

GAO

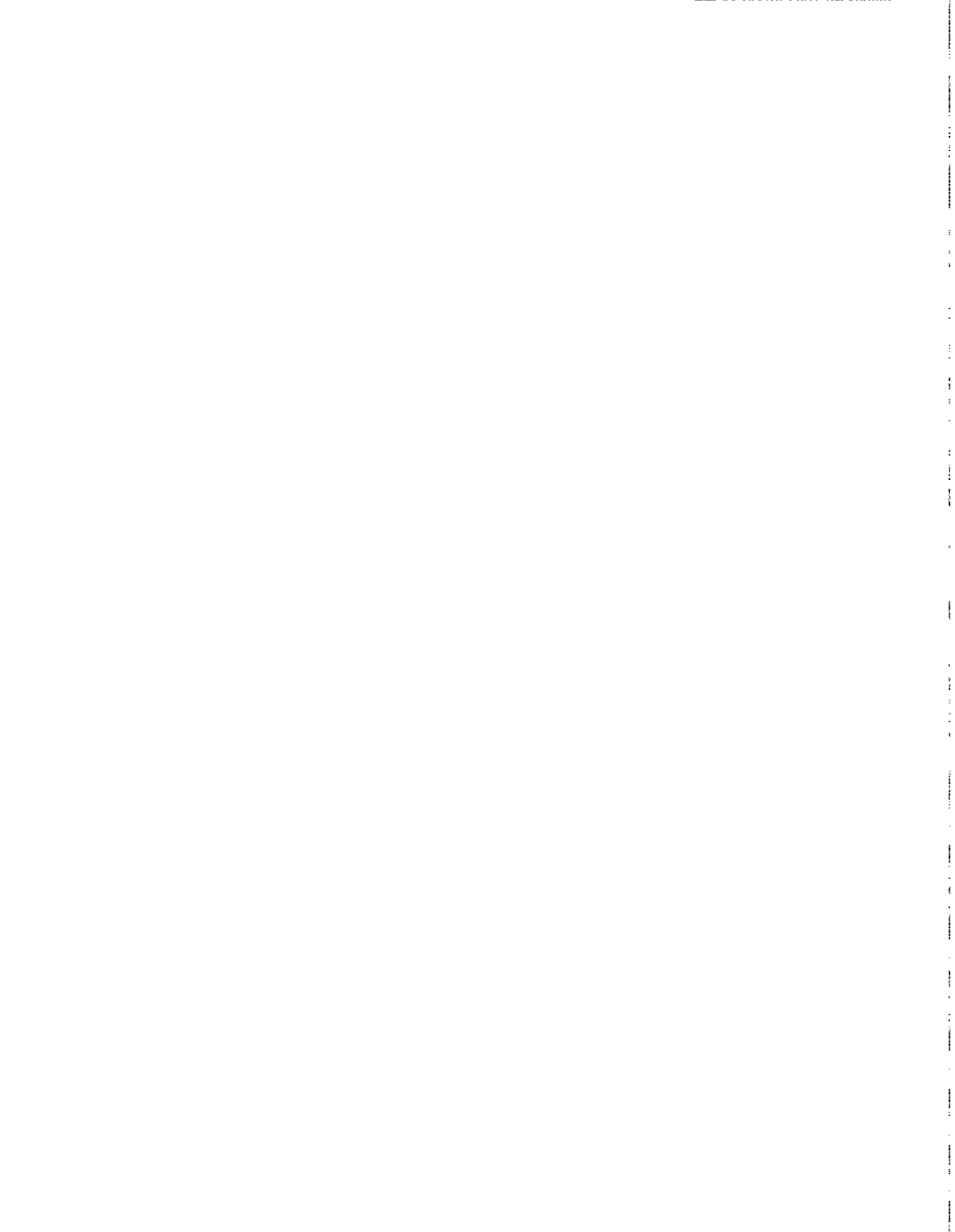
Report to the Chairman, Subcommittee
on Readiness, Committee on Armed
Services, House of Representatives

April 1994

AIR FORCE LOGISTICS

Improved Backorder Validation Procedures Will Save Millions







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

National Security and
International Affairs Division

B-256234

April 20, 1994

The Honorable Earl Hutto
Chairman, Subcommittee on Readiness
Committee on Armed Services
House of Representatives

Dear Mr. Chairman:

In June 1989,¹ we reported that the Air Force had millions of dollars of invalid orders for spare parts and other supplies that were not being detected and canceled by periodic validation and reconciliation checks. We recommended a number of improvements. The objective of this review was to determine whether the recommended improvements had been made and whether additional improvement opportunities existed. The specifics of our scope and methodology appear in appendix I.

Background

Air Force operating units requisition needed parts and equipment from retail supply activities that fill the requisitions immediately if sufficient inventories are on hand. If the ordered material is not available, a retail supply activity forwards the requisition to the appropriate wholesale supply source—one of the five Air Force air logistic centers. The wholesale supply source fills the requisition if inventory is available or holds it in an unfilled (backorder) status pending receipt of additional parts or equipment through procurement or repair.

Air Force regulations require retail supply activities to validate backorders with actual users on a monthly or more frequent basis in order to detect and cancel unfilled orders for material no longer needed because of changes in requirements. Department of Defense (DOD) policy and Air Force implementing procedures also require a quarterly computerized reconciliation of backorders shown on the records of retail supply activities and wholesale supply sources. The quarterly reconciliation is intended to correct differences between retail and wholesale records caused by human errors or computer problems.

Backorders are considered as requirements in computing stock levels, making procurement or repair decisions, and developing budget requests. Failure to promptly detect and cancel invalid material orders and to

¹Military Logistics: Air Force's Management of Backordered Aircraft Items Needs Improvement (GAO/NSIAD-89-82, June 2, 1989).

correct differences between wholesale and retail backorder records can result in unneeded procurements or repairs and excess inventories. As of September 1993, the Air Force had 262,000 unfilled material orders valued at \$4 billion that were eligible for periodic validation and reconciliation checks.

In our June 1989 report, we recommended that the Air Force (1) develop detailed guidance for the use of retail supply activities in validating backorders and (2) resume a program for automatically canceling backorders when retail supply activities do not respond to quarterly backorder reconciliation requests from wholesale supply sources. DOD agreed with our recommendations and said that detailed guidance would be developed and that the automatic cancellation of backorders due to nonresponses would be resumed as soon as retail level computer transmission problems were corrected. However, our current review showed that the Air Force took some corrective actions but did not fully implement these recommendations.

Results in Brief

The Air Force continues to have significant amounts of invalid backorders in the wholesale and retail supply systems because they are not detected and canceled when they are no longer needed. In a cooperative effort, we and the Air Force identified invalid backorders valued at over \$209 million at 17 retail supply activities that the Air Force subsequently canceled.

Also, since 1987, the Air Force has suspended a program for the automatic cancellation of backorders when retail supply activities do not respond to quarterly requests to reconcile wholesale and retail backorder records. The suspension has resulted in lost opportunities to cancel millions of dollars of invalid backorders quarterly.

The failure to identify and cancel invalid backorders was due to (1) a lack of detailed validation guidance, (2) the insufficient management oversight and resolution of problems indicated by quarterly backorder reconciliation reports, and (3) the prolonged suspension of the automatic cancellation program.

Significant Amounts of Invalid Backorders Exist

At 17 retail supply activities we and the Air Force reviewed a sample of 1,823 backorders for aircraft parts and equipment items valued at about \$406 million. This cooperative effort resulted in the identification and cancellation of \$209.3 million of invalid orders that had not been detected

by prior validation and reconciliation checks (see table 1). Of this amount, \$138.6 million in invalid backorders were recorded only on wholesale supply records and should have been detected during prior quarterly reconciliation checks. The remaining \$70.7 million of invalid backorders were on both wholesale and retail records but were no longer needed and should have been detected during prior monthly validation checks.

Table 1: Value of Invalid Backorders Canceled by Location

Location	Invalid orders not detected during		Total canceled
	Quarterly reconciliation	Monthly validation	
San Antonio Air Logistics Center ^a	\$72,980,616	\$39,529,482	\$112,510,098
Oklahoma City Air Logistics Center ^a	26,521,546	14,530,348	41,051,894
Warner Robins Air Logistics Center ^a	432,318	805,320	1,237,638
Tinker Air Force Base	1,131,870	356,909	1,488,779
Eglin Air Force Base	3,555,577	999,311	4,554,888
Travis Air Force Base	4,810,519	1,573,409	6,383,928
McGuire Air Force Base	355,558	360,623	716,181
Dover Air Force Base	1,600,981	1,848,267	3,449,248
Dyess Air Force Base	406,208	669,763	1,075,971
Langley Air Force Base	3,046,765	3,096,765	6,143,530
Nellis Air Force Base	1,197,925	363,571	1,561,496
Cannon Air Force Base	921,725	905,746	1,827,471
Luke Air Force Base	2,855,675	1,791,586	4,647,261
Elmendorf Air Force Base	1,153,705	421,927	1,575,632
Kadena Air Base	17,181,416	1,595,577	18,776,993
Lakenheath Royal Air Force Station	309,839	1,812,550	2,122,389
Hurlburt Field	127,868	20,000	147,868
Total	\$138,590,111	\$70,681,154	\$209,271,265

^aThe air logistics centers provide both wholesale supply support and aircraft depot level maintenance. The invalid backorders were identified at retail supply activities that support the maintenance function. These backorders accounted for 74 percent of the total cancellations.

The invalid backorders included orders for parts to repair aircraft no longer in need of repair, duplicate orders, orders for the wrong item, orders in excess of authorization levels, and orders already filled or canceled at the retail level that incorrectly remained open on wholesale records.

Detailed Procedures for Validating Backorders Are Lacking

Significant amounts of invalid backorders continue to go undetected during monthly validation checks because the Air Force has not provided retail supply activities and their customers with detailed guidance for validating backorders. DOD regulations state that a perfunctory review, or a routine response that all unfilled orders are still required, is a waste of time and effort.

Documents transmitting the monthly listings of backorders to be validated contained some general guidance, but this guidance was ineffective in detecting the invalid backorders identified during our review. Because detailed validation procedures did not exist and our preliminary work identified invalid backorders that were not detected by prior monthly validation checks, we developed a pro forma validation document with detailed step-by-step procedures (see app. II). Retail supply activities used this document to validate a sample of backorders we selected from wholesale supply records.

Retail supply personnel who used our detailed step-by-step validation document commented that it was easy to understand and improved their effectiveness in validating backorders. The following examples illustrate the invalid backorders identified and canceled using the detailed validation procedures.

In September 1992, a logistics support squadron at Eglin Air Force Base placed an order with the Oklahoma City Air Logistics Center for a rudder actuator (NSN 1650-01-065-7768) to replace a defective unit on an F-15 aircraft. The backorder became invalid in December 1992 when a replacement unit was obtained from another source and the F-15 aircraft was deployed to Saudi Arabia. The invalid backorder, valued at \$35,757, was not detected by a number of subsequent monthly validation checks. The backorder was not identified and canceled until September 1993 on the basis of our detailed validation guidance.

As of June 1993, the San Antonio Air Logistics Center had four backorders for six radar test sets (NSN 6625-00-548-7515DP) for F-111 aircraft. The backorders were over a year old and had been requested by an electronics countermeasure squadron at Cannon Air Force Base. Monthly validation checks at Cannon had indicated a continuing need for the backordered radar test sets. In July 1993, Cannon used our detailed validation guidance and determined that it no longer had a need for the backordered radar test sets, valued at \$346,842, and canceled the orders. The need no longer

existed because a change in requirements had occurred several months earlier.

As of March 1993, the San Antonio Air Logistics Center had 18 backorders, ranging in age up to 9 months, for 2,006 power turbine supports (NSN 2840-01-347-0851PT). The backordered items were requisitioned by the local depot maintenance activity to repair F-100 engines used on F-15 and F-16 aircraft. In June 1993, the depot's engine production shop, assisted by our validation guidance, found that the backordered quantity was excessive based on historical usage and canceled the orders for 1,105 units valued at \$3,523,491. If the same validation logic had been applied during prior monthly validation checks, the invalid backordered quantity would have been detected and canceled months earlier.

Quarterly Reconciliation Problems Receive Insufficient Management Attention

Significant differences between retail and wholesale backorder records were not being corrected by quarterly reconciliations. Of the \$209 million of invalid backorders identified by our review, \$138.6 million was recorded only in the wholesale supply system. The quarterly reconciliation is intended to correct differences between retail and wholesale records caused by computer system problems and human errors. Failure to correct these differences can result in unnecessary purchases or repairs, duplicate shipments, and inventory excesses. Examples of the differences follow.

In January 1992, the Oklahoma City Air Logistics Center received a requisition from a depot retail customer for six access doors (NSN 1560-01-227-4916EK) for B-1B aircraft. The quantity requisitioned was incorrectly recorded in the wholesale supply system as 9,999 rather than the 6 actually needed. From February 1992 through January 1993, 60 doors were shipped to the retail customer, and the remaining quantity of 9,939 doors was shown as a backorder on the wholesale record. The 9,939-quantity difference between wholesale and retail records was not corrected by quarterly reconciliations that ended in June, September, and December 1992. After we brought this matter to the Oklahoma City wholesale manager's attention in January 1993, the invalid backorder quantity of 9,939 doors, valued at \$23,187,687, was canceled.

The wholesale supply records of the San Antonio Air Logistics Center included four backorders over 1.5 years old for 484 digital microcircuits (NSN 5962-01-199-1608AX) used on the C-5A aircraft's electronic navigational equipment. At the time of our review, these backorders were no longer shown on the depot retail records because the customer had

canceled the backorders locally several months earlier. However, the retail supply activity did not report the cancellation to the wholesale manager. This difference in backorder records was not corrected by a series of prior quarterly reconciliations. After we brought this matter to the attention of the San Antonio wholesale manager in July 1993, the invalid backorders, valued at \$341,220, were canceled.

At the time of our review, Air Force headquarters and Air Force Materiel Command officials responsible for monitoring the quarterly reconciliation program were not aware that the program was not working as intended because they provided insufficient oversight over the resolution of problems indicated by the reported results of the quarterly reconciliations. If properly monitored, the reported results serve as a valuable tool for alerting management to wholesale or retail logistics system problems. These reports provide Air Force headquarters and Materiel Command management with an overview of the degree of compatibility between wholesale and retail supply backorder records.

For example, the quarterly backorder reconciliation reports show that prior to the quarterly cycle that ended September 30, 1991, the air logistics centers were experiencing a backorder cancellation rate of about 12.5 percent to correct differences between wholesale and retail records. For the next 7 quarterly cycles that ended June 30, 1993, the cancellation rate dropped to about 1 percent, or a cancellation decrease averaging \$450 million quarterly. Air Force management officials noted the significant drop in the cancellation rate when it first occurred in the quarter that ended September 30, 1991. At that time, they speculated that the decrease in quarterly backorder cancellations was due to a computer program problem but did not follow up and resolve this matter.

Quarterly, air logistics centers electronically transmit backorders that are reflected on their wholesale records directly to the appropriate retail supply activity computer system that searches its due-in backorder records for a matching backorder. If found, a reconciliation response is sent to the appropriate air logistics center. If not found, a cancellation response is sent. The fact that our review identified a substantial number of backorders that were only on wholesale records and were not canceled during a series of quarterly reconciliations is indicative of a serious problem with the cancellation response logic in the retail computer system. We brought this matter to the attention of Air Force Materiel Command officials, and they agreed to investigate the problem further and to take corrective action if warranted.

The backorder reconciliation report for the quarter that ended September 30, 1993, showed backorder cancellations of \$172 million. This is a significant increase when compared to 2 quarterly cycles completed earlier in our review, wherein cancellations averaged about \$2.5 million. Air Force Materiel Command officials could not account for the significant increase in backorder reconciliation cancellations and speculated that the increase might have resulted from wholesale item managers who manually canceled backorder reconciliation mismatches brought to their attention as a result of our review.

Automatic Cancellation Provision Has Been Suspended Since 1987

The Air Force's prolonged suspension of the automatic cancellation provision of the quarterly backorder reconciliation program has resulted in lost opportunities to cancel millions of dollars of invalid backorders quarterly. Also, the suspension has eliminated an important incentive to ensure that retail supply activities respond to quarterly reconciliation requests from wholesale supply sources. Since suspension of the automatic cancellation provision, nonresponses to quarterly reconciliation requests have increased from about 8 percent to 26 percent.

DOD policy and Air Force implementing procedures require air logistics centers to automatically cancel backorders when retail supply activities do not respond to quarterly backorder reconciliation requests. The automatic cancellation provision is intended to be an incentive to ensure maximum retail level responses to quarterly backorder reconciliation requests from wholesale supply sources. In April 1987, the Air Force indefinitely suspended the automatic cancellation provision due to retail level computer transmission problems.

In response to our 1989 report findings and recommendations, the Air Force agreed to reinstate the automatic cancellation provision as soon as planned improvements were made to correct computer transmission problems. These improvements were completed in September 1991. However, resumption of automatic backorder cancellations has been further delayed pending implementation of a DOD directed computer program change to allow retail customers to automatically reinstate backorders that are canceled due to nonresponses but are really valid.

The reinstatement of backorders would be appropriate when the retail computer system responds to the quarterly backorder reconciliation request, but the response is lost in transmission. Under the planned change, the retail computer system would scan the retail records for a

matching backorder upon receipt of an automatic backorder cancellation notice. If a matching backorder is located, a reinstatement notice would automatically be sent to the wholesale computer system. The backorder reinstatement change was originally scheduled for implementation by May 1993, but it is now planned for implementation in January 1996 as part of a standard DOD material management system.

Shortly after suspending the automatic cancellation provision of the quarterly backorder reconciliation program, the Air Force also suspended a related but independent provision of the program that provided for monitoring and reporting retail level nonresponses to quarterly reconciliation requests. This provision provided Air Force headquarters and Materiel Command officials with important feedback on the extent that retail supply activities were complying with the requirement for the quarterly reconciliation of wholesale and retail backorder records. Because the monitoring and reporting provision was no longer in effect, Air Force officials did not know what impact the prolonged suspension of the automatic cancellation provision was having on retail supply activities' compliance with the quarterly backorder reconciliation requirement.

To determine the impact of the prolonged suspension of the automatic backorder cancellation provision on retail level responses to quarterly reconciliation requests, we asked Air Force Materiel Command officials to monitor and provide us with nonresponse statistics for the quarterly reconciliation cycle that ended December 31, 1992. The data accumulated showed retail level nonresponses for 95,868 backorders, or 26 percent of the backorders for which reconciliation was requested. In comparison, the quarterly nonresponse rate prior to suspension of the automatic cancellation provision in 1987 was about 8 percent. If the independent provision for monitoring retail level nonresponses had been in effect, Air Force management would have been alerted to the substantial increase in nonresponses and the need for corrective action.

To further demonstrate the loss of benefits resulting from the prolonged suspension of the automatic backorder cancellation provision, we applied the 26-percent nonresponse rate to the reported backorder reconciliation results for the quarter that ended September 30, 1993. During that quarter, reconciliation was requested for 261,865 backorders valued at \$4 billion, and 4,245 backorders valued at \$172 million were canceled. Applying the 26-percent nonresponse rate to this universe would result in 68,085 backorder nonresponses valued at about \$1 billion. If we assume the cancellation rate of 4.3 percent for responses (\$172 million out of

\$4 billion) would be the same for nonresponses, increased backorder reconciliation cancellations of \$45 million would have resulted.

In contrast to the Air Force, the Army, the Navy, and the Defense Logistics Agency are complying with the DOD policy of automatically canceling backorders when retail customers do not respond to quarterly backorder reconciliation requests. In the past 1.5 years, the other services and the Defense Logistics Agency canceled backorders valued at over \$200 million due to nonresponses.

Recommendations

We recommend that the Secretary of the Air Force take the following actions to improve the backorder validation and reconciliation program.

- Establish and provide retail supply activities with additional detailed step-by-step procedures for validating backorders.
- Provide improved management oversight and increased emphasis to resolving problems revealed by quarterly backorder reconciliation reports. For example, determine the reasons for substantial fluctuations in cancellation rates.
- Reinstate those provisions of the quarterly backorder reconciliation program that provide for (1) automatic cancellation of backorders when retail supply activities do not respond to wholesale level reconciliation requests and (2) monitoring and reporting retail level nonresponses to quarterly reconciliation requests.

Agency Comments and Our Evaluation

DOD generally agreed with our findings and recommendations and stated that actions are underway or planned that will ensure that backorders are properly validated and that the validation process receives improved management oversight (see app. III). Actions taken include notifying all Air Force supply activities regarding the importance of backorder validation and outlining extensive steps to be taken during the next backorder validation cycle. These steps include additional instructions for validating backorders. Also, an Air Force Materiel Command Mission Support Work Group has been formed and will be responsible for continuing monitoring and oversight of the backorder validation program.

Planned actions include documenting and analyzing the results of the next quarterly backorder validation cycle, beginning in April 1994, so that a meeting can be held in July 1994 to review the results and make policy decisions for future quarterly cycles. Also, in January 1996, as part of a

new standard DOD materiel management system, the Air Force will resume (1) automatically canceling backorders when retail supply activities do not respond during quarterly backorder validation cycles and (2) monitoring and reporting on automatic cancellations due to nonresponses.

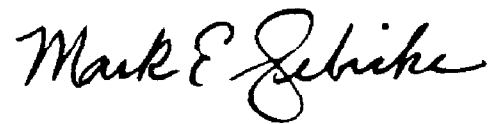
Although generally agreeing with our findings, DOD stated that the \$209.3 million of invalid backorders identified by our review did not equate to an equivalent dollar value of invalid requirements. According to DOD, the majority of backorders for repairable items are to replenish retail stock levels and do not impose a requirement on the wholesale supply system when computing stock levels, making procurement or repair decisions, and developing budget requests.

We analyzed the priority of need designators assigned to the \$209.3 million of invalid backorders and found that only \$18.8 million was to replenish retail stocks of repairable items. Moreover, we also found that all backorders impact requirements either directly or indirectly. In this respect, all backorders at wholesale supply sources are filled when stocks become available through procurement, repair, or redistribution. When wholesale stocks are used to fill invalid backorders, they are not available to satisfy valid requirements for needed items. Thus, in our opinion, all invalid backorders adversely affect wholesale stock levels; procurement, repair, or redistribution decisions; and budget requests.

We are sending copies of this report to the Chairmen and Ranking Minority Members, Senate and House Committees on Appropriations and on Armed Services, Senate Committee on Governmental Affairs, and House Committee on Government Operations; the Director, Office of Management and Budget; and the Secretaries of Defense and the Air Force.

Please contact me at (202) 512-5140 if you have any questions. The major contributors to this report are listed in appendix IV.

Sincerely yours,

A handwritten signature in black ink that reads "Mark E. Gebicke". The signature is written in a cursive style with a large, looped initial "M".

Mark E. Gebicke
Director, Military Operations
and Capabilities Issues

Scope and Methodology

We reviewed Department of Defense (DOD) policy and Air Force implementing procedures for validating and reconciling unfilled materiel orders (backorders). We obtained and analyzed quarterly reports attesting to the effectiveness of materiel order validations and reconciliations. We interviewed Air Force headquarters and Materiel Command officials who were responsible for monitoring the effectiveness of the validation and reconciliation process.

We obtained computer tapes from the five air logistics centers that identified unfilled materiel orders for all depots and bases as of December 1992. The data from the tapes showed that the Air Force's wholesale supply system had 418,000 backorders valued at \$7.4 billion that were eligible for periodic validations and reconciliations. From the computer tapes, we selected a presample and a final sample totaling 256 line items. These items contained 1,823 unfilled orders valued at \$406 million from 14 bases and 3 depots that were on backorder at the Oklahoma City and San Antonio Air Logistics Centers.

Our sample selection of backorders included a mixture of high priority and routine stock replenishment orders for repairable, consumable, and equipment items. For our presample of backordered items, we obtained an update of unfilled orders as of March 1993. For our final sample, we obtained an update of unfilled orders as of June 1993. Because our presample testing showed that invalid backorders were not being detected during periodic checks due to a lack of detailed guidance, we developed a pro forma validation document with detailed step-by-step procedures. These procedures were designed to provide retail supply activities and their customers with a uniform systematic approach for detecting invalid backorders. Pursuant to a joint GAO/Air Force request letter, these procedures were sent to the following selected bases and depots for use in validating our sample of backorders. We also visited six of these locations to assess their performance in validating backorders.

- Oklahoma City Air Logistics Center, Oklahoma.
- San Antonio Air Logistics Center, Texas.
- Warner Robins Air Logistics Center, Georgia.
- Eglin Air Force Base, Florida.
- Dyess Air Force Base, Texas.
- Nellis Air Force Base, Nevada.
- Hurlburt Field, Florida.
- Tinker Air Force Base, Oklahoma.
- Travis Air Force Base, California.

Appendix I
Scope and Methodology

- McGuire Air Force Base, New Jersey.
- Dover Air Force Base, Delaware.
- Langley Air Force Base, Virginia.
- Cannon Air Force Base, New Mexico.
- Luke Air Force Base, Arizona.
- Elmendorf Air Force Base, Alaska.
- Kadena Air Base, Japan.
- Lakenheath Royal Air Force Station, United Kingdom.

We performed our review between October 1992 and November 1993 in accordance with generally accepted government auditing standards.

Customer Requirement Validation Procedures

The following detailed step-by-step procedures were developed by us for use by base and depot retail activities in validating a sample of backorders.

1. For those due-in requisitions (backorders) needed to fill a customer's requirement, there should be a corresponding due-out transaction. Using the due-out detail record/inquiry, list your due-out requisition numbers and quantities.

Requisition number	Quantity	Requisition number	Quantity

2. Validate all due-out requisition numbers with the appropriate customer by following the procedures listed below for the applicable classification. Each order should be classified as (1) equipment item, (2) repairable item, or (3) consumable item.

Equipment

- a. Identify and visit the equipment custodian.
- b. Obtain the most current copy of the Custodian Authorization/Receipt Product form (R14) for the national stock number (NSN). The R14 form will identify the (1) authorization level, (2) in-use quantity, and (3) on-order quantity.
- c. Obtain the organization's Table of Allowance (TA) for the NSN and all of the TA cover sheets. The cover sheets will explain each "Basis of Issue" column in the TA and define the mathematical calculations required to compute the correct NSN authorization level for each organization. (Note: Some organizations are authorized one-half of the quantity listed in some categories.)
- d. Compute the authorization level using the TA and compare it to the level shown on the R14 form. If authorization levels are different, research and document which is correct and why.

e. If the on-order quantity plus the in-use quantity exceeds the authorization level, the on-order quantity may be invalid and subject to cancellation. Provide documentation showing any action taken.

f. If on-order plus in-use quantities do not exceed the authorization level, determine whether the quantity on order, not exceeding the authorized level, is still needed.

1. Ask the customer for documentation (open job work order, requisition, etc.) that supports the original need for the order.

2. Verify whether the need for the quantity on order still exists. For example, other equipment may be substituted or better procedures may have been developed to eliminate the need for the equipment.

3. If the quantity on order is no longer needed, the order may be processed for cancellation. Provide documentation showing any action taken.

Repairable/Consumable

a. Identify and visit the customer.

b. Establish the application of the ordered item. Is the item (1) an end item, (2) used to repair the next higher assembly of an end item, (3) used in a war readiness spares kit (WRSK), or (4) a modification kit? If the ordered item is an end item or used to repair a next higher assembly, which does not have an authorization level, then proceed to steps d1 to d3. If the ordered item has an authorization level, then proceed to step c.

c. If the ordered item is a WRSK or modification kit, determine the quantity currently authorized and validate the order as follows:

1. If the item is used in a WRSK, obtain the WRSK Requisition Schedule for the NSN. This will show the authorization level for the WRSK.

2. If the item is a modification kit, obtain a current copy of the Modification Technical Order (TO) and a current copy of the Notification of Time Change Technical Order (NCTO) kit requirements. This will show the authorization level for the modification kit.

**Appendix II
Customer Requirement Validation
Procedures**

3. If the quantity on hand plus the quantity on order exceeds the authorization level, the quantity may be invalid and subject to cancellation. Provide documentation showing any action taken. Go to step d.

d. Determine whether the quantity on order, not exceeding the authorized level or not having an authorized level, is still needed.

1. Ask the customer for documentation (open job work order, requisition, etc.) that supports the original need for the order.

2. Verify whether the need for the quantity on order still exists. (For example, if the order was for a part to a specific aircraft, that aircraft may still be grounded awaiting the item on order. If the broken part in the aircraft has been repaired or the aircraft is no longer grounded, the quantity on order may no longer be needed.)

3. If the quantity on order is no longer needed, the order may be processed for cancellation. Provide documentation showing any action taken.

Comments From the Department of Defense



ACQUISITION AND
TECHNOLOGY

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON DC 20301-3000



(L/MRM)

5 APR 1994

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: Improved Backorder Validation Procedures Will Save Millions," dated February 1, 1994 (GAO Code 392745, OSD Case 9609). The DoD generally concurs with the report.

Although the Department generally agrees with the report findings and recommendations, the DoD does not agree that all Air Force backorders are considered requirements. Some Air Force backorders are considered as requirements when computing stock levels, making procurement or repair decisions, and developing budget requests. However, the draft report implies that \$209.3 million in invalid backorders equates to \$209.3 million in invalid requirements. That is incorrect.

As explained to the GAO audit staff, Air Force *reparable stock replenishment backorders* do not compute a requirement, nor do they have any impact on stock levels, procurement or repair decisions, or budget requests. Because other invalid backorders may drive an erroneous procurement or repair decision, the Department would benefit from information regarding the requirements impact of some invalid backorders. However, neither the Department nor the auditors were able to stratify the invalid backorders in order to define the financial impact.

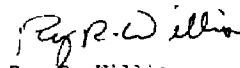
The Department concurs with the GAO draft report recommendations. Actions are currently underway or planned that will ensure backorders are properly validated, and that the process receives improved management oversight.



Appendix III
Comments From the Department of Defense

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

Sincerely,



Roy R. Willis
Principal Assistant Deputy Under
Secretary of Defense (Logistics)

Enclosure

Appendix III
Comments From the Department of Defense

GAO DRAFT REPORT - DATED FEBRUARY 1, 1994
(GAO CODE 392745) OSD CASE 9609

"AIR FORCE LOGISTICS: IMPROVED BACKORDER VALIDATION
PROCEDURES WILL SAVE MILLIONS"

DEPARTMENT OF DEFENSE COMMENTS

* * * * *

FINDINGS

- o **FINDING A: Backorder Validation Procedures.** The GAO reported Air Force operating units requisition needed parts and equipment from retail supply activities that fill the requisitions immediately if sufficient inventories are on hand. The GAO explained that, if the ordered material is not available, a retail supply activity forwards the requisition to the appropriate wholesale supply source located at one of the five Air Force logistic centers. The GAO noted that the wholesale supply source fills the requisition if inventory is available or holds it in an unfilled (backorder) status, pending receipt of additional parts or equipment through procurement or repair.

The GAO further reported that the Air Force regulations require retail supply activities to validate backorders with actual users on a monthly or more frequent basis in order to detect and cancel unfilled orders for material no longer needed because of changes in requirements. The GAO noted that DoD policy and Air Force implementing procedures also require a quarterly computerized reconciliation of backorders shown on the records of retail supply activities and wholesale supply sources. The GAO indicated that the quarterly reconciliation was intended to correct differences between retail and wholesale records caused by human errors or computer problems. The GAO pointed out that backorders are considered as requirements in computing stock levels, making procurement or repair decisions, and developing budget requests.

The GAO referenced a June 1989 report (OSD Case 7796), in which it recommended that the Air Force (1) develop detailed guidance for retail supply activities in validating backorders and (2) resume a program for automatically canceling backorders when retail supply activities do not respond to quarterly backorder reconciliation requests from wholesale supply sources. The GAO concluded its current review showed that the Air Force took some corrective actions, but did not fully implement the prior recommendations. (pp. 1-3/GAO Draft Report)

Enclosure
Page 1 of 8

Now on pp. 1-2.

Appendix III
Comments From the Department of Defense

DOD RESPONSE: Partially concur. The GAO states that backorders are considered requirements in computing stock levels, making procurement or repair decisions, and developing budget requests. That is not true for all backorders. For a consumable backorder, and for a Due Out To Maintenance recoverable backorder, the backorder is an additive requirement when computing stock levels, making procurement or repair decisions, and developing budget requests. However, for a backorder resulting from a recoverable stock replenishment, the backorder does not impose a requirement when computing stock levels, making procurement or repair decisions, and developing budget requests. Due Out To Maintenance backorders occur when an end user requisitions a replacement for an unserviceable recoverable and there are no assets available at the retail level. In that situation, the installed asset must be removed from the aircraft and returned to the wholesale system while awaiting a replacement. Backorders generated as a result of that process are defined as Due Out To Maintenance.

- o **FINDING B: Significant Amounts of Invalid Backorders Exist.** The GAO reported that, at 17 retail supply activities, the GAO and the Air Force reviewed a sample of 1,676 backorders for aircraft parts and equipment items valued at about \$403 million. The GAO noted the cooperative effort resulted in the identification and cancellation of \$209.3 million of invalid orders that had not been detected by prior validation and reconciliation checks. The GAO further noted that, of that amount, invalid backorders valued at \$138.6 million were recorded only on wholesale records and should have been detected during prior quarterly reconciliation checks. The GAO also noted that the remaining \$70.7 million of invalid backorders were on both wholesale and retail records, but were no longer needed and should have been detected during prior monthly validation checks. The GAO pointed out that the invalid backorders included (1) orders for parts to repair aircraft no longer in need of repair, (2) duplicate orders, (3) orders for the wrong item, (4) orders in excess of authorization levels, and (5) orders already filled or canceled at the retail level, but incorrectly remaining open on wholesale records. (pp. 4-6/GAO Draft Report)

DOD RESPONSE: Partially concur. The GAO states that \$209.3 million in invalid backorders equates to an equivalent dollar value of invalid requirements. In fact, as explained in the DoD response to Finding A, only consumable and Due Out To Maintenance recoverable backorders compute as a requirement in the Air Force wholesale computations. The GAO did not provide the Department with adequate information to ascertain what portion of the \$209.3 million is an invalid requirement, and

Enclosure
Page 2 of 8

Now on pp. 2-3.

Appendix III
Comments From the Department of Defense

what portion is a "file only" backorder. Since most end user recoverable requirements are filled at the retail level, it is reasonable to assume that the vast majority of recoverable backorders are stock replenishments, and do not impose a requirement on the wholesale system.

- o **FINDING C: Detailed Procedures for Validating Backorders Are Lacking.** The GAO observed that documents transmitting the monthly listings of backorders to be validated contained some general guidance. The GAO concluded, however, that the guidance was ineffective in detecting the invalid backorders identified during the GAO review. The GAO explained that, because detailed validation procedures did not exist and the preliminary work identified invalid backorders not detected by prior monthly validation checks, the GAO developed a pro forma validation document with detailed step-by-step procedures. The GAO noted that retail supply activities used the document to validate a sample of backorders selected by the GAO from wholesale supply records. The GAO provided the following examples to illustrate the invalid backorders identified and canceled using the detailed validation procedures:

- The GAO determined that, in September 1992, a logistics support squadron at Eglin Air Force Base placed an order with the Oklahoma City Air Logistics Center for a rudder actuator (NSN 1650-01-065-7768) to replace a defective unit on an F-15 aircraft. The GAO noted that the backorder became invalid in December 1992 when a replacement unit was obtained from another source and the F-15 aircraft was deployed to Saudi Arabia. The GAO explained that the invalid backorder, valued at \$35,757, was not detected by a number of subsequent monthly validation checks--that is, the backorder was not identified and canceled until September 1993.
- The GAO determined that, as of June 1993, the San Antonio Air Logistics Center had four backorders for six radar test sets (NSN 6625-00-548-7515DP) for F-111 aircraft. The GAO noted that the backorders were over a year old and had been requested by an electronics countermeasure squadron at Cannon Air Force Base. The GAO explained that monthly validation checks at Cannon had indicated a continuing need for the backordered radar test sets. The GAO pointed out that, in July 1993, Cannon used the GAO detailed validation guidance and determined that it no longer had a need for the backordered radar test sets, valued at \$346,842, and canceled the orders. The GAO concluded that the need no longer existed because a change in requirements had occurred several months earlier.

Enclosure
Page 3 of 8

Appendix III
Comments From the Department of Defense

Now on pp. 4-5.

The GAO determined that, as of June 1993, the San Antonio Air Logistics Center had 18 backorders, ranging in age from 4 months to 13 months, for 2,006 power turbine supports (NSN 2840-01-347-0851 PT). The GAO noted that the backordered items were requisitioned by the local depot maintenance activity to repair F-100 engines used on F-15 and F-16 aircraft. The GAO further noted that, in June 1993, the depot engine production shop, assisted by the GAO validation guidance, found that the backordered quantity was excessive, based on historical usage, and canceled the orders for 1,105 units valued at \$3,523,845. The GAO concluded that, if the same validation logic had been applied during prior monthly validation checks, the invalid backordered quantity would have been detected and canceled months earlier. (pp. 6-8/GAO Draft Report)

DOD RESPONSE: Concur. (See DoD response to Recommendation 1).

- **FINDING D: Quarterly Reconciliation Problems Receive Insufficient Management Attention.** The GAO concluded that significant differences between retail and wholesale were not corrected by quarterly reconciliations. The GAO determined that, of the \$209.3 million of invalid backorders identified by the GAO review, \$138.6 million was recorded only in the wholesale supply system. The GAO further concluded that failure to correct the differences can result in unnecessary purchases or repairs, duplicate shipments, and inventory excesses. The GAO provided detailed examples of the differences.

The GAO reported that, at the time of the review, Air Force headquarters and Air Force Materiel Command officials responsible for monitoring the quarterly reconciliation program were not aware that the program was not working as intended, because they provided insufficient oversight over the resolution of problems indicated by the reported results of the quarterly reconciliations. The GAO concluded that, if properly monitored, the reported results could serve as a valuable tool for alerting management to wholesale or retail logistics system problems. The GAO further concluded that the reports provide Air Force headquarters and Materiel Command management with an overview of the degree of compatibility between wholesale and retail supply backorder records.

The GAO reported that the quarterly backorder reconciliation reports showed that, prior to the quarterly cycle that ended September 30, 1991, the air logistics centers were experiencing a backorder cancellation rate of about 12.5 percent to correct differences between wholesale and retail records. The GAO explained that for the next seven quarterly cycles that ended June 30, 1993, the cancellation rate dropped to about

Enclosure
Page 4 of 8

Appendix III
Comments From the Department of Defense

one percent--or a cancellation decrease averaging \$450 million quarterly. The GAO noted that Air Force management officials initially speculated that the substantial decrease in quarterly backorder cancellations was due to a computer program problem, but did not follow up and resolve the matter.

The GAO further reported that, quarterly, air logistics centers electronically transmit backorders reflected on their wholesale records directly to the appropriate retail supply activity computer system that searches its due-in backorder records for a matching backorder. The GAO pointed out that, if found, a reconciliation response is sent to the appropriate air logistics center--if not found, however, a cancellation response is sent. The GAO concluded a substantial number of backorders that were only on wholesale records and were not canceled during a series of quarterly reconciliations was indicative of a serious problem with the cancellation response logic in the retail computer system. The GAO brought the matter to the attention of Air Force Materiel Command officials--and, according to the GAO, they agreed to investigate the problem further and to take corrective action if warranted.

The GAO determined that the backorder reconciliation report for the quarter that ended September 30, 1993, showed backorder cancellations of \$172 million. The GAO noted that was a significant increase when compared to two quarterly cycles completed earlier in the review--wherein cancellations averaged about \$2.5 million. The GAO reported that Air Force Materiel Command officials could not account for the significant increase in backorder reconciliation cancellations, but speculated the increase might have resulted from wholesale item managers manually cancelling backorder reconciliation mismatches brought to their attention as a result of the GAO review. (pp. 8-12/GAO Draft Report)

DOD RESPONSE: Concur. (See DoD response to Recommendation 2).

- o **FINDING E: Automatic Cancellation Provision Has Been Suspended Since 1987.** The GAO concluded that the Air Force prolonged suspension of the automatic cancellation provision of the quarterly backorder reconciliation program resulted in lost opportunities to cancel millions of dollars of invalid backorders quarterly. The GAO noted that the automatic cancellation provision was intended to be an incentive to ensure maximum retail level responses to quarterly backorder reconciliation requests from wholesale supply sources. The GAO pointed out, however, that in April 1987, the Air Force indefinitely suspended the automatic cancellation provision due to retail level computer transmission problems.

Enclosure
Page 5 of 8

Now on pp. 5-7.

Appendix III
Comments From the Department of Defense

The GAO observed that, in response to its 1989 report findings and recommendations (OSD Case 7796), the Air Force agreed to reinstate the automatic cancellation provision as soon as planned improvements were made to correct computer transmission problems. The GAO found that the improvements were completed in September 1991. The GAO noted, however, that resumption of automatic backorder cancellations had been further delayed pending implementation of a DoD directed computer program change to allow retail customers to automatically reinstate backorders that are canceled due to nonresponses, but are really valid.

The GAO reported that the reinstatement of backorders would be appropriate when the retail computer system responds to the quarterly backorder reconciliation request, but the response is lost in transmission. The GAO explained that, under the planned change, the retail computer system would scan the retail records for a matching backorder upon receipt of an automatic backorder cancellation notice. The GAO noted that, if a matching backorder is located, a reinstatement notice would automatically be sent to the wholesale computer system. The GAO pointed out that the backorder reinstatement change was originally scheduled for implementation by May 1993, but now is planned for implementation in January 1996, as part of the DoD materiel management standard system.

The GAO found that, shortly after suspending the automatic cancellation provision of the quarterly backorder reconciliation program, the Air Force also suspended a related but independent provision of the program that provided for monitoring and reporting retail level nonresponses to quarterly reconciliation requests. The GAO explained that provision provided Air Force headquarters and Materiel Command officials with important feedback on the extent retail supply activities were complying with the requirement for the quarterly reconciliation of wholesale and retail backorder records. The GAO concluded that, because the monitoring and reporting provision was no longer in effect, Air Force officials did not know what impact the prolonged suspension of the automatic cancellation provision was having on compliance by retail supply activities with the quarterly backorder reconciliation requirement.

The GAO noted data showed that retail level nonresponses for 95,868 backorders--or 26 percent of the backorders for which reconciliation was requested. The GAO determined that, in comparison, the quarterly nonresponse rate prior to suspension of the automatic cancellation provision in 1987 was about 10 percent. The GAO further concluded, therefore, that if the independent provision for monitoring retail level nonresponses had been in effect, Air Force management would have been

Enclosure
Page 6 of 8

Appendix III
Comments From the Department of Defense

alerted to the substantial increase in nonresponses and the need for corrective action.

To further demonstrate the loss of benefits resulting from the prolonged suspension of the automatic backorder cancellation provision, the GAO applied the 26 percent nonresponse rate to the reported backorder reconciliation results for the quarter that ended September 30, 1993. The GAO explained that, during that quarter, reconciliation was requested for 261,865 backorders valued at \$4 billion, and 4,245 backorders valued at \$172 million were canceled. The GAO noted that applying the 26 percent nonresponse rate to that universe would result in 68,085 backorder nonresponses valued at about \$1 billion. The GAO concluded that, based on a cancellation rate of 4.3 percent for responses (\$172 million out of \$4 billion) and the same rate for nonresponses, increased backorder reconciliation cancellations of \$45 million would have resulted.

The GAO reported that in contrast to the Air Force, the Army, the Navy, and the Defense Logistics Agency were complying with the DoD policy of automatically canceling backorders when retail customers do not respond to quarterly backorder reconciliation requests. The GAO found that, in the past year, the other Services and the Defense Logistics Agency canceled backorders valued at over \$200 million due to nonresponses. (pp. 12-15/GAO Draft Report)

DOD RESPONSE: Concur. (See DoD response to Recommendation 3).

* * * * *

RECOMMENDATIONS

- o **RECOMMENDATION 1:** The GAO recommended that the Secretary of the Air Force improve the backorder validation and reconciliation program by establishing and providing retail supply activities with additional detailed step-by-step procedures for validating backorders. (p. 16/GAO Draft Report)

DOD RESPONSE: Concur. The Air Force has reviewed its current procedures and is taking action for further improvements. The first step was taken on March 9, 1994, notifying all Air Force Materiel Command supply activities regarding the importance of backorder validation, and outlining extensive steps to be taken during the next backorder validation process and the materiel obligation validation cycle. Those steps include additional instructions for completing each process, and capturing additional statistical data from the Defense Automatic Addressing System for analysis beginning with the second quarter (April) 1994 cycle.

Enclosure
Page 7 of 8

Now on pp. 7-9.

Now on p. 9.

Appendix III
Comments From the Department of Defense

Now on p. 9.

- **RECOMMENDATION 2:** The GAO recommended that the Secretary of the Air Force improve the backorder validation and reconciliation program by providing improved management oversight and increased emphasis to resolving problems revealed by quarterly backorder reconciliation reports. (p. 16/GAO Draft Report)

DOD RESPONSE: Concur. As explained in the DoD response to Recommendation 1, the Air Force will be documenting efforts and data from the next Materiel Obligation Validation cycle. In July 1994, Headquarters, Air Force will chair a meeting with officials from the Air Force Materiel Command and the Standard System Center to review the results of the second quarter Materiel Obligation Validation cycle and make policy decisions for future cycles. The responsibility for the continuing oversight of the backorder validation program will be assigned to the newly formed (March 1994) Air Force Materiel Command Mission Support Work Group. That work group will be chaired by Headquarters Air Force Materiel Command, with representation from all air logistics centers, major air commands, and Headquarters, Air Force.

Now on p. 9.

- **RECOMMENDATION 3:** The GAO recommended that the Secretary of the Air Force improve the backorder validation and reconciliation program by reinstating the provisions of the quarterly backorder reconciliation program that provide for (a) automatic cancellation of backorders when retail supply activities do not respond to wholesale level reconciliation requests, and (b) monitoring and reporting retail level non-responses to quarterly reconciliation requests. (p. 16/GAO Draft Report)

DOD RESPONSE: Concur. The DoD plan is to standardize materiel management systems under the Corporate Information Management effort. The Approved Military Change Request (AMCL 150C) is planned to be implemented in January 1996. That change will allow for appropriate cancellation and reinstatement of backorders, as well as reports for monitoring automatic cancellations. As explained in the DoD response to Recommendation 2, monitoring and oversight will be the responsibility of the newly formed Air Force Materiel Command Mission Support Work Group.

Enclosure
Page 8 of 8

Major Contributors to This Report

**National Security and
International Affairs
Divison, Washington,
D.C.**

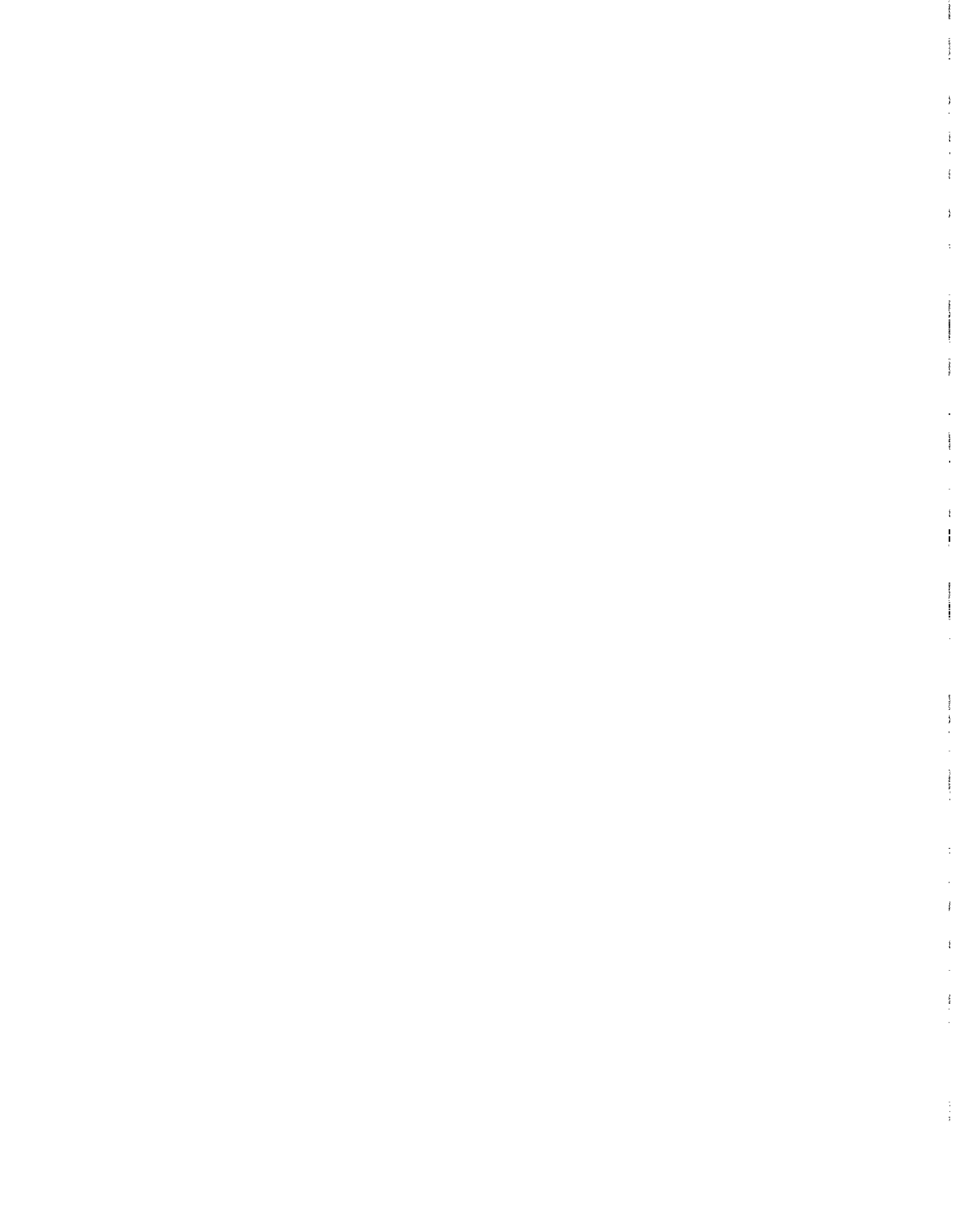
James Murphy, Assistant Director
Thomas Wells, Assignment Manager
Melvin Wagman, Evaluator
Daniel Fleming, Evaluator

Dallas Regional Office

Charnel Harlow, Regional Management Representative
Enrique Olivares, Evaluator-in-Charge
Hugh Reynolds, Evaluator
Bonifacio Roldan-Galarza, Evaluator

**Kansas City Regional
Office**

Debra Wilken, Regional Assignment Manager
Roger Tomlinson, Adviser
Rebecca Pierce, 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.**

