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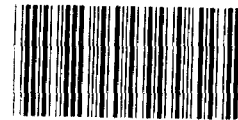
GAO

Briefing Report to the Chairman,
Subcommittee on Oversight and
Investigations, Committee on Energy and
Commerce, House of Representatives

May 1988

PROCUREMENT

Spare Parts and Support Equipment for Air Force C-5 Transport Aircraft



135884

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

National Security and
International Affairs Division

B-220528

May 23, 1988

The Honorable John D. Dingell
Chairman, Subcommittee on
Oversight and Investigations
Committee on Energy and Commerce
House of Representatives

Dear Mr. Chairman:

As you requested, we reviewed (1) whether spare parts for the C-5B aircraft had been procured in the most economic fashion and in accordance with current Air Force policies and regulations and (2) whether reserve units scheduled to receive the C-5A aircraft were provided only necessary ground support equipment.

This letter summarizes the results of our review and the appendixes contain more detail.

INAPPROPRIATE PROCUREMENT PRACTICES
USED TO PURCHASE C-5B SPARE PARTS

Inappropriate procurement practices by the San Antonio Air Logistics Center (SA-ALC) may have resulted in the Air Force paying between \$13 and \$19 million more than necessary for C-5B spare parts. The additional costs were incurred because SA-ALC purchased spare parts indirectly through the prime contractor, the Lockheed-Georgia Company, rather than directly from the parts vendors. This action was contrary to Air Force policy. (See app. II.)

Air Force personnel told us that while SA-ALC initially began to procure spare parts directly from the vendors, it became concerned that parts deliveries might be late because the administrative lead time to purchase directly from individual vendors could be longer than the time needed to purchase through Lockheed.

We do not believe this is a persuasive reason because SA-ALC had sufficient time to identify the parts that could be purchased directly from parts vendors and award the necessary contracts. Moreover, Lockheed also encouraged the Air Force to purchase directly from the vendors.

In buying the spare parts, SA-ALC may have also over obligated between \$9.7 and \$30 million. This occurred because SA-ALC obligated funds on the basis of contractor preliminary price estimates that were significantly higher than the actual contract prices subsequently negotiated. (See app. III.)

We previously reported¹ that obligating more funds than are actually needed has several adverse effects. First, and foremost, it ties up funds for extended periods of time that could be used to meet other requirements. It also distorts the amount of funds available for other obligations. In effect, the Air Force had more funds available than its financial management system indicated. Furthermore, by not definitizing prices and obligating more than the spare parts are estimated to cost, a contractor's incentive to control cost is reduced.

Finally, SA-ALC may have purchased war reserve spare parts for the C-5B earlier than necessary. We previously reported² that the practice of buying spares too early can result in premature outlays, unnecessary holding costs, and artificially increased budgets. (See app. IV.)

As in the case of the initial spare parts, SA-ALC purchased the war reserve spare parts indirectly through Lockheed rather than directly from the parts vendors. Moreover, once the decision was made to buy war reserves early in the program, SA-ALC did not consolidate war reserve purchases with initial spare parts purchases to obtain the benefit of buying in economical quantities. Instead, it ordered the spares piecemeal from the parts vendors.

¹Contract Pricing: Obligations Exceed Definitized Prices On Unpriced Contracts (GAO/NSIAD-86-128, May 2, 1986).

²Military Logistics: Buying Spares Too Early Increases Air Force Costs and Budget Outlays (GAO/NSIAD-86-149, Aug. 1, 1986).

APPROPRIATE PROMPT ACTION ON
GROUND SUPPORT EQUIPMENT

Prompt action by the Air Force reduced requirements for ground support equipment by about \$2 million. According to an Air Force analysis, unnecessary ground support equipment was authorized for units scheduled to receive C-5A aircraft. The units receiving C-5A aircraft for the first time would requisition ground support equipment not knowing it was unnecessary. The Air Force moved up a scheduled review of ground support equipment and reduced ground support equipment authorized for use by reserve units. (See app. V.)

CONCLUSION AND RECOMMENDATIONS

While it is too late to take corrective action on the C-5B spare parts that have already been purchased, we believe the issues identified during our review highlight the continuing need for the Air Force to focus management attention on its spare parts procurement practices. Accordingly, we recommend that the Secretary of the Air Force direct the Commander, Air Force Logistics Command to take steps to assure (1) compliance with current breakout policy concerning the procurement of initial spare parts and (2) that spare parts are purchased directly from vendors when possible and more economical.

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Our objectives, scope, and methodology are discussed in appendix VI. At your request, we did not obtain official agency comments on a draft of this report. We did, however, discuss our findings and recommendations with designated Air Force and Department of Defense personnel and their views are included where appropriate.

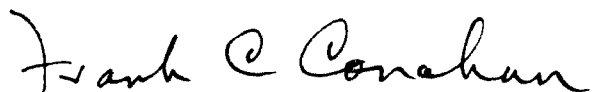
As arranged with your Office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 10 days after the report date. At that time we will send copies to the Chairmen of the Senate and House Committees on Armed Services and Appropriations, Senate

B-220528

Committee on Governmental Affairs, and House Committee on Government Operations, and the Secretaries of Defense and Air Force. We will make copies available to others upon request.

If we can be of further assistance, please call Paul Math on 275-4587.

Sincerely yours,

A handwritten signature in cursive script that reads "Frank C. Conahan". The signature is written in dark ink and is positioned above the typed name.

Frank C. Conahan
Assistant Comptroller General

C O N T E N T S

| | <u>Page</u> |
|---|-------------|
| LETTER | 1 |
| APPENDIX | |
| I BACKGROUND | 6 |
| II INAPPROPRIATE PROCUREMENT PRACTICES RESULT IN UNECONOMICAL SPARE PARTS PURCHASES | 8 |
| Vendors' identities were known | 8 |
| Lockheed refused spare parts orders | 9 |
| AFLC policy change on breakout of initial spare parts | 10 |
| Alternative initiated but not used | 11 |
| Estimated unnecessary costs | 12 |
| Air Force views and our evaluation | 13 |
| III OVER OBLIGATIONS | 15 |
| Over obligations for C-5B spare parts | 15 |
| Agency views and our evaluation | 16 |
| IV EARLY PROCUREMENT OF C-5B WAR RESERVES | 17 |
| Early procurement of war reserves was not justified | 17 |
| Agency views and our evaluation | 18 |
| V PROMPT ACTION BY THE AIR FORCE REDUCES REQUIREMENTS | 19 |
| Need versus authorization | 19 |
| Review of C-5A TOA | 19 |
| Air Force action | 20 |
| VI OBJECTIVES, SCOPE, AND METHODOLOGY | 21 |
| TABLE | |
| II.1 Estimate of unnecessary costs | 12 |

ABBREVIATIONS

| | |
|--------|----------------------------------|
| AFLC | Air Force Logistics Command |
| DOD | Department of Defense |
| GSE | ground support equipment |
| MAC | Military Airlift Command |
| PIO | provisioned item order |
| SA-ALC | San Antonio Air Logistics Center |
| TOA | table of allowances |
| UCA | undefinitized contract action |

BACKGROUND

To improve the Air Force's airlift capability and increase the Air Reserve Forces' contribution to both combat and support missions, the Department of Defense (DOD) is procuring 50 C-5B aircraft and transferring C-141 and C-5A aircraft to the Air Reserve Forces. The Air Reserve Forces consists of the Air Force Reserve and the Air National Guard.

The Air Force will increase the Air Reserve Forces' mission capability by transferring 44 C-5A aircraft in the 1980s and 80 C-141 aircraft in the 1980s and 1990s. The locations¹ receiving the C-5As are requisitioning ground support equipment (GSE) necessary to accomplish C-5 maintenance.

In December 1982, the Air Force awarded the Lockheed-Georgia Company (Lockheed) a firm fixed-price contract with options for 50 C-5B aircraft. As of October 1987, the estimated total program cost was about \$7.2 billion (in then-year dollars)² for the 50 aircraft. The Air Force exercised its options and Lockheed has begun delivery of the aircraft. As of July 1987, 16 aircraft had been delivered. Lockheed was also awarded a provisioning contract for spare parts. An individual spare parts order issued by the Air Force to Lockheed under the provisioning contract is called a provisioned item order (PIO). PIOs were issued at estimated prices with final prices to be negotiated at later dates. Such contractual actions are generally known as undefinitized contract actions (UCA).

In July 1983, the Air Force Logistics Command (AFLC) authorized SA-ALC to procure initial spare parts to support 21 of the first 29 C-5B aircraft. The quantity of initial spare parts was to be sufficient for a 24-month operating period. Spare parts for aircraft 22 and beyond were to be purchased as replenishment³

¹The Air Reserve Forces receiving the C-5A aircraft are the 433d Military Airlift Wing, Kelly Air Force Base, Texas; 439th Tactical Airlift Wing, Westover Air Force Base, Massachusetts; and 105th Military Airlift Group, Stewart International Airport, New York.

²Then-year dollars measure the cost of goods and services in terms of prices current at the time of purchase.

³Replenishment buys are the spare parts acquired for aircraft after the initial provisioning period.

spares. SA-ALC is one of five logistics centers under the direction of AFLC and has the responsibilities of determining C-5B spare parts requirements⁴ and initiating appropriate procurement action.

DOD first established the breakout program in 1963 and issued a joint service regulation called the High Dollar Spare Parts Breakout Program in March 1969. The regulation reflected DOD's intent to reduce the prices of replenishment spare parts for weapon systems by procuring them from the actual manufacturers (vendors) rather than from weapon system prime contractors. By procuring spare parts directly from vendors, prime contractor overhead and profit are avoided.

DOD replaced the 1969 regulation with Defense Acquisition Regulation Supplement No. 6, DOD Replenishment Spare Parts Breakout Program, in June 1983. The supplement was incorporated into the DOD Federal Acquisition Regulation supplement on April 1, 1984.

In July and in August 1983, the Secretary of Defense announced a series of initiatives to improve spare parts prices by emphasizing the use of competition or buying directly from vendors (referred to as "breakout"). In consonance with the strong emphasis given to the breakout concept by the Secretary, the Director of Acquisition Logistics, AFLC, in an October 17, 1984, letter, directed SA-ALC and the other four air logistics centers to initiate breakout of initial spare parts. AFLC then, on February 22, 1985, issued an interim change to its provisioning policies and procedures that more formally recognized the advantages of early breakout to maximize potential economies. This change represented a departure from the way initial spare parts had been procured. Initial spare parts had been previously procured sole source from the prime contractor using PIOs issued under a provisioning contract awarded the prime contractor.

⁴The Military Airlift Command (MAC) determines spare parts requirements for war reserves.

INAPPROPRIATE PROCUREMENT PRACTICESRESULT IN UNECONOMICAL SPARE PARTS PURCHASES

Contrary to Air Force breakout policy, formally announced on October 17, 1984, and by regulation of February 22, 1985, SA-ALC procured initial and war reserve spare parts for the C-5B from Lockheed rather than directly from the vendors during the period January 1985 through August 1986. We estimate the unnecessary costs resulting from this action to be between \$13 and \$19 million. (See table II.1.) SA-ALC made the procurements this way, although

- it knew the identity of the parts vendors,
- it previously purchased some of the spare parts directly from the vendors,
- Lockheed initially refused to accept orders for the spare parts and advised SA-ALC to buy them from vendors, and
- existing vendor contracts could have been used instead of purchasing from Lockheed.

VENDORS' IDENTITIES WERE KNOWN

SA-ALC began the formal initial provisioning process for the C-5B aircraft in 1983. However, Air Force correspondence indicates that preliminary planning discussions on this process were taking place as early as January 1982. Early in the provisioning process, SA-ALC identified 155 spare parts that could have been purchased directly from vendors. The provisioning plan required that initial spare parts be delivered between October 1985 and August 1986. Because required delivery of spare parts was about 3 to 4 years after contract award and vendors had already been identified, SA-ALC should have had sufficient administrative lead time to award contracts directly to the parts vendors instead of Lockheed.

Some spare parts were previously purchased directly from vendors

SA-ALC began to breakout initial spare parts by purchasing them directly from the vendors. However, SA-ALC decided to stop this practice and, effective January 1985, buy all of the required initial spare parts from Lockheed, including those parts previously bought from vendors.

Ten of the 13 spare parts we reviewed had been procured directly from vendors, as well as from Lockheed. For example, SA-ALC bought five computer ground wiring units from Sundstrand in May 1985 for \$15,548 a unit. About 3 months later, in August 1985, SA-ALC purchased 12 more units indirectly through Lockheed, but this time paid \$24,464 a unit. This is a unit cost increase of \$8,916, or 57 percent, while the quantity purchased more than doubled. If SA-ALC had purchased the 12 units from Sundstrand at the May 1985 price, it could have saved \$106,992. SA-ALC also procured this spare part three more times, in February, June, and August 1986, from Lockheed at PIO prices higher than the price originally paid the vendor.

In another example, in April 1985, SA-ALC procured four data recorder units from Honeywell, Inc., at \$40,531 a unit. In August 1985, SA-ALC procured 12 units from Lockheed at a PIO unit price of \$60,100, or 48 percent more, although the quantity tripled. SA-ALC procured this spare part two additional times, in December 1985 and June 1986, at PIO prices higher than the price originally paid the vendor.

While SA-ALC initially began the breakout process, it became concerned that spare parts deliveries might be late because the administrative lead time to purchase directly from individual vendors would be longer than the time needed to purchase through Lockheed. SA-ALC believed this could result in not having enough initial spare parts delivered and available to support the first 21 C-5B aircraft for 2 years by December 1985, the first time aircraft were scheduled to be delivered. For this reason, SA-ALC reversed its initial breakout efforts and purchased all remaining spare parts from Lockheed.

We do not believe this reason is persuasive because SA-ALC should have had adequate administrative lead time to award contracts to parts vendors. In addition, SA-ALC had identified these parts vendors early in the provisioning process. In fact, SA-ALC had already awarded some contracts to parts vendors and should have been able to place parts orders with those vendors as quickly as with Lockheed. Finally, SA-ALC's decision to buy from Lockheed was contrary to Air Force policy.

LOCKHEED REFUSED SPARE PARTS ORDERS

Lockheed initially refused to accept orders for initial spare parts from the Air Force in accordance with its corporate policy of not submitting proposed prices on spare parts it does not manufacture. The form letters issued by Lockheed stated:

- "1. In the interest of providing spare parts to the government at the most reasonable and advantageous price, the Lockheed-Georgia Company refrains from quoting part number _____ of subject Request For Quotation.
- "2. This part is not manufactured by Lockheed; therefore, we recommend you contact the source shown below for the quotation:
- _____
- _____
- _____
- "3. Please contact us at _____ should you have questions regarding this matter."

Lockheed again advised SA-ALC to order vendor supplied spare parts from the vendors. In a February 1985 memorandum, Lockheed stated that while it was accepting orders for selected C-5B spare parts supplied by vendors, this was a departure from Lockheed policy and was only applicable to some spare parts. Furthermore, Lockheed did not contemplate providing all vendor supplied spare parts. Nevertheless, SA-ALC continued to order vendor spare parts from Lockheed until August 1986, by which time it had completed most of the parts purchases.

AFLC POLICY CHANGE ON BREAKOUT
OF INITIAL SPARE PARTS

As of August 20, 1984, SA-ALC strategy required that some C-5B spare parts should be purchased from Lockheed after January 1, 1985, and that others should be purchased from Lockheed after March 1, 1985. Subsequent to SA-ALC's requirement, AFLC, on October 17, 1984, changed its breakout policy to include purchasing initial spare parts directly from vendors. This change should have affected the procurement of virtually all initial and war reserve spare parts purchased after the October 17, 1984, AFLC policy change. However, SA-ALC disregarded this policy change and purchased these parts from Lockheed as originally planned. In a March 21, 1985, letter, SA-ALC notified AFLC that it intended to procure C-5B spare parts from Lockheed.

AFLC, in its May 1, 1985, response to SA-ALC, stated that procurement from Lockheed must be viewed as a last resort in light of current policy advocating breakout during provisioning. AFLC suggested award of provisioning contracts to parts vendors so that PIOs could be issued the vendors. At the time of the AFLC suggestion, SA-ALC had already started awarding provisioning contracts to parts vendors. In an April 2, 1985, memorandum to

the SA-ALC Directorate of Contracting and Manufacturing (Procurement), the Director of Material Management, SA-ALC stated:

"Lockheed advises that as a matter of corporate policy they will no longer accept orders for vendors items . . . an acceptable solution would be to negotiate provisioning contracts with each vendor to allow us to process buys on PIO. . ."

On all but 1 of the 13 spare parts purchases we reviewed, the first procurement occurred after October 17, 1984, when AFLC changed the breakout policy.

ALTERNATIVE INITIATED
BUT NOT USED

In June 1985, the SA-ALC Directorate of Contracting and Manufacturing (Procurement) began awarding provisioning contracts to parts vendors, and by August 1986 it had awarded provisioning contracts to 56 vendors. We identified 50 occasions where PIOs for the spare parts could have been awarded to the parts vendors rather than Lockheed.

For example, SA-ALC procured two voltmeter units from Lockheed in March 1985. On November 19, 1985, SA-ALC's Directorate of Contracting and Manufacturing (Procurement) awarded a provisioning contract to General Electric, the vendor. In December 1985 and in June and August 1986, the spare parts were procured from Lockheed despite the existence of the provisioning contract with General Electric.

Administrative lead time was a factor that concerned the Directorate of Material Management. Yet, when action was taken to overcome this concern--a PIO can be processed as quickly to a vendor as it can to Lockheed--the Directorate of Material Management continued to insist on award to Lockheed. Provisioning contracts were awarded to vendors for 8 of the 13 spare parts we reviewed, and in each case, SA-ALC continued to procure the spare parts from Lockheed.

ESTIMATED UNNECESSARY COSTS

As shown in table II.1, we estimate that SA-ALC could have paid between \$13 to \$19 million more than necessary because it did not procure C-5B spare parts directly from the vendors.

Table II.1: Estimate of Unnecessary Costs

| | (dollars in millions) | |
|--|-----------------------|----------------|
| Obligated for vendor parts purchased from Lockheed | \$60.7 | \$60.70 |
| Adjustment ^a | <u>-7.3</u> | <u>-22.47</u> |
| Adjusted obligations | <u>53.4</u> | <u>38.23</u> |
| Estimate for overhead and profit | <u>X .35</u> | <u>X .35</u> |
| Estimated unnecessary costs | <u>\$18.69</u> | <u>\$13.38</u> |

^aThe adjustment recognizes that spare parts prices and obligations were estimated. When prices are definitized, obligations will be reduced by the difference between higher estimated prices and lower final prices.

We calculated the adjustment amount shown in table II.1 using factors developed in a prior report.¹ That report covered 716 contracts where prices were finalized in fiscal year 1985, and DOD obligated an average of 12 to 37 percent more than needed. We multiplied the adjusted obligations by 35 percent to estimate the cost that could have been avoided by direct vendor procurement. The 35 percent is based on the difference between the prices Lockheed paid its vendors and the prices the Air Force paid Lockheed for 39 items.

¹Contract Pricing: Obligations Exceed Definitized Prices on Unpriced Contracts (GAO/NSIAD-86-128, May 2, 1986).

Corrective action
too late

In September 1986, we briefed Air Force officials from AFLC, the Air Staff, and MAC on our preliminary findings. We told them that procurement of C-5B spare parts from Lockheed rather than directly from the vendors was

- unnecessary and significant additional costs would be incurred and
- not in compliance with the spare parts initiatives or AFLC breakout policy.

In a September 19, 1986, letter, AFLC directed SA-ALC to stop procuring C-5B spare parts from Lockheed if the items had been previously acquired from other sources. An official at SA-ALC stated that the AFLC letter had little effect because all of the initial spare parts authorized for the first 21 aircraft and war reserve spare parts for 34 aircraft had been procured before the letter was issued.

AIR FORCE VIEWS AND
OUR EVALUATION

Air Force personnel believed that our estimate of unnecessary costs of \$13 to \$19 million was too high because (1) our sample size of 13 spare parts was too small, (2) some of Lockheed's prices were lower than vendor prices, (3) the estimate for overhead and profit should be 22 to 26 percent rather than 35 percent, and (4) all parts might not be made available from vendors due to delivery requirements and/or design instability.

We selected the 13 parts from a listing of 27 parts to determine whether SA-ALC was procuring spare parts from Lockheed rather than the vendors. Our sample confirmed SA-ALC was in fact procuring from Lockheed. Further effort disclosed that the Directorate of Material Management had adopted a strategy of buying all C-5B initial spare parts from Lockheed. This policy was adopted in January 1985 and continued until August 1986.

On the question of Lockheed's prices being lower than vendor prices, we found 5 of the 13 spare parts had actual prices paid by the Air Force to both the vendor and Lockheed. In 4 of the 5 cases, the prices the Air Force paid Lockheed ranged from 11 to 57 percent higher than those the Air Force paid the vendors. In the one case where Lockheed's price was less, SA-ALC procured one

spare part from the vendor for \$19,450 and subsequently procured eight from Lockheed for \$15,143 a unit. SA-ALC made two later procurements from Lockheed--one for 22 units at an estimated unit price of \$19,450 and one for 2 units at an estimated unit price of \$20,034. Lockheed purchased these spare parts from the same vendors as the Air Force and adds its overhead and profit. It is, therefore, unlikely that Lockheed could supply the spare parts for less. Further, we were told by the Air Force Plant Representative Office that Lockheed did not attempt to obtain an economic order quantity price advantage by consolidating C-5B spare parts orders. Lockheed placed orders with vendors for the same quantities the Air Force requested on each PIO.

Because the prices SA-ALC paid some vendors were higher than the prices it paid Lockheed, the DOD Inspector General has undertaken a review of the spare parts breakout program and will look into the possibility of a dual pricing structure where vendors charge prime contractors lower prices than they charge the government for the same item.

Air Force personnel stated that their estimate of 22 to 26 percent for overhead and profit was based on contract documents. Our estimate was based on a comparison of the actual prices paid by the Air Force to Lockheed and by Lockheed to its vendors. We believe this estimate was the most accurate using available data. Nevertheless, if a midpoint of 24 percent is used, the estimate of unnecessary costs is between \$9.2 to \$13.9 million.

Regarding parts availability, these vendors are the only sources for C-5B unique spare parts. Thus, if their capacity was committed to satisfying Lockheed's production requirements, whether the Air Force ordered through Lockheed or directly from the vendors would make little difference in time. Until Lockheed's production requirement for 50 aircraft was satisfied, the Air Force would have to wait whether it ordered directly or through Lockheed. Further, the correspondence between Lockheed and SA-ALC did not indicate that vendor capacity was a concern. Finally, Lockheed repeatedly advised the Air Force to procure directly from the vendors.

Air Force personnel also stated that while problems existed in the Directorate of Material Management because of inadequate communication caused, in part, by the new breakout procedures for initial spare parts, these would be resolved.

OVER OBLIGATIONS

Over obligating funds has several adverse effects. First and foremost, it ties up funds for extended periods of time that could be used to meet other requirements. It also distorts the amount of funds the Air Force has available for obligations. In effect, the Air Force has more funds available for other requirements than its financial management system indicates.

Over obligations may occur when contracting officers use unpriced contracts to authorize contractors to start work and to incur costs before final contract agreement on terms, conditions, and price are reached. In such cases, funds are obligated based on contractor estimated prices, which our previous work¹ showed to be significantly higher than the final contract prices. As such, unpriced contracts do not provide the necessary incentives to achieve cost controls since the contractor bears minimum cost risk and essentially operates in a cost-plus mode until contract negotiations are completed. Also, obligating more than necessary to pay final prices tends to reduce a contractor's incentive to promptly submit cost proposals and negotiate final contracts.

OVER OBLIGATIONS FOR
C-5B SPARE PARTS

As of August 1986, SA-ALC had obligated \$80.9 million for C-5B spare parts using PIOs. Of this amount, \$60.7 million was for vendor items and the remainder for items manufactured by Lockheed.

Although we did not determine the total amount of excess obligations resulting from unpaid contracts awarded by SA-ALC, we found that for 5 of the 13 spare parts reviewed obligations ranged from 18 to 57 percent higher than the final contract price. This data is comparable to that contained in our 1986 report on obligations exceeding definitized prices on unpriced contracts, in which we found that DOD obligated an average of 12 to 37 percent more than needed and total obligations exceeded final prices by 18 percent. Applying the more broadly based DOD percentages to the total amount of spare parts procured by SA-ALC, excess obligations could range between \$9.7 and \$30 million and total obligations could exceed final prices by about \$14.6 million.

¹Contract Pricing: Obligations Exceed Definitized Prices on Unpriced Contracts (GAO/NSIAD-86-128, May 2, 1986).

Efforts to control
unpriced contracts

In response to concern expressed by the Secretary of Defense over the use of unpriced contracts, or UCA as the Air Force prefers to call them, the Air Force Vice Chief of Staff issued a policy in October 1985 on the use of unpriced contracts. This policy called for a number of actions to reduce or control undefinitized contracts, such as limiting obligations to 50 percent of the estimated price. Additionally, the Defense Authorization Act of 1987 also placed limitations on the use of such contract actions. However, these limitations do not apply to the use of undefinitized contract actions for the procurement of initial spares and consequently, SA-ALC obligated 100 percent of the estimated price.

AGENCY VIEWS AND OUR EVALUATION

Personnel from the Air Force and the Spare Parts Program Management Office in the Office of the Secretary of Defense told us that new systems have periods of design uncertainty and instability that make spares forecasting and pricing difficult at best. They believe that this situation requires the flexibility associated with longer definitization periods and 100 percent funding of obligations as permitted under current legislation. According to the Air Force officials, prudent application of current procedures is all that is needed. We believe that more needs to be done to ensure that prudent actions take place.

EARLY PROCUREMENT OF C-5BWAR RESERVES

MAC is responsible for computing war reserve requirements for the C-5B. Current AFLC policy requires identification and concurrent procurement of war reserve requirements as early as possible during the provisioning process. Once MAC determined its war reserve requirements, SA-ALC initiated the procurement actions.

EARLY PROCUREMENT OF WAR
RESERVES WAS NOT JUSTIFIED

MAC personnel told us that because there was no usage data from C-5B operations on the specific spare parts, computation of war reserve requirements was primarily judgmental.

We compared the scheduled delivery dates of C-5B aircraft to those for war reserve spare parts. We found that the parts were scheduled to arrive earlier than the aircraft.

MAC personnel agreed that war reserve spare parts had been procured for 34 aircraft, when 29 aircraft were on contract. However, they pointed that AFLC authorized war reserve spare parts for 34 aircraft.

We previously reported¹ that too early an investment in spare parts inventories increases holding costs such as storage, interest, and obsolescence.

War reserves not
purchased in most
economical manner

War reserve spare parts have been generally procured directly from the parts vendors rather than the prime contractors. However, SA-ALC procured war reserve spare parts for the C-5B from the prime contractor, as was the case with initial spare parts. As a result, the Air Force paid more for war reserve spare parts than necessary as discussed in appendix II. Although SA-ALC concurrently procured initial and war reserve spare parts, it did not consolidate these purchases to obtain economic order quantity price reductions.

¹Buying Spare Parts Too Early Increases Air Force Cost and Budget Outlays (GAO/NSIAD-86-149, Aug. 1, 1986).

Instead, SA-ALC placed orders for war reserve spare parts on a piecemeal basis as the orders were received.

AGENCY VIEWS AND
OUR EVALUATION

Air Force and DOD personnel agreed that war reserves should be based on mission requirements. However, they stated that when supporting a new system, it is not always possible to develop spare parts procurement plans that are based on actual usage experience. They also agreed that when initial and war reserve space parts are purchased concurrently, orders should be combined.

We believe that the Air Force should combine requirements when possible to achieve the most economical buy.

PROMPT ACTION BY THE
AIR FORCE REDUCES REQUIREMENTS

The Air Force took prompt and responsive action that reduced requirements for GSE by an estimated \$1.9 million. An analysis performed by the 439th Tactical Airlift Wing, Westover, Massachusetts, indicated that unnecessary GSE was authorized for units scheduled to receive C-5A aircraft. If this information was not communicated to other units receiving C-5A aircraft for the first time, they could have ordered GSE not knowing it was unnecessary. After we discussed this issue with appropriate personnel, the Air Force moved up a scheduled GSE review with personnel from Headquarters, AFLC, MAC, Air Force Reserves, and active C-5 bases and reduced authorized GSE.

NEED VERSES AUTHORIZATION

The 439th Tactical Airlift Wing is scheduled to receive and operate C-5A aircraft. In preparing for C-5A operations, the 439th compared the GSE used by an active unit at Dover Air Force Base to the GSE listed in the table of allowances (TOA) it had been provided. TOA was provided to the 439th so it could order required GSE. Based on the comparison, the 439th prepared a listing of 122 items of GSE that was on TOA but unnecessary to support C-5A aircraft.

Reliance on authorization
resulted in unnecessary
requisition

The 433d Military Airlift Wing at Kelly Air Force Base, which is also scheduled to receive and operate C-5A aircraft, requisitioned all the GSE authorized by TOA. The Chief of Supply Operations at Headquarters, Air Force Reserve, stated that MAC and Travis Air Force Base personnel told the Air Force Reserve that the TOA list was current and included only required items. The Air Force Reserve and the 433d had not previously performed C-5A aircraft maintenance, therefore, they did not have any experience that could be drawn upon when reviewing TOA.

REVIEW OF C-5A TOA

We visited Dover Air Force Base and provided the active unit with a listing of the 122 GSE items previously identified as unnecessary. We worked with Air Force personnel and identified

64 of the 122 items as unnecessary, although they were on TOA. Air Force personnel told us that the difference between the 122 initially identified by the 439th Group and the 63 might be attributed to the different levels of maintenance and different types of facilities at the various bases.

We briefed the Air Staff, MAC, and AFLC personnel regarding the accuracy of TOA. Air Force Reserve units preparing for operation of C-5A aircraft could order GSE based on TOA and find it was not necessary. In fact, this is what the 433d reserve unit at Kelly Air Force Base had done.

AIR FORCE ACTION

As a result of our briefing, the Air Force told us it had reviewed TOA at Dover Air Force Base for C-5A aircraft and reduced the number of items authorized by about \$1.9 million. In addition, the Headquarters, Air Force Reserves, directed the 433d at Kelly Air Force Base to cancel requisitions and turn in equipment that was not needed. We have also asked the Air Force to inform us of the results of these cancellations.

OBJECTIVES, SCOPE, AND METHODOLOGY

As requested by the Chairman, Subcommittee on Oversight and Investigations, House Committee on Energy and Commerce, we continued the review of Air Force spare parts procurement for the C-5B aircraft that we initiated in the summer of 1986. Our objectives were to determine whether

- spare parts for C-5 aircraft had been procured in the most economical fashion and in accordance with the regulations on breakout and
- reserve units scheduled to receive C-5A aircraft were provided only necessary GSE.

We selected 13 spare parts from a listing of 27 procured from Lockheed. We obtained procurement histories on these 13 spare parts that showed dates procured, from whom, and actual or estimated prices. We also determined if the spare parts had been procured from sources other than Lockheed. We interviewed 11 item managers to determine if they knew whether other sources were available and discussed with management personnel the policies and procedures followed.

To determine the number of potential available sources, we identified contract awards to vendors and compared the dates of these awards to the dates orders were issued to Lockheed.

We compared the prices Lockheed paid its vendors to the prices Lockheed charged the Air Force for 39 spare parts. The comparison showed the 39 items experienced an average increase of 35 percent.

To accomplish our second objective, we obtained the documentation prepared by the reserve unit regarding GSE requirements. Using this information, we worked with an active Air Force unit to confirm the accuracy of the information.

We performed our work during the period August 1986 through November 1987. Our review was performed in accordance with generally accepted government auditing standards.

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