

GAO

Report to the Chairman, Subcommittee on
Defense, Committee on Appropriations,
House of Representatives

June 1989

MILITARY LOGISTICS

Air Force's Management of Backordered Aircraft Items Needs Improvement





United States
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National Security and
International Affairs Division

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The Honorable John P. Murtha
Chairman, Subcommittee on Defense
Committee on Appropriations
House of Representatives

Dear Mr. Chairman:

This report, which was prepared at the request of the former Chairman, addresses improvements needed in the Air Force's management of backordered aircraft items.

Copies of the report are being sent to the Chairman, Subcommittee on Defense, Senate Committee on Appropriations; the Chairmen, Senate and House Committees on Armed Services; the Secretaries of Defense and the Air Force; the Director, Office of Management and Budget; and other interested parties.

This report was prepared under the direction of Harry R. Finley, Director, Air Force Issues. Other major contributors are listed in appendix II.

Sincerely yours,

Frank C. Conahan
Assistant Comptroller General

Executive Summary

Purpose

During 1987 the Air Force had a quarterly average of over 400,000 outstanding orders (backorders) for aircraft spare parts valued at \$7.7 billion. The longer ordered material remains outstanding, the greater the chances are that it will no longer be needed because of changes in customer requirements. Prompt detection and cancellation of invalid backorders is essential to avoid unnecessary procurement, repair, and transportation costs.

At the request of the Chairman, Subcommittee on Defense, House Committee on Appropriations, GAO reviewed the Air Force's management of backorders for aircraft spare parts. GAO's primary objective was to evaluate the effectiveness of the Air Force's procedures and practices for detecting and canceling invalid backorders. GAO also evaluated the accuracy of backorder data used in requirement computations.

Background

Individual Air Force units requisition needed material from retail (base level) supply activities. The retail supply activities maintain stocks of materials to support their customers and replenish their stocks as necessary by requisitioning from the appropriate wholesale supply source—one of the five air logistics centers. A retail supply activity fills a customer's requisition immediately if sufficient stocks are on hand. If the ordered material is not in stock and is urgently needed by the customer, the retail supply activity sends the requisition to the wholesale supply source, which fills the requisition if stock is available or places it on backorder status pending receipt of additional stock.

Department of Defense (DOD) policy and Air Force implementing procedures require the periodic reconciliation and validation of backorders shown on the records of retail supply activities and wholesale supply sources. Invalid backorders detected by these periodic checks are supposed to be canceled promptly.

Results in Brief

GAO's review showed that the Air Force has significant amounts of invalid backorders that are not being detected and canceled by periodic validation checks. GAO also found that the Air Force's requirements for aircraft spare parts are overstated because (1) available depot supply level assets are not used to offset requirements for aircraft items procured with stock funds,¹ (2) depot maintenance backorders are included

¹ Aircraft items that cannot be repaired and reused (consumables) are procured with stock funds that are generated from sales to customers.

twice in requirement computations for aircraft items procured with appropriated funds,² and (3) requirements for stock-funded aircraft items are sometimes based on erroneous backorder data.

Additionally, GAO found that the Air Force's process for ensuring compatibility between wholesale and retail level backorder records continues to experience problems. As a result, the Air Force is missing opportunities to cancel invalid backorders.

Principal Findings

Invalid Backorders Not Detected

At over 200 customer activities located at 9 U.S. and overseas Air Force bases, GAO reviewed the validity of 850 backorders for aircraft items valued at \$18.2 million. GAO found that 332, or 39 percent, of these backorders, valued at \$5.9 million, were no longer valid, even though records showed they had been periodically revalidated by Air Force activities.

The invalid backorders GAO identified included orders for parts to repair equipment that the requisitioner did not have or had already repaired, orders for material in excess of authorization, orders for the wrong item, and duplicate orders. The failure to detect or cancel these invalid backorders resulted from weaknesses in procedures and practices for periodic backorder validation and retail supply computer deficiencies.

Budgeted Buy Requirements Overstated

GAO's analysis showed that the Air Force's fiscal year 1989 requirements for stock-funded aircraft items did not consider \$185.2 million of applicable depot supply level assets that were available to satisfy these requirements. As a result, requirements for the affected items were overstated.

GAO also found that depot maintenance backorders were included twice in annual computations for procurement of appropriation-funded aircraft items. GAO's analysis indicated that elimination of the duplicate inclusion of these backorders would have resulted in a reduction of \$13.5 million to the Air Force's fiscal year 1989 requirements for aircraft replenishment spares. Elimination of the duplicate inclusion would

²Aircraft items that can be repaired and reused are procured with funds appropriated annually by the Congress.

have reduced updated fiscal years 1987 and 1988 requirements by \$70 million and \$14 million, respectively.

Additionally, GAO found that requirements for stock-funded aircraft items are sometimes overstated because of erroneous backorder data. For example, the fiscal year 1989 requirement for an aircraft item was overstated by \$2.8 million because the buy computation for this item erroneously included 5,400 backordered units that had been shipped to the customer several months earlier.

Opportunity to Cancel Invalid Backorders Missed

GAO's analysis of the results of backorder validations for 1985 through 1987 showed that retail supply activities requested quarterly cancellations of invalid backorders, ranging in value from \$665.7 million to \$1,005.2 million. However, Air Force statistics indicated that air logistics centers canceled only about 1 percent of these backorders. This low cancellation rate resulted from an error in the Air Force Logistics Command's automated program for compiling backorder validation results. In October 1987 the Air Force corrected the problem, and the following quarter the reported backorder validation results showed cancellation of \$280.2 million, or 43.2 percent, of the \$648.4 million of invalid backorders for which cancellation was requested.

DOD policy and Air Force implementing procedures require automatic cancellation of backorders for which there are no customer responses to quarterly backorder validation requests from air logistics centers. As of April 1987, the Air Force indefinitely suspended its program for automatic cancellation of backorders because of continuing retail level computer transmission problems. The prolonged suspension of the automatic cancellation feature of the Air Force's quarterly backorder validation program has resulted in the loss of substantial economic benefits. For one quarter alone, GAO estimates that the Air Force lost opportunities to cancel 2,634 invalid backorders valued at \$71.3 million.

Recommendation

GAO recommends that the Secretary of the Air Force take a number of specific actions to improve the Air Force's management of backorders.

Agency Comments

DOD generally concurred with GAO's findings and recommendations concerning the need for improvements in the Air Force's procedures and practices for detecting and canceling invalid backorders. DOD advised

GAO of actions taken or planned by the Air Force to bring about the needed improvements.

DOD did not agree with GAO's recommendations to (1) use available depot supply level assets to offset applicable backordered and forecasted buy requirements for stock-funded aircraft items and (2) eliminate the duplicate inclusion of depot maintenance backorders from budgeted requirements for procurement appropriation-funded aircraft spare parts. DOD's rationale for not accepting GAO's recommendations is contained on pages 45 through 48. After considering DOD's objections, GAO continues to believe that these two recommendations are valid.

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Abbreviations

AB	Air Base
AFB	Air Force Base
AFLC	Air Force Logistics Command
ALC	Air Logistics Center
DOD	Department of Defense
DOTM	Due-out-to-maintenance
GAO	General Accounting Office
NSN	National Stock Number
PACAF	Pacific Air Forces

Introduction

Individual Air Force units and organizations performing depot maintenance normally requisition needed equipment, spare parts, and other materials from retail supply activities. The retail supply activities, referred to as base supply at most installations and as depot supply at the five depot maintenance locations, maintain stocks of materials to support their customers and replenish their stocks as necessary by requisitioning from the appropriate wholesale supply source. For Air Force-managed materials, the appropriate wholesale supply source is one of the five air logistics centers (ALC) operated by the Air Force Logistics Command (AFLC).

A retail supply activity normally fills a customer's requisition immediately if the ordered part is authorized for stockage and if a sufficient quantity is on hand. If the ordered part is not stocked or is out of stock and urgently needed by the customer, the retail supply activity records a due-out to the customer, sends the requisition to the wholesale supply source, and records a due-in from the supply source. The supply source then fills the requisition if stock is available or places it on backorder status pending receipt of additional stock. The supply source considers the backorder as a materiel obligation, which is defined as the unfilled portion of a requisition that is not immediately available for issue but is recorded as a commitment for future issue.

Because backordered requisitions represent requirements the ALCS either have obligated or will obligate funds to fill, prompt detection and cancellation of invalid orders is important. Cancellation of invalid backorders avoids unnecessary procurement, repair, and transportation. In this regard, Department of Defense (DOD) Manual 4140.17-M prescribes policies and procedures for periodically validating supply source materiel obligations and deleting those that are no longer valid. The purpose of the policy is to (1) ensure, through validation by the actual user, that a continuing need exists for backordered materiel and (2) reconcile supply source materiel obligation (due-out) records with the due-in records of the retail supply activities. The prescribed procedures for conducting this materiel obligation validation process require the following actions by supply sources and retail activities every 3 months.

- Supply sources are required to provide records on their over-aged materiel obligations to the involved retail activities. Materiel obligations, hereinafter referred to as backorders, are considered over-age when high-priority requisitions (priorities 1 through 8) remain unfilled after 30 days and routine requisitions (priorities 9 through 15) are unfilled after 75 days.

- Retail activities are required to determine through item-by-item reviews whether a continuing need exists for each backorder referred by the supply source. The guidance warns against perfunctory or cursory reviews and stresses the need to contact the actual user in validating need.
- After eliminating invalid orders from their records, the retail activities are to reconcile their validated due-in records to the backorder (due-out) records of the supply source and report for each backorder the quantity, if any, that is still a valid requirement.
- Supply sources are then to adjust their records to agree with those of the retail activities. This can result in backorder records remaining as originally recorded, being reduced in quantity, or being totally canceled. Supply sources are also required to cancel any backorders for which a retail activity provides no response.

Air Force manuals and regulations implementing DOD Manual 4140.17-M prescribe procedures that are more stringent than the DOD requirements for backorder validations. For most backorders, customers of base and depot supply activities are required to revalidate the need for the materiel on order at least monthly, rather than quarterly as required by DOD. Furthermore, all customer backorders—as opposed to over-age orders only—are subject to validation under Air Force procedures. Additionally, backordered requisitions for routine stock replenishment, which are generated by the base and depot supply automated systems, are, in effect, revalidated by the computer system's recomputing requirements each time a supply transaction occurs that might affect the requirement. If no transactions occur, the systems recompute stock replenishment requirements every 90 days. The Air Force requirements for reconciliation of wholesale supply source due-out records with retail level due-in records are the same as DOD requirements. Each quarter the five ALCS request retail supply activities worldwide to validate and reconcile over-age backorders contained in the ALCS' records. During the last quarter of 1987, the ALCS requested validation and reconciliation of 426,243 orders valued at \$7.5 billion.

Objectives, Scope, and Methodology

Our primary objectives were to determine (1) the effectiveness of the procedures and practices for reconciling and validating aged, unfilled orders of materiel (referred to as backorders) and (2) the promptness in canceling backorders on items for which a continuing need no longer

existed. We also examined

- the propriety and effect of Air Force policy of not considering available depot supply assets in D062 item requirements computations,
- the budgetary effects of overstated backorder quantities on repairable (D041) and consumable (D062) item requirements computations, and
- the effect of the Air Force's suspension of the automatic cancellation feature of its quarterly materiel order reconciliation program.

We conducted our work at four Air Force bases within the United States, three overseas air bases, and two depot maintenance activities. They are as follows:

- United States: Travis Air Force Base (AFB), California; Nellis AFB, Nevada; Holloman AFB, New Mexico; and Eglin AFB, Florida;
- Overseas: Clark Air Base (AB), the Philippines; Kadena AB, Okinawa, Japan; Osan AB, Korea; and
- Depot maintenance: San Antonio ALC, Kelly AFB, Texas; and Warner Robins ALC, Robins AFB, Georgia.

To achieve our objectives, we reviewed DOD and Air Force procedures and practices for validating and reconciling aged, unfilled materiel orders. We interviewed supply and maintenance personnel responsible for implementing the procedures and monitoring their effectiveness, and they assisted us in inspecting inoperable or faulty assets that were cited as the basis for the backorders. We also obtained, reviewed, and analyzed requirements computations, listings of backorders for which a continuing need had been recently certified, and other pertinent documents.

From computerized listings of both D041 procurement appropriation-funded and D062 stock-funded aircraft items, we made a judgmental selection¹ of 441 backorders to verify the accuracy of certification that a continuing need exists and/or the promptness in canceling if the backordered items were no longer needed. The backorders selected consisted of (1) 406 customer backorders from the 9 bases and (2) 35 stock replenishment backorders from the 4 United States bases and the Warner Robins depot maintenance activity. We reviewed stock replenishments to

¹From current monthly listings of all backorders at the 9 audited locations, we selected the first 50 backorders at each location that met certain criteria. (At one location there were not 50 backorders that met the criteria.) The selection criteria included a mixture of high-priority customer orders and routine stock replenishment orders over 30 days and 75 days old, respectively, for D041 (reparable) and D062 (consumable) aircraft items.

determine if the supply systems were automatically canceling due-in quantities to prevent the authorized stock levels from being exceeded. The value of the customer backorders was \$8,014,781 and the stock replenishment backorders were valued at \$4,253,378, for a total value of \$12,268,159.

During the course of our review, we found that the activities sometimes had placed additional orders for the same parts in our sample backorders, and, when possible, we evaluated the validity of those additional orders. We reviewed a total of 409 additional backorders valued at \$5,979,576. In total, we evaluated the validity of 850 backorders valued at \$18.2 million.

We made our review between April 1987 and March 1988 in accordance with generally accepted government auditing standards.

Invalid Backorders Frequently Not Detected or Canceled by Periodic Validation Checks

Our review of 441 sample backorders valued at about \$12.3 million showed that 126 orders totaling about \$2.9 million were not valid requirements. The backorders in our judgmental sample included 406 customer orders (high-priority customer orders submitted to the ALCs because they could not be filled by base and depot retail supply activities) and 35 routine priority orders to replenish stocks at retail supply activities. They involved appropriation-funded repairable spares and stock-funded consumable spare parts, which are managed in AFLC's automated D041 and D062 systems, respectively. Table 2.1 shows the number and value of sample orders reviewed and orders we found to be invalid at each activity visited.

Table 2.1: Sample Backorders Reviewed and Backorders Found to Be Invalid

Location	Orders reviewed ^a		Invalid orders		Percent invalid	
	No.	Value	No.	Value	No.	Value
Eglin AFB						
D041	35	\$819,376	5	\$41,724	14.3	5.1
D062	15	46,943	4	4,994	26.7	10.6
Nellis AFB						
D041 ^b	—	—	—	—	—	—
D062	50	108,822	17	18,172	34.0	16.7
Travis AFB						
D041	35	1,382,815	8	84,370	22.9	6.1
D062	15	51,692	6	17,148	40.0	33.2
Holloman AFB						
D041	35	2,468,827	4	34,290	11.4	1.4
D062	15	104,569	8	90,912	53.3	86.9
PACAF bases ^c						
D041	102	980,565	23	229,396	22.5	23.4
D062	46	154,940	8	23,701	17.4	15.3
San Antonio ALC						
D041 ^b	—	—	—	—	—	—
D062	43	911,500	27	500,406	62.8	54.9
Warner Robins ALC						
D041	35	4,825,492	10	1,758,219	28.6	36.4
D062	15	412,618	6	54,243	40.0	13.1
Subtotal						
D041	242	\$10,477,075	50	\$2,147,999	20.7	20.5
D062	199	1,791,084	76	709,576	38.2	39.6
Total	441	\$12,268,159	126	2,857,575	28.6	23.3

^aAs discussed on page 13, we reviewed 409 additional backorders that are not included in this table because the data obtained were not broken out by D041 and D062 item categories.

^bD041 items were not reviewed at Nellis AFB and the San Antonio ALC.

^cThe Pacific Air Forces (PACAF) bases we visited were Clark, Kadena, and Osan ABs.

Chapter 2
Invalid Backorders Frequently Not Detected
or Canceled by Periodic Validation Checks

The 126 invalid orders we identified included 121 customer orders that had been previously certified as valid by the retail supply activities and 5 stock replenishment orders. The reasons that we determined the customer orders to be invalid are shown in table 2.2. The five invalid stock replenishment orders are discussed later in this chapter.

Table 2.2: Reasons Customer Backorders Were Invalid

Reasons	Number of invalid orders	Percent
Ordered materiel to repair equipment that was no longer in need of repair or was not available	64	53
Ordered materiel was in excess of authorization	24	20
Ordered materiel was not supported by documented requirements, current work load, or other evidence	22	18
Miscellaneous (wrong item ordered, duplicate orders, etc.)	11	9
Total	121	100

Each of the 441 sample backorders reviewed was a requisition for a specific item. In many cases, we found the requisitioner had placed additional orders for the same items, and when time schedules permitted, we evaluated the validity of those additional orders. We reviewed a total of 409 additional backorders valued at \$5,979,576 and identified an additional 206 invalid backorders valued at \$3,078,591. In total, we evaluated the validity of 850 backorders valued at \$18.2 million and identified 332 invalid backorders (39 percent) valued at \$5.9 million (32 percent). Air Force officials canceled \$5.2 million of the \$5.9 million of invalid orders after we brought them to their attention. For the remainder, new requirements for the items were identified or it was too late to effect cancellation because the items had either been shipped by the ALC or received by the customers.

Instances in which we found that retail customers had cited a continuing need for backordered materiel, although the backorder was not valid are illustrated by the following examples.

- At the Warner Robins ALC depot maintenance activity, a continuing need had been cited for a 391-day-old backorder for two circuit card assemblies (NSN 1280-01-109-3319), valued at \$19,142, that were ordered to replace defective units in two B-52 avionics control units (NSN 1280-01-150-9022, unit price \$132,961.84). We found that the backorder had been invalid since January 1987 when the control units for which they were ordered were misplaced and deleted from the activity's inventory

records. As a result of our inquiries, this invalid backorder was canceled on September 11, 1987.

- At the Warner Robins ALC depot maintenance activity, a continuing need had been cited for a 335-day-old backorder for two carriage assemblies (NSN 6215-60-006-3164-02LG), valued at \$5,229, that were ordered for repair of a C-130 aircraft's wing flap. We found that the backorder had been invalid since February 1987 when the C-130's wing flap was repaired with carriage assemblies salvaged from other damaged wing flaps that could not be repaired. After our inquiries, this invalid backorder was canceled on September 16, 1987.
- At Kadena AB, an aircraft maintenance unit had cited a continuing need for a 98-day-old backorder for a generator control unit (NSN 6110-01-017-3528), valued at \$6,674.40, to replace a defective one on an AWACS aircraft. The backorder became invalid when the aircraft was subsequently rotated to another base and no additional need could be documented. In addition to the invalid sample backorder, we found that a 218-day-old backorder for the same item was similarly invalid. As a result of our inquiries, the two backordered generator control units, valued at \$13,348.80, were canceled.
- At the Warner Robins ALC depot maintenance activity, a continuing need had been cited for a 556-day-old backorder for five electron tubes (NSN 5960-00-912-1114AY), valued at \$27,012, that were ordered for repair of F-106 aircraft transmitter subassemblies. We found that the backorder had been invalid since February 1987 when the subassemblies requiring repair were transferred to disposal because of the phase-out of the F-106 aircraft. After our inquiries, this invalid backorder was canceled on September 13, 1987.
- At Eglin AFB, an aircraft maintenance squadron had cited a continuing need for a 175-day-old backorder for a pump module assembly (NSN 4320-01-136-2118), valued at \$11,174, that was ordered to repair a UH-60A helicopter. We found that the backorder became invalid when the aircraft was subsequently sent to Fort Rucker, Alabama, for modification and the pump was replaced during the modification. After our inquiries, this invalid backorder was canceled on June 30, 1987.
- At the Warner Robins ALC depot maintenance activity, a continuing need had been cited monthly over a 2-year period for a backordered F-15 test subassembly (NSN 4920-01-141-5794CW), valued at \$183,000. We found that the backorder was invalid since inception because the subassembly was incorrectly ordered to obtain as a spare part a \$5,000 circuit card contained in the subassembly. Also, we found that the requisitioner had a spare subassembly from which a spare circuit card could have been obtained, if needed. The spare subassembly had been in storage and not

used for about 2 years. After our inquiry, this invalid backorder was canceled on July 22, 1987.

- At the San Antonio ALC depot maintenance activity, a continuing need had been cited for eight backorders, ranging in age from 22 to 107 days old, for 271 F-100 engine housings, valued at \$147,446, that were ordered to replenish the activity's authorized stockage level. We found that backorders for 121 housings valued at \$65,834 were invalid because they caused the authorized stock level to be exceeded. Also, the authorized stock level of 150 units was based on an unsupported special level that was established when the older model of the engine housing was replaced by a newer model. On the basis of past usage for the older model and planned usage of the newer model, a stock level of 17 units was deemed reasonable by maintenance personnel. Thus, we determined that additional backorders of 133 units valued at \$72,363 were also invalid. In response to our inquiries, the 254 invalid backorders valued at \$138,197 were canceled.
- At Osan AB, a continuing need had been cited for a 1,303-day-old backorder for an aircraft radar system microwave counter (NSN 6625-01-109-7876), valued at \$9,183.84. According to the requisitioner, the counter was ordered to replace a spare counter that had been installed in test equipment. We found that the backorder was invalid because there was no authorization or current documented requirement for a spare counter. In addition to the invalid sample backorder, we also found that another backorder for a microwave counter was similarly invalid. Base supply officials agreed with our findings and canceled the two backordered counters, valued at \$18,376.68.
- At Travis AFB, a continuing need had been cited for 2 backorders over 2 years old for 10 aircraft refrigerator doors (NSN 4110-00-007-1741), valued at \$15,290. Although a continuing need was validated monthly over a 2-year period, we found that no original or current need existed. In response to our inquiries, the two invalid backorders were canceled.
- At Holloman AFB, a continuing need had been cited monthly over a 3-year period for a backorder for four T-38 aircraft skins (NSN 1560-00-920-8703XE), valued at \$3,854. We found that no requirement existed at the time the order was placed or at the time of our review. We were advised by the requisitioner that the aircraft skins were ordered because at the time there was excess money available. As a result of our inquiries, this invalid backorder was canceled.
- At Clark AB, a customer had cited a continuing need for a 679-day-old backorder for a VHF antenna (NSN 5985-01-179-5377ZX), valued at \$3,739.19, that is used to provide long-range communication with aircraft. We found that the backorder was invalid because the customer could not provide any documentation or other evidence supporting the

original or subsequent need. In addition to the invalid sample backorder, we found that an additional 582-day-old backorder for the same item was similarly invalid. As a result of our findings, the two backordered antennas valued at \$7,478.38 were canceled.

- At Clark AB, a maintenance unit had cited a continuing need for a 378-day-old backorder for two F-4 and F-5 aircraft engine oil elements (NSN 6650-01-040-9637), valued at \$902.46. We found that the backorder was invalid because the customer could provide no explanation for the order and no evidence of need. In response to our inquiries, this invalid backorder was canceled.
- At Osan AB, a tactical fighter wing customer had cited a continuing need for a 648-day-old backorder for an air conditioning unit (NSN 4120-00-947-4765), valued at \$6,618. We found that the backorder was invalid because the customer had no documented requirement for the item and could not provide evidence of need. Subsequent to our inquiries, this invalid backorder was canceled. In addition to our invalid sample backorder, we found that four other backorders for four similar air conditioners (NSN 4120-00-147-3734), valued at \$26,480, were invalid for the same reasons. According to the customer's records, two of these backordered air conditioners were received during our audit. However, they could not be located. One of the two remaining backordered units was canceled. The customer was reluctant to cancel the remaining backordered unit because of uncertainty as to whether it might be needed in the future.
- At the San Antonio ALC depot maintenance activity, a continuing need had been cited for a 5-month-old backorder for three display panels (NSN 1680-01-014-2336), valued at \$11,268, that were ordered for repair of A-10A aircraft fuel hydraulic systems. We found that the backorder was invalid because the wrong items were ordered. The requisitioner intended to requisition components of the display panels but instead incorrectly ordered the display panels. In response to our inquiries, the invalid backorder was canceled.
- At Eglin AFB, a tactical fighter wing customer had certified a continuing need for a 201-day-old backorder for a shoulder load (NSN 4920-01-059-3772), valued at \$1,441, to repair a radar frequency load coupler. We found that the backorder was invalid because the wrong item was ordered. The item needed to make the necessary repair was a metal shim, costing \$16. The requisitioner could not explain why he ordered the wrong item or why he did not cancel the invalid backorder during several previous monthly validation cycles. After our inquiries, the invalid backorder was canceled on August 21, 1987.

- At Travis AFB, a continuing need had been cited for a 6-month-old backorder for an aircraft left wing flap panel (NSN 1560-00-573-2680JH), valued at \$677. We found that the backorder was invalid because it represented a duplicate order. Two orders for a left wing flap panel to repair the same discrepancy were placed on January 2 and 5, 1987. The invalid duplicate backorder was canceled as a result of our inquiry.

Problems in Detecting and Canceling Invalid Backorders

Invalid customer and stock replenishment backorders we identified had not been detected by periodic Air Force validation checks, or were detected but not canceled. The failure to detect or cancel these invalid backorders resulted from weaknesses in procedures and practices for periodic backorder validation and depot and base retail supply computer deficiencies.

Weaknesses in Procedures and Practices

Air Force regulations and implementing procedures require base and depot retail supply activities to validate the continuing need for customer backordered items on a monthly basis and to promptly cancel those no longer needed. To accomplish this, the base and depot retail supply activities are required to provide their customers with monthly computer-generated listings of their outstanding materiel orders.

The procedures governing base supply activities require that the monthly listings be accompanied by a letter of transmittal, specifying the validation procedures and stressing the importance of actual contact with the individual who requisitioned the item to ensure a valid need still exists. The procedures governing depot retail supply activities require that the monthly listings contain a validation certification block, which requires the signature of the responsible customer property officer to certify that all of the listed orders have been validated or canceled, as appropriate.

The regulations and procedures do not require base and depot retail supply activities to retain control copies of the listings for the purpose of monitoring performance in conducting monthly validation checks. Also, customers are required to return the listings only if cancellations or other changes are to be made.

With the exception of the depot maintenance activity at the San Antonio ALC, which we discuss separately later, the base and depot retail supply activities we visited were providing their customers with monthly backorder listings for validation. The transmittal letters accompanying the

monthly listings sent to base supply customers did not specify validation procedures, but did state that the validation should include actual contact with the individual that requisitioned the backordered item to ensure there is still a valid need. The monthly listings sent to depot supply customers at the Warner Robins ALC contained a validation certification block for signature by the responsible property officer. At the customer organizations we visited, a supply monitor or materiel support unit was responsible for validating backorders included on the monthly listings and canceling backordered items for which a valid need no longer existed.

At each of the customer organizations we visited, the supply monitors and materiel support units were not adequately performing the monthly validations. The majority of the supply monitors and materiel support units did not make actual contact with the customer unit that ordered the materiel to see if a valid need still existed. In many instances they did nothing to validate the backorders because they assumed that all backorders on the monthly listings were still needed. In other instances they simply attempted to reconcile the backorders on the monthly listings with their materiel due-in records. If a corresponding due-in was located, they assumed that a valid need still existed without contacting the customer.

In a number of instances the customer units did not cancel invalid orders identified during the monthly validation process because they felt the backordered items would be needed in the future. Additionally, invalid orders for D062 stock-funded items were not canceled in a number of instances because the customer units were uncertain whether they would receive credit for their obligated funds if the orders were canceled, especially those funded with prior years' moneys. Many of the supply monitors and materiel support units personnel we interviewed stated that they did not fully understand what was required during the monthly validation process and believed that formal training would be helpful.

At the time of our visit, the San Antonio ALC's depot maintenance activity, one of the largest customers of the Air Force's retail supply system, had discontinued using the monthly backorder listings to validate its backordered items. The use of the monthly backorder listing output by the depot retail supply computer was discontinued in July 1987 after the depot maintenance activity installed a new materiel tracking system known as the Exchangeables Production System. This system provided

depot maintenance with the capability to record and track its own transactions and with direct access to the depot retail supply computer for ordering materiel. However, the system procedures did not make provisions for monthly validations of backorders, as required by Air Force regulations.

San Antonio ALC depot maintenance officials advised us that since the new system provided constant status of their backorders, they did not feel that compliance with Air Force regulations requiring monthly validations of all backorders was essential. However, they stated that they had verbally instructed maintenance personnel to validate backorders continually by reviewing data contained in the new maintenance system. Although the officials had no means of monitoring compliance with their verbal instructions, they expressed confidence that maintenance personnel were performing continuous validations of backorders as instructed. This activity had the highest rate of undetected invalid orders (62 percent) of the activities included in our review, which suggests that the monthly validation process is needed and that compliance with the regulations would be appropriate.

Depot and Base Retail Computer Problems

Depot and base retail supply system computers automatically generate stock replenishment orders for items when their available assets fall below a prescribed reorder level. If quantities on stock replenishment orders become excess to requirements because of a change in asset status or decrease in usage, the system computers are supposed to generate cancellation requests and automatically send them to the managing ALC for action.

As discussed below, we found a number of instances in which the base and depot retail supply system computers were not automatically canceling excess stock replenishment orders as intended.

Depot Computer Problems

AFLC's five depot supply activities use a system designated as the D033 Retail Stock Control and Distribution System to maintain stocks of spare parts to support depot maintenance activities. The D033 system uses historical maintenance usage data to compute a required stock level for each item needed by maintenance and then requisitions assets from the wholesale supply system to satisfy the computed stock levels. To prevent it from ordering unneeded quantities of any individual item, the D033 is programmed to periodically compare the number of assets on hand and on order to its total requirement, which is the computed stock

level plus any unfilled orders due out to maintenance. When on-hand and on-order assets exceed the requirement, the D033 system is supposed to request cancellation of orders previously placed with the wholesale supply source.

Our work at the Warner Robins ALC disclosed that the D033 system was not requesting cancellation of all excess orders with the wholesale source. In our original sample of seven D033 stock replenishment orders valued at \$1,953,236, we found two orders valued at \$1,134,257 that exceeded requirements. Based on these results, we expanded our test to include a total of 50 item stock replenishment orders. The expanded test identified an additional 18 invalid excess orders valued at \$2,150,701. In total, we identified 20 invalid orders valued at \$3,284,958.

The invalid orders existed because the D033 system did not always respond to changes in requirements that should have caused it to request cancellation of excess orders with the wholesale source. For example, in March 1987 the depot maintenance activity canceled orders with the D033 system for two F-15 aircraft wings valued at \$1,340,804. This should have caused the D033 to request corresponding cancellations with the wholesale source, but the two unneeded wings were still on order at the time of our visit in August 1987.

Before our review, Warner Robins and AFLC D033 personnel had received no reports of the system's failure to request cancellation of excess orders. Once alerted, Warner Robins personnel canceled the 20 invalid orders we identified. Also, in March 1988, they reported the problem to AFLC for corrective action.

Base Computer Problems

The standard base supply system used at Air Force bases is similar to the D033 depot retail system in that it periodically compares the quantity of assets on hand and due in with the total quantity required to fill orders due out to customers and to maintain a computed stock level. To ensure that sufficient, but not excessive, assets are acquired to support customers, the system is supposed to be programmed to place or cancel orders with the wholesale supply source as necessary.

Also like the depot retail system, the standard base supply system sometimes does not work as intended. Our sample included a total of 28 stock replenishment orders (7 each at 4 bases), and we found 1 order at each of 3 bases that exceeded requirements. The three orders, valued at \$84,234, were invalid because the standard base supply system had

failed to cancel excess orders due in from the wholesale supply source. At Holloman AFB, for example, base supply had 1 vertical tip (a T-38 aircraft component) on hand, 23 on order from the wholesale supply source, and a requirement for only 5. Based on these data, the standard base system correctly showed that 19 of the 23 vertical tips due in were excess. However, the system did not cancel the orders for the 19 assets, valued at \$79,321. We found similar cases at Travis and Nellis AFBS.

Base supply personnel could not determine why the base supply system was not working as intended when we brought the problem to their attention. However, officials at Holloman AFB indicated they would send a deficiency report describing the problem to the Air Force's Standard Systems Center at Gunter AFB, Alabama, so the problem could be studied and corrected.

Conclusions

The Air Force has significant amounts of invalid materiel orders that are not being detected and canceled by monthly validation checks at the base and depot supply levels. This is caused by weaknesses in procedures and practices and deficiencies in automated computer programs. During 1987 the Air Force had a quarterly average of 400,000 backorders for aircraft items valued at \$7.7 billion. On the basis of our review, involving validation checks of a sample of 850 backorders of 212 customers located at 9 United States and overseas Air Force bases, which revealed an invalid backorder dollar rate of 32 percent, we believe the Air Force can save substantial amounts annually by promptly detecting and canceling invalid backorders.

Recommendations

We recommend that the Secretary of the Air Force take the following actions to improve the Air Force's management of backorders:

- strengthen existing procedures for monthly backorder validations at the base and depot supply levels by requiring that the accuracy of validated backorder listings be certified in writing by appropriate base and depot supply officials and subjected to independent accuracy checks. Also, require that transmittal letters accompanying the monthly listings of backorders to be validated include detailed validation guidance, and stipulate that the accuracy of the validation responses will be certified by the appropriate base or depot supply officials and will be subjected to independent accuracy checks;

- ensure that base and depot supply personnel responsible for periodic backorder validation checks are adequately trained and fully understand the importance of this task;
- direct that the San Antonio ALC depot maintenance activity perform monthly backorder validations in compliance with Air Force regulations; and
- ensure that base and depot supply computer problems inhibiting the automatic cancellations of excess due-in quantities on stock replenishment orders are satisfactorily resolved.

Agency Comments and Our Evaluation

DOD generally¹ concurred with our findings and recommendations for corrective action, and advised us of actions taken or planned by the Air Force to strengthen its procedures and practices for periodic detection and cancellation of invalid backorders (see app. I). We believe the actions taken or planned by the Air Force are responsive to our recommendations and, if properly implemented, should bring about the needed improvements.

¹In commenting on our finding concerning a depot retail computer problem, which hindered the timely cancellation of excess stock replenishment orders, DOD stated that the depot retail computer does not automatically cancel excess orders as indicated in the report, but rather requests cancellation from the wholesale system. We have modified our report to reflect this correction.

Annual Budgeted Buys for Aircraft Parts Based on Incorrect Backorder Requirements and Incomplete Asset Data

The Air Force's annual budgeted buy requirements for stock-funded and procurement appropriation-funded aircraft repair and replacement parts are significantly overstated because

- available depot supply level assets are not used to offset backordered and forecasted buy requirements for D062 stock-funded aircraft items,
- due-out-to-maintenance backorders are incorrectly included twice in budgeted buy requirements for D041 procurement appropriation-funded aircraft items, and
- budgeted buy requirements for some D062 stock-funded aircraft items are sometimes based on erroneous backorder data.

Depot Supply Level Assets Not Used to Offset Requirements

In October 1984 we reported¹ that the Air Force's duplicate inclusion of depot maintenance requirements in buy computations for D062 stock-funded aircraft spare parts resulted in an estimated excessive inventory investment of \$119 million. We reported that depot maintenance parts requirements, known as depot supply levels, were included in item buy computations both as a separate quantity based on anticipated future usage and as a part of Air Force-wide forecasted needs based on historical usage.

Although the Air Force and DOD officials agreed that depot maintenance requirements were included twice in buy computations, they did not concur with our recommendation that the duplication be eliminated. They stated that the effect of the duplicate inclusion was offset by the application of available depot supply level assets to satisfy depot supply level requirements.

Subsequently, in February 1985, the Air Force discontinued the inclusion of a separate quantity for depot supply level requirements in buy computations. While this action was consistent with our recommendation, the potential procurement cost savings was negated by a concurrent action to no longer apply depot supply level assets in computing buy requirements. In eliminating the separate quantity requirement, the Air Force implicitly recognized that depot supply level requirements were included in Air Force-wide forecasted needs based on historical usage. We believe it should also have recognized that available depot supply level assets should continue to be applied to offset forecasted usage requirements in buy computations.

¹Excessive Air Force Inventories Result From Duplicative Spare Parts Requirements (GAO/NSIAD-85-7, Oct. 25, 1984.)

To illustrate this point, our review of seven D062 items procured by the San Antonio ALC between October 1986 and December 1987 showed that depot supply level assets valued at \$6.2 million were not used to offset requirements. In each case application of the depot supply level assets would have permitted inventory managers to defer procurement and/or reduce the quantity procured. For example, in August 1987, an inventory manager initiated procurement of 20,844 F-100 engine blades (stock number 2840-00-392-1103PT) estimated to cost \$934,020. The buy quantity was based on a total requirement of 46,758 engine blades offset by 25,914 of the 35,427 blades on hand and on order. The total requirement consisted of a reorder level of 30,358 blades and an economic order quantity of 16,400 blades. The reorder level consisted of a procurement leadtime quantity, a safety level quantity, and a war reserve quantity. The procurement leadtime quantity of 23,814 blades represented future demands, based on the past 24 months usage, of both worldwide Air Forces bases and the local tenanted depot maintenance activity over the time required to procure the engine blades (1,366.65 forecasted monthly demands x 17.425 months procurement leadtime). The procurement leadtime quantity included a depot supply level (maintenance) requirement of 10,857 blades.

The 35,427 blades on hand and on order consisted of 25,914 blades available for Air Force-wide issuance and 9,513 blades reserved for issuance to the tenanted depot maintenance activity (depot supply level assets). In determining whether a buy was warranted, the D062 requirement system compared only the 25,914 blades on hand and on order which were available for Air Force-wide issuance to the reorder level requirement of 30,358 units. The buy quantity of 20,844 units was arrived at by adding the resulting reorder level deficiency of 4,444 blades to the economic order quantity of 16,400 blades (1 year minimum buy x 1,366.65 forecasted monthly demands).

Had the total wholesale inventory of 35,427 blades, including the 9,513 blades reserved for issuance to the tenanted depot maintenance activity been applied to the reorder level quantity of 30,358 blades, the requirement computation would have shown 5,069 blades on hand and on order above the reorder level. Under these circumstances, the procurement would have been deferred for about 4 months (5,069 assets above reorder level divided by 1,366.65 forecasted monthly demands) and the buy quantity reduced from 20,844 to 16,400 engine blades at a procurement cost savings of \$199,136 (4,444 blades x \$44.81 unit price).

Our analysis shows that the Air Force's fiscal year 1989 budgeted buy requirements for stock-funded D062 system aircraft items took into consideration depot supply level (depot maintenance) requirements valued at \$464.8 million, including \$110.8 million of backordered requirements, but did not consider \$185.2 million of applicable on-hand depot supply level assets that were available to satisfy these requirements. As a result, the Air Force's fiscal year 1989 budgeted buy requirements for the affected individual stock fund items were overstated. The exact amount of the overstatement is unknown because it was not practical to review the thousands of items involved. However, on the basis of the above example, it is believed to be considerable.

Conclusion and Recommendation

The Air Force's annual budgeted buy requirements for D062 stock-funded aircraft spare parts are significantly overstated because requirement computations do not take into consideration applicable depot supply level (depot maintenance) assets. We recommend that the Secretary of the Air Force direct the Commander, AFLC, to revise the policy for D062 stock-funded aircraft item requirement computations to apply depot supply level assets to applicable requirements.

Agency Comments and Our Evaluation

DOD did not agree with our finding and recommendation concerning the use of depot supply level assets to offset applicable requirements in D062 stock-funded item requirement computations (see app. I). DOD stated that depot supply level assets needed to support future depot maintenance requirements are automatically transferred from the depot wholesale account to the depot retail account. DOD further stated that since the depot supply level assets are owned by the retail system, they are not considered available to offset wholesale requirements. DOD stated that this practice is identical to the treatment of retail assets held at Air Force bases in support of base maintenance needs.

We do not agree with DOD's position that depot supply level assets, like retail base maintenance stocks, are not available to offset wholesale requirements. Unlike base maintenance stocks, depot supply level assets have not been issued from wholesale storage and physically moved to a retail location to satisfy current requirements. The computer transfer of these assets to a depot retail account is simply done to insure that a sufficient amount of stock in wholesale storage is reserved to satisfy forecasted depot maintenance requirements. Since wholesale requirements include forecasted depot maintenance needs and depot supply level assets are being reserved in wholesale storage to satisfy these

future needs, it is reasonable to expect that these assets should be used to offset the applicable wholesale requirements. Moreover, the depot, like a retail maintenance operation at an Air Force base, has separate retail stock on hand to meet its retail depot maintenance operations.

DOD also stated that while depot supply level assets are not considered when computing wholesale requirements, they are considered when requesting funds. Therefore, DOD claimed that our statement that budgeted buy requirements did not consider on-hand depot supply level assets is incorrect. At a subsequent meeting held to obtain a clarification of DOD's position on this matter, cognizant DOD and Air Force officials acknowledged that the failure to use available depot supply level assets to offset applicable wholesale requirements could result in overstated budgeted buy requirements and excessive stock fund expenditures for the affected individual stock fund items. These officials explained that DOD's original disagreement with our finding was based on a perception that it implied that the Air Force's fiscal year 1989 funding request was overstated by an amount equivalent to the value of depot supply level assets excluded from the computation of wholesale requirements.

Due-Out-To-Maintenance Backorders Included Twice in Budgeted Buy Computations

Due-out-to-maintenance (DOTM) backorders represent aircraft spare parts ordered by depot maintenance activities to replace inoperable parts removed from aircraft and returned to the wholesale supply system for repair. DOTM backorders are included twice in the computation of budgeted requirements for D041 procurement appropriation-funded aircraft replenishment spares. They are included as a separate DOTM backorder requirement and also as a part of forecasted recurring demands.

The Air Force's rationale for duplicate inclusion of DOTM backorders in budgeted requirements computations is that they must be shown separately as an offsetting requirement to unserviceable assets turned in to the wholesale supply source for repair and reissue to prevent an overstatement of available assets. In our opinion, this can be accomplished without including DOTMs twice in the computation.

In fiscal years 1987 through 1989, the Air Force's budgeted requirements for aircraft replenishment spares included DOTM backorder requirements valued at \$1.7 billion twice.² Our analysis of Air Force budget data showed that \$1.4 billion of the \$1.7 billion duplicated DOTM

²The duplicative DOTM backorders included \$541.6 million in fiscal year 1987, \$334.7 million in fiscal year 1988, and \$834.6 million in fiscal year 1989.

backorder requirements will be satisfied through repair of returned inoperable parts (at a repair cost estimated to be 14 percent of procurement cost, or \$196 million) and the remainder satisfied from parts already on order or for which planned buys are budgeted. By eliminating the duplicate inclusion of DOTM backorders from requirement computations, the Air Force can avoid substantial unnecessary repair and procurement cost, including planned buys of \$13.5 million, \$14 million, and \$70 million from funds appropriated in fiscal years 1989, 1988, and 1987, respectively.

Conclusion and Recommendation

The Air Force can avoid substantial unnecessary repair and procurement costs by eliminating the duplicate inclusion of depot maintenance backorders from requirement computations. We recommend that the Secretary of the Air Force direct the Commander, AFLC, to eliminate the duplicate inclusion of due-out-to-maintenance (DOTM) backorders from annual budget requirement computations for D041 system procurement appropriation-funded aircraft replenishment spares.

Agency Comments and Our Evaluation

DOD did not agree with our finding and recommendation concerning the duplicate inclusion of due-out-to-maintenance (DOTM) backorders in budgeted requirements for D041 procurement appropriation-funded aircraft replenishment spares (see app. I). DOD acknowledged that DOTM backorder requirements are included in the budget computation both as a separate DOTM requirement and as a part of forecasted recurring demands, but does not agree that this condition represents a duplication resulting in overstated budgeted buy requirements.

DOD stated that it is necessary to input projected DOTM backorder requirements as a separate quantity to the budget computation to prevent an overstatement of available assets in the wholesale inventory, which occurs when assets installed in equipment at the retail level (depot maintenance) are returned to the wholesale level for replacement and subsequent repair and no serviceable replacement exists. DOD further commented that projected DOTM backorder requirements must also be included in the budget computation as a part of future recurring demands to cover projected shortages of assets resulting in a DOTM condition.

DOD stated that since the separate DOTM backorder requirement is completely offset by and satisfied through the repair of unserviceable assets returned to the wholesale inventory, no duplication of requirements

exists. Also, according to DOD, DOTM backorder requirements have no impact on budgeted buy requirements because they are satisfied through repair of returned assets and not through procurement.

We do not agree with DOD's position that inclusion of projected DOTM backorder requirements in the budget computation as both a separate requirement and as a part of future recurring demands is necessary and has no impact on budgeted buy requirements or procurements. In our opinion, the singular inclusion of DOTM backorder requirements in requirement computations, as a part of forecasted recurring demands, covers both situations mentioned by DOD as justification for duplicate inclusion (i.e., both offsets the return of inoperable parts for which no immediate replacements exist and provides the replacement assets needed through repair or procurement).

For example, for the 3-year period covered by the fiscal year 1989 budget computation, the Air Force projected that depot maintenance activities would return \$834.6 million of inoperable aircraft parts to the wholesale source for which immediate replacements would not be available, unless additional operable parts were obtained through repair or procurement. The single inclusion of this \$834.6 million projected DOTM backorder requirement, as a part of forecasted recurring demands, in the fiscal year 1989 budget computation both offsets the projected returns and provides for the replacement assets needed to cover the shortage. DOD is also incorrect in its position that the duplicate inclusion of DOTM backorder requirements in budget computations has no impact on budgeted buy requirements or procurements. As previously mentioned, Air Force budget data for fiscal years 1987 through 1989 show that \$300 million of the \$1.7 billion of duplicated DOTM backorder requirements will be satisfied from parts already on order or for which planned buys are budgeted. The remainder will be satisfied through repair.

Overstated Backorder Requirements Used in Stock Fund Budget Computations for D062 Items

Our tests of the accuracy of backorder requirements used in computing the fiscal year 1989 stock fund budget for D062 items indicate that item backorder requirements may be overstated in stock fund budget computations. We found that in two instances backorder requirements were overstated by \$10.7 million. As a result, the budgeted buy deficits for the two items was inflated by \$10.3 million, as illustrated below.

- At the Warner Robins ALC, a March 31, 1987, requirements computation for a cable assembly (NSN 6150-00-255-8332, unit price \$593.74)

included backorder requirements for a quantity of 5,627. This computation resulted in a buy deficit for 4,737 cable assemblies valued at \$2,812,546 for which stock funds were to be obligated in fiscal year 1989. We found, and the Warner Robins ALC item manager confirmed, that 5,400 of the backordered cable assemblies valued at \$3,206,196 had been shipped to the customer several months earlier and should have been deleted from the backorder records before the March 31, 1987, computation. Failure to delete them resulted in an inflated fiscal year 1989 stock fund budgeted requirement of 4,737 cable assemblies valued at \$2,812,546. After our inquiries, the erroneous backorder quantity of 5,400 units was deleted from the backorder records.

- At the Warner Robins ALC, a March 31, 1987, requirements computation for a B-52 item (NSN 5865-00-078-4245EW, unit price \$151.20) included backorder requirements for 55,846 units. This computation resulted in a buy deficit for 63,868 units, valued at \$9,656,841, for which stock funds were to be obligated in fiscal year 1989. We found, and the Warner Robins ALC item manager confirmed, that the backorder quantity was overstated by 49,598 units valued at \$7,499,217 due to keypunch errors in recording backorders. Failure to correct the errors during the budget review process resulted in an inflated fiscal year 1989 stock fund budgeted requirement of 49,598 units valued at \$7,499,217.

Conclusion and Recommendation

The Air Force's budgeted buy requirements for D062 stock-funded aircraft items are overstated in some instances because of erroneous backorder data. We recommend that the Secretary of the Air Force direct the Commander, AFLC, to reemphasize to the air logistics centers the need for eliminating backorder data errors from requirement computations for D062 stock-funded items during the budget review process.

Agency Comments and Our Evaluation

DOD concurred with our finding and recommendation concerning the use of overstated backorder requirements in stock fund budget computations. DOD advised us that the Air Force would take the recommended corrective action.

Overview of Quarterly Materiel Order Validations Between Air Logistics Centers and Retail Supply Activities

In addition to requiring a monthly reconciliation and validation of outstanding materiel orders between retail supply activities and their customers, the Air Force, in conformity with DOD regulations, requires a quarterly reconciliation of aged, unfilled materiel orders shown on the wholesale supply records of the five ALCS and those shown on the retail supply activities records. Quarterly, the five ALCS send to their retail supply customers for reconciliation computerized listings of unfilled high-priority materiel orders 30 or more days old and routine priority materiel orders 75 or more days old. The retail supply activities have 45 days to reconcile their records of outstanding orders with those referred by the ALCS and to return a confirmation or cancellation response for each order to the appropriate ALC. DOD and Air Force regulations require the ALCS to automatically cancel outstanding orders for which there are no customer responses to quarterly reconciliation requests within the 45-day time frame.

The Air Force's quarterly program provides management with an overview of the degree of compatibility between wholesale and retail supply records. If properly monitored, it serves as a valuable tool for alerting management to wholesale or retail logistic system problems. Table 4.1 shows the results, as reported by the Air Force, of quarterly materiel order reconciliations for 1985 through 1987.

Chapter 4
Overview of Quarterly Materiel Order
Validations Between Air Logistics Centers
and Retail Supply Activities

Table 4.1: Results of Quarterly Reconciliations of Outstanding Orders for 1985 Through 1987

Dollars in thousands

	1985		1986		1987	
	Quarterly average		Quarterly average		Quarterly average ^d	
	Number	Amount	Number	Amount	Number	Amount
1. Orders referred by ALCs for reconciliation	352,117	\$6,538,474	430,303	\$8,116,352	414,176	\$7,790,577
2. Orders for which retail customers submitted cancellation responses	18,521	1,005,215	19,642	665,742	27,526	793,208
3. Percent of referred orders for which cancellation was requested (line 2 divided by line 1)	5.3	15.4	4.6	8.2	6.6	10.2
4. Orders canceled by ALCs	16,989	15,310	17,905	5,019	25,466	6,826
5. Percent of requested cancellations affected (line 4 divided by line 2)	91.7	1.5	91.2	.8	92.5	.9
6. Retail customer nonresponses	33,050 ^a	521,625 ^a	^b	^b	17,590 ^c	341,180 ^c
7. Percent of referred orders not responded to (line 6 divided by line 1)	9.4 ^a	7.9 ^a	^b	^b	4.2 ^c	4.4 ^c
8. Orders canceled by ALCs due to nonresponse	30,950 ^a	4,818 ^a	^b	^b	16,898 ^c	3,127 ^c
9. Percent of nonresponses resulting in cancellation (line 8 divided by line 6)	93.6 ^a	.9 ^a	^b	^b	96.1 ^c	.9 ^c

^aAverage for the first two quarters only. For the last two quarters of 1985 and all of 1986, the Air Force suspended automatic cancellation of orders for which there was no response to reconciliation requests because of transmission problems with newly installed retail level computers.

^bNot available-see footnote a.

^cAutomatic cancellation of orders due to reconciliation nonresponses was resumed for first quarter only, following an 18-month suspension because of retail level computer transmission problems. Subsequently, automatic cancellation of nonresponses was suspended indefinitely because of a perceived recurrence of problems previously considered to be resolved.

^dAverage for the first three quarters only. Data for the last quarter are not included to prevent a distortion caused by a program change, as explained in the next section.

Table 4.1 shows that although cancellation was affected for over 90 percent of the number of referred orders for which cancellation was requested, only about one percent of the dollar value of such orders was canceled. After we brought this seeming anomaly to the attention of Air Force Headquarters officials in February 1987, their follow-up investigation revealed a decimal point placement error in AFLC's automated program logic for compiling and reporting quarterly materiel order reconciliation results. In October 1987 AFLC corrected this program logic error. Subsequently, for the last quarter of 1987, the reported quarterly materiel order reconciliation results showed that the ALCs affected cancellation of \$280.2 million, or 43.2 percent, of the \$648.4 million of

materiel orders for which cancellation was requested by retail level customers.

Our analysis showed that unreconcilable differences in outstanding materiel orders for which retail customers request cancellation represent either (1) due-outs at ALCS for which there are no corresponding due-ins on retail supply records or (2) differences caused by retail logistics systems' daily automated stock releveling during intervals between materiel order reconciliation cutoff dates of ALCS and retail supply activities. Due-outs at ALCS for which there are no corresponding due-ins at the retail level occur when the ALCS do not promptly remove from their supply records orders for materiel that has been shipped. As demonstrated by the cable assembly example in chapter 3, this problem can result in inflated budgeted buy requirements. Also, it can result in duplicate shipments of materiel to fill the same order.

The Air Force has indefinitely suspended the automatic cancellation of outstanding materiel orders for which retail level customers do not respond to the requests of the ALCS for quarterly reconciliation. The prolonged suspension (seven of the last eight quarters) of the automatic cancellation feature of the Air Force's quarterly reconciliation program has resulted in the loss of substantial economic benefits and eliminated an important incentive to ensure maximum retail level responses to quarterly materiel order reconciliation requests from the ALCS. The potential loss of economic benefits can be demonstrated by the results of the Air Force's 1987 second quarterly materiel order reconciliation cycle ending June 30, 1987. This was the last quarter that the ALCS collected and reported data on retail customers' nonresponses to materiel order reconciliation requests.

For that quarter, retail customers did not respond to reconciliation requests for 32,932 outstanding orders valued at \$712.7 million. For the 378,264 orders valued at \$7 billion that were responded to, cancellation was affected for 30,175 orders (8 percent) valued at \$723.2 million (10 percent) based on customer requests. Obviously, some portion of the reconciliation requests for which no response was received represented orders for materiel that was not needed and that should have been canceled. However, none of the orders was canceled, even though Air Force policy requires that they all be canceled. Applying to these orders the same rates of cancellation that occurred for orders that were responded to indicates that the Air Force might have lost opportunities to cancel about 2,634 orders (8 percent of 32,932 nonresponse orders) valued at

about \$71.3 million (10 percent of \$712.7 million value of nonresponse orders).

Conclusions

The Air Force's process for ensuring compatibility between wholesale and retail level backorder records continues to experience problems, which AFLC needs to resolve. The Air Force's prolonged suspension of the automatic cancellation feature of its quarterly materiel order reconciliation program has resulted in the loss of substantial economic benefits and eliminated an important incentive to ensure maximum retail level responses to quarterly materiel order reconciliation requests from ALCS.

Agency Comments and Our Evaluation

DOD concurred that the Air Force needs to resolve the continuing problems associated with its quarterly materiel order reconciliation program to achieve substantial economic benefits and ensure maximum retail level response to quarterly reconciliation requests. DOD commented that the Air Force Logistics Command is working to resolve the data transmission problems that resulted in the decision to discontinue automatic cancellation of backorders for which requisitioners do not respond to quarterly reconciliation requests from the air logistics centers.

DOD stated that base processing systems will be upgraded with the Host AUTODIN Message Processing System, which will eliminate operator intervention at base level and afford a direct link between base communication centers and the AUTODIN network. DOD commented further that the upgrade will be implemented as soon as the necessary funding is obtained. Also, DOD stated that the Air Force will resume automatic cancellation of backorders due to nonresponse to quarterly reconciliation requests as soon as the subject base system upgrade is accomplished.

Comments From the Assistant Secretary of Defense for Production and Logistics



PRODUCTION AND LOGISTICS

(L/SD)

ASSISTANT SECRETARY OF DEFENSE
WASHINGTON, D.C. 20301-8000

DEC 8 1988

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

Dear Mr. Conahan:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) Draft Report, "MILITARY LOGISTICS: Air Force Management of Backordered Aircraft Items Needs Improvement," (GAO Code 392313), OSD Case 7796.

The DoD concurs with the general thrust of the report. The Department agrees that there is a continuing need to monitor and validate all open backorders and to take all actions necessary to cancel requisitions for backordered material as soon as it is known that the material is no longer necessary.

The DoD does not, however, agree with two of the Findings and the resulting Recommendations relating to (1) the use of depot supply level (i.e., retail level) assets to offset wholesale level requirements and (2) the revision of the method of calculating replenishment spares requirements in the Air Force DO41 system to eliminate a perceived duplication in the method of counting due-out-to-maintenance (DOTM) items. It is the DoD position that the use of retail-level stocks to fill wholesale-level requirements would generate shortages and ultimately impact readiness. It is also the DoD position that the GAO-perceived duplication in the counting of DOTM items is in error.

The detailed DoD comments on the report findings and recommendations are provided in the enclosure.

Sincerely,

Merle H. Hagg, MG, USA
Military Deputy

Enclosure

GAO DRAFT REPORT DATED OCTOBER 7, 1988
(GAO CODE 392313) OSD CASE 7796

"MILITARY LOGISTICS: AIR FORCE MANAGEMENT
OF BACKORDERED AIRCRAFT ITEMS NEEDS
IMPROVEMENT"

DEPARTMENT OF DEFENSE COMMENTS

FINDINGS

FINDING A: Invalid Backorders. The GAO reported that, during calendar year 1987, the Air Force had a quarterly average of over 400,000 backorders for secondary items valued at \$7.7 billion. In reviewing the validity of 850 backorders valued at \$18.2 million, the GAO found that 332 (or 39 percent), valued at \$5.9 million, were no longer valid even though they had periodically been certified valid by Air Force activities. The GAO reported that the invalid orders included orders for parts to repair equipment (1) the requisitioner did not have or had already repaired, (3) orders for material in excess of authorization, (2) orders for the wrong item, and (4) duplicate orders. The GAO noted that, when they became aware of the problem, the Air Force requisitioners requested cancellation of \$5.2 million of the \$5.9 million invalid backorders. According to the GAO, the remainder were not cancelled because either it was too late to stop shipment or new requirements were identified. The GAO concluded that the Air Force could save substantial amounts annually in procurement and repair costs by promptly detecting and cancelling invalid backorders. (p. 1, pp. 8-14, p. 21/GAO Draft Report)

DoD Response: Concur. It is emphasized that invalid backorders exist because the supply system is a continuous process, which doesn't stop to perform its policing processes such as backorder validation; consequently, there will always be some "invalid" backorders caused by the overlap of ongoing processes. Invalid backorders also exist because of (1) human errors, (2) "air gaps" in communications systems, and (3) misunderstandings of procedures.

Air Force procedures place great emphasis on correctly identifying and requesting cancellation of unneeded items. Air Force Manual (AFM) 67-1, Vol II, Part Two, Chapter 12, requires base supply personnel to perform daily, weekly, monthly, and quarterly backorder

ENCLOSURE

Now on pp. 2-3, 12-17, 21.

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reconciliations (the frequency depends on the Urgency of Need Designator). The AFM 67-1 also stresses the importance of the accuracy of those tasks. Procedures for depot supply personnel call for the same reconciliations (AFM 67-1, Vol III, Part Two, Chapter 5). To enhance requisitioner understanding of the procedures, on October 14, 1988, the Air Force published Change 2 to Air Force Regulation (AFR) 67-23, *Base Supply Customer Guide*, to clarify responsibilities and to provide a more clear understanding of the consequences of invalid backorders. Extensive instructions for Air Force depot maintenance personnel are contained in Air Force Logistics Command Regulation (AFLCR) 66-53, *Maintenance Materiel Control*.

"Air Gaps" in communications systems (i.e., procedures in the communication process where the electronic elements of the process are interrupted by manual procedures, such as the physical handling of magnetic tapes) occur throughout the DoD. (This element is addressed extensively in Finding H.) Although the GAO identified some cases involving invalid backorders, the Air Force retail level supply systems do request cancellation of unneeded items as a result of customer validations and changes in requirements. At Holloman Air Force Base (AFB), New Mexico, where several of the discrepancies were noted, data gathered from the Standard Base Supply System (SBSS) S1100-60 computer shows that, between August 1987 and January 1988, 14,824 requests for cancellation were generated. (This process is also discussed further in Finding H.) The Air Force does have a viable method of requesting cancellation of unneeded items. Strengthening compliance with the recently enhanced procedures will improve this process.

FINDING B: Weaknesses In Procedures And Practices. The GAO reported that invalid customer and stock replenishment backorders were not detected by periodic Air Force validation checks, or detected but not canceled, due in part, to weaknesses in procedures and practices for periodic backorder validation. The GAO noted that, with the exception of the depot maintenance activity at the San Antonio Air Logistics Center (ALC), the base and depot retail supply activities provide customers with monthly backorder listings for validations. The GAO reported that each customer organization it visited had a supply monitor or material support unit assigned the task of validating and, where appropriate, canceling backorders included on the monthly listings. The GAO found that the customer organizations failed to perform monthly validations, as follows:

- in many instances, nothing was done to validate backorders;
- the majority of supply monitors and material support units did not make any contact with the ordering customer to validate need;

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- in some instances, monthly backorder listings were reconciled with material due-in records, but not with customers;
- in a number of cases, requests for cancellation of invalid orders were not sent by customers because they felt the items would be needed in the future; and
- cancellation was not requested on invalid orders for D062 stock-funded items because the customer units were not sure they would receive credit for the funds obligated, especially those funded with prior year money.

The GAO reported that many supply monitor and material support unit personnel stated that they did not fully understand what was required during the validation process and believed formal training would be helpful.

The GAO also found that, in July 1987, with the installation of a new material tracking system (the Exchangeables Production System), which provides constant status of backorders, the San Antonio ALC depot maintenance activity discontinued using the monthly backorder listings for validation of backorders. The GAO further found, however, that the system did not provide for monthly validation of backorders, as required by Air Force regulations. The GAO observed that this activity had the highest rate of undetected invalid orders (62 percent). (pp. 14-18/GAO Draft Report)

Now on pp. 17-19.

DoD Response: Partially concur. The DoD concurs with the importance of periodic validation and timely cancellation of invalid backorders. Although the GAO identified problems in the implementation of established procedures at the San Antonio ALC, the Exchangeables Production System (EPS) does provide for monthly validation of backorders. Procedures for EPS are contained in AFLCR 66-53, Maintenance Materiel Control, which is still in draft form. In March 1988, Headquarters, Air Force Logistics Command (HQ AFLC), directed the air logistics centers to operate under procedures in the draft. This regulation requires maintenance personnel to review and reconcile outstanding backorders on a daily, weekly, and monthly basis. The regulation further strengthens the backorder validation process by requiring maintenance to:

- notify depot supply of backorders no longer required as soon as the fact becomes known;
- conduct monthly reviews by using the EPS's backorder statistics report to validate backorders and ensure the total of on-hand material and backordered quantities do not exceed total requirements (Note: these listings will be signed by the

appropriate supervisors and retained for one year and the certification that the validation was accomplished will be provided to the directorate backorder monitor on a monthly basis);

- establish a working group of members from the offices of the Deputy Chiefs of Staff for Distribution, Maintenance, Materiel Management, and Contracting and Manufacturing (DS/MA/MM/PM) to investigate and resolve inter-directorate backorder problems on a quarterly basis; and
- establish maintenance division backorder monitors to ensure that (1) the backorder program is visible, viable and pursues command goals and (2) the policies are implemented.

FINDING C: Depot Computer Problems. The GAO reported that the failure to detect or cancel invalid backorders was due, in part, to depot computer problems. The GAO found that the D033 Retail Stock Control and Distribution System, which maintains storage of spare parts to support depot maintenance activities, was not cancelling all excess stock replenishment orders with the wholesale source. The GAO tested 50 stock replenishment orders at the Warner Robins ALC and found 20 invalid orders valued at \$3,284,958. The GAO observed that, prior to its review, Warner Robins and Air Force Logistics Command (AFLC) D033 personnel had received no reports of system failure to cancel orders. (pp. 18-19/GAO Draft Report)

DoD Response: Concur. Currently, however, there are no outstanding deficiency reports against the retail depot supply system (D033). The HQ AFLC will nonetheless continue research to determine if any system problems are precluding timely backorder cancellations. The HQ AFLC review of the Warner Robins-submitted system deficiency report referenced in the audit indicates that the D033 programs were properly processing cancellation requests. In fact, the transaction register submitted with the deficiency report to document the problem shows clearly that a request for cancellation was generated to the wholesale source and, subsequently, the deficiency report was cancelled. It should be noted that the retail system does not automatically cancel backorders as indicated in the report, but rather requests cancellation from the wholesale system. Cancellations can only be made by the wholesale manager. Further, the wholesale manager can only cancel the requisition if an offsetting requirement exists or if a contract can be terminated. The requisition (and any related customer due-out) remains in the system until either cancellation occurs or the item is received. There are several valid situations in which a request for cancellation will not and should not be generated, even though the

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requisition quantity exceeds the computed stock requirement. Examples include requisitions with shipped status (either by the wholesale item manager or direct from a contractor) and quantities requisitioned against a projected depot maintenance workload.

FINDING D: Base Computer Problems. The GAO reported that the failure to detect or cancel invalid backorders was due, in part, to base computer problems. The GAO found three stock replenishment orders, valued at \$84,234, out of a sample of 28, that exceeded requirements because the standard base supply system failed to cancel excess orders due in from the wholesale supply source. According to the GAO, base supply people were unable to determine why the system was not working. (p. 20/GAO Draft Report)

DoD Response: Concur. The Standard Base Supply System (S1100-60) does request cancellation of unneeded requirements on an as-they-are-known basis (as discussed in Finding A). As cited in the report, however, a problem did exist. At Holloman AFB, two problems were identified by the auditors as system problems. After research, it was discovered that one of the problems was a documentation problem (probably the reason that base level personnel could not determine why the system was not working as intended). This problem was corrected on October 1, 1988 in AFM 67-1, Amendment 9. The other problem has been identified and action has been initiated at the Air Force Standard Systems Center, Gunter AFB, Alabama, to research the finding extensively and to take the necessary corrective action.

FINDING E: Assets Not Used To Offset Requirements. The GAO referenced a 1984 report ^{1/}where it found that depot supply levels were included in items buy computations both as a separate quantity based on future usage and as a part of the Air Force-wide forecasted needs based on historical usage. The GAO reported that, in February 1985, the Air Force discontinued the inclusion of a separate quantity for depot supply level requirements in buy computations, but also acted to no longer apply depot supply level assets in computing buy requirements. The GAO noted that, in eliminating the separate quantity requirement, the Air Force, implicitly recognized that depot supply level requirements were included in Air Force-wide forecasted needs based on historical usage. The GAO concluded that the Air Force should have recognized that available depot supply level assets should continue to be applied to offset forecast usage requirements in buy computations. The GAO observed that the Air Force FY 1989

1/ GAO/NSIAD-85-7 "Excessive Air Force Inventories Result From Duplicative Spare parts Requirements," dated October 25, 1984 (OSD CASE 6551).

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budgeted buy requirements for stock-funded D062 system items took into consideration depot supply level requirements valued at \$464.8 million, including \$110.8 million of backordered requirements, but did not consider \$185.2 million of on-hand depot supply level assets available to satisfy requirements; thereby overstating 1989 budgeted buy requirements by \$185.2 million. (pp. 23-25/GAO Draft Report)

DoD Response: Nonconcur. The DoD does not agree that depot supply level assets should be used to offset wholesale requirements. Since these are assets that have been automatically "drawn down" from the depot wholesale account to the depot retail account by the distribution system to support future depot maintenance requirements, they are not available for other requirements. The statement "available" could apply only in the sense that they are physically located in the same storage area. This practice is identical to procedures used to support Air Force bases in that items remain in base supply to support base maintenance. Like the depot, base supply maintains a retail stock level in anticipation of base maintenance needs. Obviously, these base held assets are not available to offset any wholesale requirements. Likewise, neither are the depot assets that are held in storage under the same conditions and for the same reasons. The finding indicates a need for the Air Force to offer a more explicit understanding of the depot demand concept used in the D062 requirements computation. Demands are recorded in the D062 when assets are:

- recorded as due-out to depot maintenance by the depot retail supply account because they are not immediately available for issue (this type transaction is recorded as a backorder in the D062);
- available in depot supply and are issued to depot maintenance (requisitions previously backordered are excluded from this count by use of a backorder release code); and
- either issued or backordered to any other customer. (Again the backorder release code precludes issues previously backordered from the count).

In summary, assets transferred to the depot supply account do not represent demands against the wholesale supply system and are not used along with demands from other customers to forecast worldwide requirements.

The DoD was unable to reconcile the numbers cited for the FY 1989 budget submission referenced in this finding; however, the statement that budgeted buy requirements did not consider on-hand depot supply level assets is incorrect. The system support stock fund budget

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process considers worldwide requirements and assets from both the wholesale (D062) Central Secondary Item Stratification (CSIS) and the retail CSIS in the determination of the funding requirement. The retail CSIS includes depot supply assets as well as assets in base supply at all Air Force installations. Therefore, while the depot supply assets are not considered when computing wholesale requirements, they are considered when requesting funds. As a result, the budget is not overstated, as asserted by the GAO.

FINDING F: Due Out To-Maintenance Backorders Counted Twice.

The GAO found that due-out-to-maintenance (DOTM) backorders are included twice in the computation of budget requirements for D041 procurement appropriation-funded aircraft replenishment spares. The GAO reported that the FY 1989 budgeted requirements for aircraft replenishment spares included the DOTM backorder requirements twice (valued at \$834.6 million). The GAO also noted that FY 1987 and FY 1988 requirements also contained duplicate inclusion of DOTM backorder requirements (valued at \$541.6 million and \$334.7 million respectively). The GAO concluded that elimination of the duplication would have resulted in the following reductions to the Air Force budgeted buy requirements for aircraft replenishment spares:

<u>FISCAL</u> <u>YEAR</u>	<u>REDUCTIONS</u> <u>(\$ Millions)</u>
1989	\$ 13.5
1988	\$ 14.0
1987	\$ 70.0

(pp. 26-27/GAO Draft Report)

DoD Response: Nonconcur. Due-Out-To-Maintenance (DOTM) backorders are not included twice in computing D041 replenishment spare budget requirements. The DOTM level in the D041 computation is not used in computing buy requirements, but only to offset assets which are over and above the accountable spares. The DOTM/Stock Due-Out requirements reflected in the CSIS are offset by installed assets reported in the system as spares. The \$541.6 million, \$334.7 million and \$834.6 million cited for FY 1987, FY 1988, and FY 1989 respectively were unscrubbed requirements. The "simulation to buy" logic in the CSIS does not compute a deficit in the budget or extended year. Any computed deficit will be satisfied through repair of returned installed assets, not through procurement.

FINDING G: Overstated Backorder Requirements Used In Stock Fund Budget Computations For D062 Items. The GAO reported that, based upon tests of the accuracy of backorder requirements used in computing the FY 1989 stock fund budget for D062 items, backorder requirements may be overstated in stock fund budget computations.

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The GAO found two instances where the backorder requirements were overstated, inflating the FY 1989 stock fund budgeted requirement by \$10.7 million. (pp. 27-28/GAO Draft Report)

DoD Response: Concur. While it is correct that the FY 1989 stock fund budget was temporarily overstated in March 1987, the requirements were subsequently corrected. The budget requirements for any fiscal year are stated six times: the first time, twenty-one months before the fiscal year in question, and the last time, six months into the fiscal year. In addition, D062 Stratifications are reviewed quarterly. All required file maintenance actions are accomplished at that time. The D062 inventory management specialist also has the capability to update item computations on a weekly basis. The Warner Robins ALC overstatement of \$7.5 million that was identified in the March 1987 computation was subsequently corrected through file maintenance action and the June 1987 stratification reflected the correct deficit.

FINDING H: Quarterly Reconciliations. The GAO reported that, in conformity with DoD regulations, the Air Force, requires a quarterly reconciliation of aged, unfilled material orders between those shown on the wholesale supply records of the five ALCs and the retail supply activity records. The GAO found, however, that while over 90 percent of the referred orders were cancelled, only about one percent of the dollar value of the orders was canceled, due to a decimal point error in the AFIC automated program logic for compiling and reporting quarterly material order reconciliation results. The GAO noted that the Air Force has indefinitely suspended the automatic cancellation of outstanding material orders, where retail customers do not respond to the request of the ALCs for quarterly reconciliation. The GAO found that the prolonged suspension of the reconciliation program (7 of the last 8 quarters) has resulted in the loss of substantial economic benefits and eliminated an important incentive to ensure maximum retail level responses to quarterly material order reconciliation request from the ALCs. The GAO noted that, for the quarter ending June 30, 1987, the last quarter the ALCs collected data on material order reconciliation requests, retail customers did not respond to reconciliation requests for 32,932 outstanding orders valued at \$712.7 million. The GAO found that, although Air Force policy requires that they all be canceled, none of these orders was canceled. Applying the same rates of cancellation that occurred for orders responded to, the GAO concluded that the Air Force may have lost opportunities to cancel 2,634 orders (8 percent) valued at about \$71.3 million. (pp. 30-34/GAO Draft Report)

DoD Response: Partially concur. The five Air Force air logistics centers do submit the required DoD materiel obligation validation (MOV) requests to all customers (Army, Navy, Marine Corps, etc.) on a

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quarterly cycle. The decimal point error in the program logic for compiling quarterly reconciliation results did exist, as identified by the GAO, and has been corrected. The Air Force suspension of cancelling requisitions due to non-response was done in the aftermath of criticism by Air Force bases that valid requirements were being cancelled by the sources of supply. In mid-1985, shortly after the Air Force converted to the S1100-60 computer system (previously the U1050-II), it was identified that a significant number of requisitions were being cancelled (due to non-response) during the MOV cycle. In July 1985, the Standard Systems Center was tasked to investigate the new hardware and determine cause of this problem. After extensive research and meetings with the Information Systems personnel who operate the computer, the Air Force found that there was a lack of understanding by the people involved in the data transmission process. Procedural guidance was lacking in all of the transmission processes from identifying the files containing MOV data to processing of the computer tapes to the AUTODIN network. Step-by-step instructions were given to the standard base supply system (SBSS) stock control personnel. Concluding that all corrective actions had been taken, the Air Force resumed the DoD MOV process for CY 87-1. Again, extensive step-by-step instructions were given to air Force bases (SSC/SMSM message, 201436Z FEB 87) to ensure correct processing. During this time, the Air Force also implemented an additional program check (Q12 program) in the S1100-60 to improve the DoD MOV process. The Air Force also asked each base to tabulate statistical information on the CY 87-1 MOV process. Responses from Air Force bases indicated a significant number of "erroneous" non-response (BS) cancellations were received. The Air Force then suspended creation of MOV "BS" cancellations but complied with the remainder of the DoD MOV program. During the CY 87-2 cycle, the Air Force asked for assistance from the Defense Automatic Addressing System (DAAS) to capture MOV program data transmissions. The results showed that the process was 69.8 percent accurate, with an additional 15.1 percent accuracy because of the Air Force additive measures mentioned above (Q12). During a six month period (October 1986 - July 1987), the Air Force also captured statistics on retail level-generated requests for cancellation action. It found that: 259,626 cancellation requests were forwarded to Air Force sources of supply, 192,240 were forwarded to the Defense Logistics Agency, and 71,023 were forwarded to the General Services Administration. The Air Force concluded that it would be unwise to continue allowing "BS" cancellations because of (1) the daily requests for cancellation action generated by the retail system and (2) the existing "air gap" in the communications system, which was affecting approximately 15-30 percent of MOV actions. The GAO statistics on the CY 87-2 cycle are not considered valid in view of data identified in the USAF/DAAS test. It should also be understood that the Air Force forwards MOV requests to all customers (the Army, the Navy, etc.), and the figures

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in a quarterly MOV report, as well as those cited by the GAO, include those other customers. The Air Force will lift the suppression of "BS" cancellations when the Host AUTODIN Message Processing System (HAMPS) is implemented (see Recommendation 9).

RECOMMENDATIONS

RECOMMENDATION 1: The GAO recommended that the Secretary of the Air Force direct HQ USAF to take necessary action to strengthen existing procedures for monthly backorder validations at the base and depot levels by requiring that the accuracy of validated listings be certified in writing by appropriate base and depot officials and subjected to independent sampling accuracy checks. (p. 21/GAO Draft Report)

DoD Response: Concur. Proper validation of backorders and determination of organizational needs is an organizational commander responsibility. Procedures for daily, monthly and quarterly backorder validations and certification of those validations are in AFR 67-23, *Base Supply Customer Guide*. On 14 October 1988, USAF/LEYS published change 2 to that regulation to further stress the importance of backorder validations. Both AFM 67-1, Vol. III, Part Two, Chapter 5 (for depot supply) and AFLCR 66-53 (for depot maintenance) require written certification that the monthly validation of depot backorders has been accomplished. The Air Force will continue to emphasize the need for certification of backorder validations and accuracy checks with documentation to be maintained within the organization.

RECOMMENDATION 2: The GAO recommended that the Secretary of the Air Force direct HQ USAF take necessary action to require that transmittal letters, accompanying the monthly listing of backorders to be validated, include detailed validation guidance, stipulate that the accuracy of the validation responses be certified by the appropriate base or depot officials, and state that the certifications are subject to independent sampling accuracy checks. (p. 21/GAO Draft Report)

DoD Response: Concur. The DoD agrees that transmittal letters should contain detailed guidance for accomplishing backorder validation and that the accuracy of the validations will be subject to accuracy checks. The Air Force will include that requirement in the next revision to AFR 67-23, which is anticipated to be issued in May 1989.

RECOMMENDATION 3: The GAO recommended that the Secretary of the Air Force direct HQ USAF to take necessary action to ensure that base and depot personnel responsible for periodic backorder validation checks are adequately trained and fully understand the importance of this task. (p. 22/GAO Draft Report)

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DoD Response: Concur. The AFR 50-10, *Base Supply Customer Training Regulation* outlines procedures for daily, monthly and quarterly validation of backorders by retail supply personnel. In June 1988, a supplement was published to that regulation expanding the requirements for proper and timely backorder validations. Training is accomplished quarterly at base level. The Air Force will also strengthen the guidance in AFR 67-23 in the next revision which is anticipated to be issued in May 1989.

RECOMMENDATION 4: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to direct that the San Antonio ALC depot maintenance activity perform monthly backorder validations in compliance with Air Force regulations. (p. 22/GAO Draft Report)

DoD Response: Concur. San Antonio ALC depot maintenance personnel have been advised of the requirement to perform monthly backorder validations in compliance with Air Force regulations. The HQ AFLC Maintenance Directorate will reemphasize to all ALCs the importance of adherence to all regulations pertaining to the monthly validation of backorders. Estimated completion date for distribution of this direction by letter is November 30, 1988.

RECOMMENDATION 5: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to assure that base and depot supply computer problems inhibiting the automatic cancellation of excess due-in quantities on stock replenishment orders are satisfactorily resolved. (p. 22/GAO Draft Report)

DoD Response: Concur. The Air Force will maintain surveillance over computer problems as they are detected. An explanation of how the systems operate (e.g., the retail system does not effect automatic cancellation of backorders) is included in the DoD response to Findings C and D.

RECOMMENDATION 6: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to revise the policy for D062 stock-funded item requirement computations to apply depot supply level assets to applicable requirements. (pp. 28-29/GAO Draft Report)

DoD Response: Nonconcur. The DoD does not agree that depot supply level assets, which are owned by the retail system, as are base supply assets, should be applied to offset wholesale requirements. The fact that worldwide assets (retail and wholesale) are applied to worldwide requirements in the determination of the stock fund budget request contradicts the assertion that budgets are overstated because

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depot supply stocks are not considered as assets to the wholesale supply system.

RECOMMENDATION 7: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistic Command, to eliminate the duplicate inclusion of due-out-to-maintenance backorders from budgeted requirements for D041 procurement appropriations-funded aircraft replenishment spares. (pp. 28-29/GAO Draft Report)

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DoD Response: Nonconcur. Due-out-to-maintenance (DOTM) backorders are not included twice in computing D041 budget requirements. The DOTM is input to the computation as an additive only to offset an increase in the number of accountable assets. The number of accountable assets increases because an item failure occurs and no serviceable replacement is available. Upon removal, the failed item creates an additional unserviceable asset in the inventory. In short, the DOTM additive prevents overstatement of available spares by offsetting the "extra asset" with a DOTM requirement equal to the quantity of the "extra asset". This item failure must then be considered as a recurring demand in order to project future failures--i.e., a projected shortage of pipeline assets that cause a forecasted DOTM condition. This shortage is calculated for each fiscal year and does not duplicate a projection for any other fiscal year. This requirement simply covers the quantity of expected reparable generations (install removals) for which there is no projected serviceable replacement. The computation logic will generate a repair requirement for the DOTM, which would not otherwise be repaired. It should be noted that the D041 computation does not recognize either backorders or demands, but rather determines requirements based on item failures and condemnations. These requirements are then compared to the number of spares available, regardless of physical location.

RECOMMENDATION 8: The GAO recommended that the Secretary of the Air Force direct the Commander, Air Force Logistics Command, to reemphasize to the Air Logistics Centers the need for eliminating backorder data errors from requirements computations for D062 stock-funded items during the budget review process. (pp. 28-29/GAO Draft Report)

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DoD Response: Concur. The HQ AFLC will distribute a policy letter reemphasizing the necessity for backorder validation to all ALCs. Estimated completion date of this action is December 15, 1988.

RECOMMENDATION 9: The GAO recommended that the Secretary of the Air Force resolve problems with the Air Force process for assuring compatibility between wholesale and retail level backorder records in order to achieve substantial economic benefits and provide an

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important incentive to ensure maximum retail level response to quarterly material order reconciliation requests from the Air Logistics Centers. (p. 34/GAO Draft Report)

DoD Response: Concur. The HQ AFLC is working to resolve the data transmission problems that resulted in the decision to discontinue automatic cancellation of backorders for non-response during quarterly reconciliation. Action has been taken to accomplish this by implementation of the Host AUTODIN Message Processing System (HAMPS). This system will eliminate operator intervention and affords a direct link between the base communication center and the AUTODIN network. The first phase of this initiative has been funded within the AFLC and the five ALCs will be implemented by March 31, 1989. The HQ AFLC cannot correct the data transmission problems for the entire Air Force, however. The Air Force is attempting to acquire funds for HAMPS for all Air Force bases through the Program Objective Memorandum (POM) process. The HQ USAF sent a letter to all major commands on September 20, 1988, requesting submission of their funding requirements for the HAMPS. This phase, once implemented, will eliminate the operator intervention at base level accounts. Estimated completion date for implementation is unknown at this time.

Major Contributors to This Report

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

Paul L. Jones, Associate Director, Air Force Issues, (202) 275-4265
Thomas H. Wells, Assignment Manager
Melvin Wagman, Senior Staff Member

**Atlanta Regional
Office**

William D. Morgan, Site Senior

Dallas Regional Office

Alberto Ayala, Site Senior
Rudy J. Nobles, Evaluator-in-Charge
Donald R. McCuiston, Staff Member

**San Francisco
Regional Office**

Floyd Ortega, Site Senior

Far East Office

Daniel R. Garcia, Site Senior
Kristi Karls, Staff Member

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