The GAO pointed out that not all potential terminations can be realized because the economic analyses conducted by item managers often show termination to be too costly.

  In 1979, 1983, and 1987 (OSD Cases 5224, 6140, and 7242, respectively), the GAO reported that the Air Force was terminating less than 6 percent of the value of its potential on-order termination items because of inadequacies in procedures and practices, coupled with a lack of management emphasis and oversight. In 1990, the GAO also reported that the largest rate of growth in DoD aircraft parts inventory was in unrequired stocks. The GAO noted that, as of September 30, 1991, the Air Force had $6.6 billion of unrequired inventory on hand. The GAO explained that evaluating whether orders for unneeded materiel should be terminated is one of the contributing factors for the growth in unrequired inventories. The GAO pointed out that, for FY 1991, the Air Force had $1.4 billion in unneeded materiel on order subject to termination analyses. (pp. 2-4/GAO Draft Report)

Now on pp. 2-3.

Enclosure

DoD RESPONSE: Partially concur. The DoD does not agree that evaluating whether orders for unneeded materiel should be terminated is a contributing factor for the growth in unrequired inventory. As the GAO acknowledges (see in Finding B), the Air Force terminated $676 million (or 47 percent) of the total amount of orders reviewed for termination during FY 1991.

- FINDING B: Air Force Has Made Progress in Terminating Orders. The GAO observed that the Air Force has developed management information systems that enable upper management to compare the performance and measure the progress of the five centers in terminating orders, and has (1) developed guidance on cost factors to be used by item managers in making economic termination decisions and (2) automated termination decision models to assist item managers in making the required detailed termination analyses in a timely manner. The GAO concluded that, as a result of those improvements, the Air Force has significantly increased the number of terminations. The GAO cited the example that, in FY 1991, the Air Force terminated $676 million (or 47 percent) of the $1.4 billion on-order items exceeding termination level, as compared to less than 6 percent reported in its previous reports. (p. 4/GAO Draft Report)

Now on p. 3.

DoD RESPONSE: Concur.

- FINDING C: Air Force Policy on On-order Termination is a Continuing Problem. The GAO noted that its above referenced 1979 and 1983 reports indicated that Air Force policy for establishing on-order termination levels for consumable items specify the use of an additional 6-month level of stock above an items requirement as a buffer in establishing the on-order termination level. The GAO asserted that, as a result, the consumable items requirement computation system is programmed to identify for potential termination action only those items with on-hand and on-order quantities exceeding requirements by more than 6 months. The GAO concluded that current Air Force policy, therefore, allows up to 6 months' worth of item on-order stocks exceeding requirements could go undetected during any given requirement computation cycle. (pp. 5-6/GAO Draft Report)

Now on p. 4.

DoD RESPONSE: Nonconcur. The DoD has not agreed with this GAO argument in response to the prior GAO reports. The DoD continues to disagree. Following the 1979 GAO report, the Air Force performed a study which recommended continuation of the six months buffer stock policy. The purpose of the buffer stock is to prevent constant movement of items into and out of potential termination status, and the substantial costs engendered by repetitive termination and reorder activity. The DoD does agree that additional emphasis is needed on cost-effective termination decisions, and regards full implementation of the guidance in this area contained in the new DoD Materiel Management Regulation (DoD 4140.1-R) as the appropriate method of accomplishing this objective.

- **FINDING D: Buffer Requirement is Unnecessary and Reduces Potential Termination.** The GAO concluded that the protection provided by the 6-month buffer is unnecessary because it duplicates protection already built into the requirements computation system. The GAO found that, in order to alleviate the impact of the 6-month buffer, the Air Force changed its policy and procedures so that orders exceeding item termination levels would be cut back to item requirement levels, rather than to termination levels. The GAO further concluded, however, that while the Air Force action to alleviate the impact of the 6-month stock buffer had merit and resulted in economies, additional significant economies could be realized by eliminating the buffer. The GAO explained that the buffer excludes all affected stocks from consideration, whether analyses would show termination to be economical or not. In summary, the GAO concluded that, had it not been for the buffer, the Air Force could have identified an additional $126 million of potential terminations for the quarterly cycle ending June 30, 1991. (pp. 6-7/GAO Draft Report)

Now on pp. 4-5.

DoD RESPONSE: Nonconcur. As discussed in the DoD response to Finding C above, the DoD does not agree with the GAO analysis of the buffer stock issue. The DoD does agree that additional emphasis is needed on cost-effective termination decisions, and regards full implementation of the guidance in this area in the new DoD Materiel Management Regulation as the appropriate method of accomplishing that objective.

- **FINDING E: Economic Termination Analysis Does Not Consider All Necessary Factors.** The GAO found that, to help determine the relative cost of continuing or terminating contracts, the Air Force developed two separate computerized economic decision models--one for consumable items and one for reparable items. The GAO explained that, by comparing those costs, the models determine whether it is more economical to reduce quantities on-order or to accept their delivery.

The GAO pointed out that the major expense of accepting delivery of excessive materiel is the cost of holding inventory in anticipation of future use--which, by DoD regulation, includes (1) storage cost, (2) losses due to obsolescence, and (3) the interest charge of investment capital tied up in inventory. The GAO concluded, however, that based on its analysis of the factors included in the Air Force economic models, the Air Force omitted the costs of capital (interest) and obsolescence as part of the cost of holding excess inventory.

The GAO explained that the effect of excluding the cost of capital and obsolescence was determined by revising the Air Force reparable model to include those factors. The GAO then analyzed 18 sample items that were not terminated because the model determined it would be uneconomical. The GAO found the revised reparable model computed that it was economical to terminate contracts for 11 items valued at $21.5 million. The GAO pointed out that, for those 11 items, the Air Force could have saved $5.2 million if the contracts had been terminated.

The GAO cited, as an example, that in March 1991, the requirements system at the Oklahoma City Center reported orders for 455 nozzle segments valued at $2,810,963 for potential termination. The GAO explained that the reparable model compared the termination cost of $2,996,926 to the acceptance cost of $2,592,666 and determined it was uneconomical to terminate. The GAO asserted, however, that the acceptance cost did not include $1,040,338 in capital (interest) costs and $520,169 in obsolescence costs. The GAO contended that adding those factors to the analysis increases the acceptance costs to $4,153,173 compared with $2,996,926 to cancel the contract. The GAO concluded that, therefore, it would have been more economical to cancel the contract because the Government could have saved $1,156,247. (pp. 7-8/GAO Draft Report)

Now on pp. 5-6.

<u>**DoD RESPONSE:**</u> Nonconcur. The DoD does not agree that the Air Force omitted important termination factors. A July 1989 report by the Air Force Audit Agency found that interest and obsolescence cost should not be included as holding cost. According to the report, "Interest cost was unnecessarily included because the model already accounted for the time value of money by discounting the holding cost factor. Obsolescence cost was already incorporated in the remaining procurement cost of the assets subject to termination." Therefore, contrary to the GAO position, current Air Force practice does incorporate applicable DoD guidance. As discussed in the DoD responses to Findings C and D, the DoD views full implementation of the guidance on cost-effective termination decisions in the new DoD

Materiel Management Regulation as the appropriate method of improving this process.

- **FINDING F: Contracts Terminated Uneconomically.** The GAO found that, in some cases, the Air Force is also terminating contracts when it is uneconomical to do so because of its policy to terminate quantities on order "regardless of cost" for items used on aircraft programs with declining flying hours or numbers of aircraft. The GAO pointed out that, in those instances, the contracts will automatically be terminated without termination analyses--e.g., 19 of 79 sample on-order items were terminated based on that policy. The GAO contended that had termination analyses been performed, it would have shown that termination of seven items, valued at almost $4 million, was uneconomical. (p. 9/GAO Draft Report)

Now on p. 6.

  DoD RESPONSE: Partially concur. The DoD acknowledges that there may be specific cases in which the Air Force policy is not properly applied. However, the Air Force policy to terminate, regardless of cost when the weapon system that a secondary item is used on is being phased out, is designed for those cases in which there will be no future demand for an item. In such cases, there is no justification for bringing items into the inventory that will never be used.

- **FINDING G: Item Manager Errors and Delays Hinder Cost-effective Termination Decisions.** The GAO concluded the Air Force is not always ensuring that proper termination decisions are being made and contract terminations are timely. The GAO found that, for eight sample items valued at $9.5 million, cost-effective termination decisions were not made because of item managers' errors and delays in making termination decisions.

  The GAO explained that the Air Force policy for potential terminations provides that item managers, (1) can assume that action on potential terminations is uneconomical on repeat termination notices if there is no change in the quantity of the potential on-order termination previously found to be uneconomical, (2) are required to perform an economic termination analysis if there is an increase in the quantity of the potential on-order terminations, and (3) are to use maximum contractor termination penalty charges in making a termination analyses if a contractor does not furnish an estimate of such charges within 30 days after requested. The GAO pointed out that (1) if maximum termination costs show it is economical to terminate, the action is to be taken immediately, or (2) if the costs show that termination is not economical, the item manager must follow up by obtaining the contractor's estimate of termination charges and perform another termination analysis.

The GAO found that cost-effective termination decisions were not made in some instances because item managers incorrectly interpreted termination provisions to mean that (1) they could assume that it was uneconomical to terminate unneeded on-order items on repeat termination notices regardless of quantity increases and (2) no further action was required if the sensitivity test using maximum contractor termination costs showed it was uneconomical to terminate. The GAO cited several examples to support this information. (pp. 9-12/GAO Draft Report)

Now on pp. 7-9.

DoD RESPONSE: Concur.

- FINDING H: Deobligated Funds Not Considered in Budget Process. The GAO explained that, after a decision is made to terminate a contract, the contractor is notified to stop production and determine final settlement charges. The GAO pointed out that although the contractor stops production immediately, the Air Force does not deobligate contract funds needed to cover the settlement charges until final settlement charges are negotiated--which can take 1 to 2 years. The GAO asserted that deobligated funds from terminations of contracts for consumable and reparable aircraft items are available to make other procurements. The GAO further asserted that the availability of deobligated funds from contract terminations should be considered as an offset to current annual budget year funding requirements. The GAO explained the Air Force does consider estimated funds that will become available from other sources, such as revenues from foreign military sales. The GAO concluded that, by not doing so for deobligated funds from contract terminations, the Air Force overestimates its annual funding needs. (p. 12/GAO Draft Report)

Now on p. 9.

DoD RESPONSE: Nonconcur. Deobligated funds are taken into account when Air Logistics Centers System Support Division budgets are submitted to Headquarters, Air Force Materiel Command. Deobligated funds are subtracted from the current year obligation requirement in the budget compilation. The Reparable Support Division budget is adjusted to take into consideration the various Defense Management Report Decisions, including those from the Inventory Reduction Plan (901 and 987). A central element of the Inventory Reduction Plan is contract terminations.

- **FINDING I: Availability of Deobligated Funds for Budget Consideration.** The GAO included a chart on page 13 of the draft report that depicts availability of deobligated funds for consumable and reparable items. The GAO explained that procurements of consumable items have always been funded by stock fund money which has no spending expiration date. The GAO further explained that deobligated funds for consumable items are returned to a stock fund account and are available for new procurement of stock fund items. The GAO reported that, prior to FY 1991, stock funding of reparable items were procured with 3010 procurement appropriation money, which has a 3-year spending limitation. The GAO concluded that, because of the procurement lead time and the time lag between contract termination and deobligation of funds, an undeterminable amount of FY 1991 and 1992 deobligated funds for reparable items may have expired before they could be used to fund new procurements. (pp. 13-14/GAO Draft Report)

Now on pp. 9-10.

DoD RESPONSE: Partially concur. It should be recognized that 3020 and 3080 procurement appropriation money, in addition to 3010 money, was used to buy reparable items prior to the stock funding of those items in FY 1991. All three categories have a three-year spending limitation. Additionally, the unexpired funds will revert to the original appropriation (3010, 3020, or 3080), and are not available to the Defense Business Operating Fund. Therefore, only the consumable portion of the deobligated dollar figure identified by the GAO is available for Air Force use in the Defense Business Operations Fund. Air Force budget requests routinely consider availability of deobligations as an offset to budget requests.

* * * * *

RECOMMENDATIONS

- **RECOMMENDATION 1:** The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to eliminate the 6-month buffer from the consumable item requirement systems and identify all potentially terminable on-order items. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Nonconcur. As discussed in the DoD responses to Findings C and D, the DoD does not agree that eliminating the buffer would be cost-effective. The DoD position is supported by a 1980 Air Force study. The buffer serves to prevent the substantial costs associated with constant termination and reordering of items. As discussed in the DoD responses to Findings C, D, and E, however, the DoD does agree that additional emphasis is needed on cost-effective termination decisions. Toward that end, the DoD issued a new Materiel Management Regulation (DoD 4140.1-R) in January 1993. Full implementation of the new guidance should provide the necessary emphasis on cost-effective termination decisions.

- **RECOMMENDATION 2:** The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to revise the reparable item termination model to consider fully all costs of carrying excess inventories, including capital (Interest) and obsolescence costs, as prescribed by DoD policy. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Nonconcur. As discussed in the DoD response to Finding E, the DoD does not agree that capital and obsolescence costs are not considered in the Air Force model. The DoD position is supported by an Air Force Audit Agency report that found the Air Force model already accounted for: (1) the time value of money by discounting the holding cost factor, and (2) obsolescence cost through incorporation in the remaining procurement cost of the assets subject to termination. As discussed in the DoD responses to Findings C, D, and E, and to Recommendation 1, the DoD does agree that additional emphasis is needed on cost-effective termination decisions, and regards full implementation of the guidance in this area contained in the new DoD Materiel Management Regulation as the appropriate method to accomplish that objective.

- **RECOMMENDATION 3:** The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to revise policy to require that all potential terminations are subjected to economic termination analyses, including those related to aircraft with declining programs. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Nonconcur. As discussed in the DoD response to Finding F, the DoD does not agree that the Air Force policy of terminating orders, regardless of cost when future demand is not anticipated, is inappropriate. The Air Force policy describes the specific criteria to use in terminating, without regard to cost. One such criterion is that no future procurements are predicted in the computation. Furthermore, the policy allows for exceptions to be made when termination action would not be in the best interest of the Government.

- RECOMMENDATION 4: The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to ensure that potential on-order termination analyses are accurately performed and termination decisions are promptly made after receipt of contractor termination penalty costs. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Concur. On April 6, 1993, the Air Force provided additional clarification on termination policy to the Air Logistics Centers. That guidance will help ensure that termination analyses and decisions are appropriately performed.

- RECOMMENDATION 5: The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to ensure that accurate and complete information is used in the economic termination analyses. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Concur. The need for accurate and timely analyses will be reiterated to the Air Logistics Centers by July 31, 1993.

- RECOMMENDATION 6: The GAO recommended that the Secretary of the Air Force require the Commander, Air Force Materiel Command, to consider the availability of deobligated funds resulting from contract terminations in preparing annual budget requests. (p. 14/GAO Draft Report)

Now on p. 10.

DoD RESPONSE: Concur. However, as explained in the DoD response to Finding H, the Air Force has always considered the availability of deobligated funds resulting from contract terminations in preparing annual budget requirements. Deobligated funds are subtracted from the current year obligation requirement in the budget compilation. The budget is adjusted to take into consideration the various Defense Management Report decisions, including those from the Inventory Reduction Plan (901 and 987). Therefore, no additional DoD action is necessary.

Major Contributors to This Report

National Security and International Affairs Division, Washington, D.C.

Uldis Adamsons, Assistant Director
Thomas H. Wells, Assignment Manager
Melvin Wagman, Evaluator
Daniel M. Fleming, Evaluator

Kansas City Regional Office

Roger L. Tomlinson, Regional Management Representative
Julie M. Cline, Evaluator-in-Charge
Debra L. Wilken, Site Senior
Robert W. Jones, Evaluator
Jerry D. Hall, Systems Analyst

Dallas Regional Office

Charnel F. Harlow, Regional Management Representative
Enemencio S. Sanchez, Site Senior
Hugh F. Reynolds, Evaluator

Ordering Information

The first copy of each GAO report and testimony is free. Additional copies are $2 each. Orders should be sent to the following address, accompanied by a check or money order made out to the Superintendent of Documents, when necessary. Orders for 100 or more copies to be mailed to a single address are discounted 25 percent.

Orders by mail:

U.S. General Accounting Office
P.O. Box 6015
Gaithersburg, MD 20884-6015

or visit:

Room 1000
700 4th St. NW (corner of 4th and G Sts. NW)
U.S. General Accounting Office
Washington, DC

Orders may also be placed by calling (202) 512-6000 or by using fax number (301) 258-4066.

United States
General Accounting Office
Washington, D.C. 20548

Official Business
Penalty for Private Use $300

First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100