

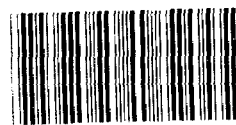
GAO

Report to Congressional Requesters

August 1987

# MILITARY PROCUREMENT

## Air Force Should Terminate More Contracts for On-Order Excess Spare Parts



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**National Security and  
International Affairs Division**

B-225030

August 12, 1987

The Honorable Bill Chappell, Jr.  
Chairman, Subcommittee on Defense  
Committee on Appropriations  
House of Representatives

The Honorable William V. Roth  
Ranking Minority Member  
Committee on Governmental Affairs  
United States Senate

As requested, we are reporting the results of our review of Air Force procedures and practices for terminating procurements of excess on-order<sup>1</sup> recoverable aircraft spare parts.<sup>2</sup> The objective of our review was to determine whether the Air Force Logistics Command (AFLC) adequately considers the cost effectiveness of terminating contracts for excess on-order material. Our review covered two of the Air Force's five air logistics centers (ALCs)—Sacramento and San Antonio. We found that terminations should be increased, thereby reducing the government's procurement and inventory holding costs and providing the basis for reduced spares funding requests by the Air Force.

We reviewed 44 of 70 items at the two ALCs having September 30, 1985, on-order values which included more than \$1 million that was excess to needs. The on-order excess values for the 44 items totaled \$74.2 million and those for the 70 items totaled \$103.2 million. We found that the ALCs had terminated the procurement of only \$1.8 million, or less than 3 percent of the sample we reviewed. Our analyses showed that they should have terminated an estimated additional \$24.9 million, about 24 percent, of the \$103.2 million universe.

The ALCs had not terminated these procurements because the cost benefits to be derived were not adequately and promptly analyzed. Had they terminated the procurements, the government would have saved between about \$11.9 million and \$36.8 million, depending on whether some or all of the material had to be reprocured. The \$11.9 million, which assumes the material would be reprocured, represents the difference between the inventory holding costs that would be avoided and the contract termination costs that would be incurred. The \$36.8 million,

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<sup>1</sup>Excess on-order spare parts are those quantities that exceed a 4-year supply.

<sup>2</sup>Recoverable spare parts are those which can be repaired and reused after becoming unserviceable.

which assumes that the material would not be reprocured, includes the \$11.9 million plus the \$24.9 million value of the items.

ALC officials agreed to reconsider their earlier decisions. By the time we completed our fieldwork, they had terminated procurements of about \$10.5 million of the \$24.9 million on-order excesses that our analyses showed should have been terminated and were considering others. Estimated net savings from these actions are between \$5.2 million and \$15.7 million, depending on whether future reprocurement of some or all of the material is necessary.

We also found that the Air Force's automated D041 system, which generates tentative termination recommendations for managers, contains highly inaccurate data, thus making its recommendations unreliable.

We briefed AFLC officials on our findings and conclusions and they agreed that the termination process at all ALCS should be improved. Based on the missed opportunities to terminate procurements for excess on-order material we identified at the two ALCS, we believe that improving the management controls of the termination process at all ALCS could significantly reduce the government's procurement outlays and inventory holding costs. Such improvement could also enable the Air Force to reduce its future aircraft procurement appropriation requests.

The objectives, scope, and methodology of our review are described in appendix I.

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## Background

AFLC is responsible for providing logistics support to ensure that Air Force weapon systems are kept at maximum operational capability at the least possible cost. AFLC carries out its responsibilities largely at its headquarters at Wright-Patterson Air Force Base, Ohio, and at five ALCS. These ALCS use a standard computerized system, known as the D041 system, in their quarterly computations of the types and quantities of recoverable spares to be bought.

On a quarterly basis, the system calculates when items should be bought, based on parts on hand (serviceable and unserviceable) and on order, amount and timing of projected use, and procurement lead times.<sup>3</sup>

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<sup>3</sup>Procurement lead time represents the administrative and production lead time required to obtain spare parts. For the purpose of forecasting requirements, it begins when an item manager prepares the purchase request, runs through award of the procurement contract, and ends with the first significant delivery (i.e., 10 percent of the total contract quantity).

Changes in use, procurement lead times, repair cycle times, and other factors can reduce the estimated requirements and cause material on hand and on order to become excess to the Air Force's needs. Each quarter, the D041 system generates tentative termination recommendations for on-order spare parts which appear to be excess to current needs.

Item managers review these D041 system recommendations for possible reduction or termination of on-order material. Their reviews are governed by AFLC Regulations 57-4 and 57-19. In making the reviews, they are to validate the accuracy of the D041 system data used to compute the amount of apparent excess material on order and, if necessary, correct the data files. They also are to consider various costs and such factors as the extent of production lead time that has passed in evaluating whether or not to recommend termination.

After this evaluation and a supervisory review, the item managers' termination recommendations and supporting data are forwarded to the contracting and manufacturing directorate. This directorate, after validating the item managers' data and determining the amount of termination costs that might be incurred, makes the final decision as to whether procurement termination is in the government's best interest.

## Cost Benefits of Termination Not Adequately and Promptly Analyzed

Our review at two ALCS and an AFLC-directed study at another ALC completed in August 1984 indicate that the Air Force terminates less than 3 percent of the total value of excess recoverable spares on order. Our analyses of September 30, 1985, data showed that the Sacramento and San Antonio ALCS had terminated only \$1.8 million, or 2.4 percent, of the material in our \$74.2 million sample of items for which the D041 system had tentatively recommended termination. Our analyses showed that it would have been cost effective for the two ALCS to have terminated an additional \$24.9 million, or 24.1 percent, of the \$103.2 million universe of items represented by our sample.

To test whether the two ALCS' procedures and practices for terminating on-order excess material were adequate, we selected 44 items with termination values of more than \$1 million, totaling \$74.2 million,<sup>4</sup> from

<sup>4</sup>The original total termination value reported by the D041 system for the 44 items in our sample was \$441.9 million. As discussed beginning on p. 10 and as shown in table 3 (p. 11), the D041 system data were not accurate. Had the data been correct, the D041 system should have recommended termination of only 34 of the items, with total termination values of \$74.2 million. Because our detailed analyses, findings, projections, etc., are based on consideration of the corrected data, \$74.2 million is shown as the size of our sample to avoid giving an inflated indication of the actual potential terminations.

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the September 1985 D041 system listing of items recommended for termination. We determined whether it would have been cost effective to terminate the procurements of the 44 items. We did this by determining and comparing the costs of accepting the on-order material and the costs of terminating the procurements. As costs of accepting the items, we included material acquisition and transportation costs and the costs of holding the material in inventory. In determining the costs of terminating procurements, we included incurred costs reported by contractors, contractor and Air Force administrative costs of termination, and reprourement costs (i.e., acquisition costs if the material were bought in the future).

The item managers at the two ALCS had recommended that procurements of five of the items, valued at \$6.7 million, in our sample be terminated. The contracting and manufacturing directorate actually terminated procurements for three of these items, valued at \$1.8 million. From our detailed analyses, we concluded that the two ALCS should have terminated procurements of an additional 15 items with on-order excesses valued at \$24.9 million, or 24.1 percent, of the \$103.2 million total on-order excesses represented by our sample. Terminating procurement of these spare parts would have saved an estimated \$11.9 million to \$36.8 million, depending on whether later repro procurements would be necessary for some or all of the material, as shown in table 1.

Table 1: Items Identified by GAO for Termination

Item	Acceptance costs		Termination costs			Estimated savings	
	Cost of item <sup>a</sup>	Holding cost	Contractor cost	Administrative cost	Reprocurement cost	Low <sup>b</sup>	High <sup>c</sup>
San Antonio:							
Compressor stator	\$1,206,726	\$806,256	\$120,625	\$5,000	\$1,206,275	\$680,631	\$1,887,357
Ven housing	5,165,082	2,533,840	0	2,000	5,165,082	2,531,840	7,696,922
Main fuel control	2,544,725	1,397,952	278,670	5,000	2,544,725	1,114,282	3,659,007
Wheel turbine	1,821,904	1,069,803	126,000	5,000	1,821,904	938,803	2,760,707
First stage nozzle	327,032	244,061	93,374	5,000	327,032	145,687	472,719
5 additional items <sup>d</sup>	8,531,560	4,665,910	476,914	16,961	8,531,560	4,172,035	12,703,595
<b>Subtotal</b>	<b>19,597,029</b>	<b>10,717,822</b>	<b>1,095,583</b>	<b>38,961</b>	<b>19,597,029</b>	<b>9,583,278</b>	<b>29,180,307</b>
Sacramento:							
Altitude indicator	2,535,598	1,389,589	138,533	3,500	2,535,598	1,247,556	3,783,154
Feel trim assembly	396,311	226,106	19,811	4,000	396,311	202,295	598,606
Power supply	1,082,728	709,052	648,924	6,000	1,082,728	54,128	1,136,856
Fiber optic cable	763,146	512,434	2,925	5,000	763,146	504,509	1,267,655
Pitch feel assembly	553,151	356,462	63,119	4,000	553,151	289,343	842,494
<b>Subtotal</b>	<b>5,330,934</b>	<b>3,193,643</b>	<b>873,312</b>	<b>22,500</b>	<b>5,330,934</b>	<b>2,297,831</b>	<b>7,628,765</b>
<b>Total</b>	<b>\$24,927,963</b>	<b>\$13,911,465</b>	<b>\$1,968,895</b>	<b>\$61,461</b>	<b>\$24,927,963</b>	<b>\$11,881,109</b>	<b>\$36,809,072</b>

<sup>a</sup>Minor amounts of transportation costs are included in some of these figures.

<sup>b</sup>The savings indicated in this column consider reprocurement costs. These savings would be realized if the items were bought again in the future.

<sup>c</sup>The savings shown in this column would be realized if the items were not reprocured.

<sup>d</sup>At San Antonio, we reviewed a random sample of 25 items from a universe of 51 items. Based on our findings for those 25 items, we were able statistically to project that we would have identified 5 additional items for termination if we had reviewed the entire universe.

The reasons these items had not been terminated are set forth in the following section. After we discussed our conclusions with ALC officials, they agreed to reconsider their earlier decisions and by the completion of our review had terminated about \$10.5 million of the \$24.9 million. This will save an estimated \$5.2 million to \$15.7 million, as shown in table 2.

**Table 2: Items Terminated as a Result of GAO's Review**

Item	Cost of item	Estimated Savings	
		Low <sup>a</sup>	High <sup>b</sup>
San Antonio:			
Ven housing	\$5,165,082	\$2,531,840	\$7,696,922
Wheel turbine	1,821,904	938,803	2,760,707
<b>Subtotal</b>	<b>6,986,986</b>	<b>3,470,643</b>	<b>10,457,629</b>
Sacramento:			
Altitude indicator	2,535,598	1,247,556	3,783,154
Feel trim assembly	396,311	202,295	598,606
Pitch feel assembly	553,151	289,343	842,494
<b>Subtotal</b>	<b>3,485,060</b>	<b>1,739,194</b>	<b>5,224,254</b>
<b>Total</b>	<b>\$10,472,046</b>	<b>\$5,209,837</b>	<b>\$15,681,883</b>

<sup>a</sup>The savings indicated in this column consider reprourement costs. These savings would be realized if the items were bought again in the future.

<sup>b</sup>The savings shown in this column would be realized if the items were not reprocured.

## Why Excess Items Are Not Terminated

AFLC officials informed us that the lack of adequate AFLC guidance was largely responsible for Sacramento and San Antonio item managers not recognizing that terminating procurements would have been less costly than accepting and holding the material. These managers and procurement personnel were not thoroughly and promptly analyzing and comparing all of the relative costs of accepting or terminating contracts for the material, as required by AFLC Regulation 57-4.

First, they were not considering the costs of holding excess material in stock. Second, they were interpreting AFLC Regulation 57-4 in a way that caused them to make inaccurate assumptions as to when terminations would be economical. Third, item managers often took excessive time to complete their analyses, allowing contractors to incur additional costs and causing terminations to become uneconomical.

## Holding Costs

AFLC Regulation 57-4 requires that holding costs be evaluated in determining whether to terminate or accept excess on-order quantities. However, this requirement was not being met. Inventory holding costs consist of interest, storage, and obsolescence costs.

At the Sacramento and San Antonio ALCS, the item managers and procurement personnel did not consider holding costs for any of the items in



our sample. ALC officials acknowledged that holding costs had not been considered and attributed this lack of compliance to the absence of AFLC guidance on how to calculate holding costs.

We found that the ALCs will incur an estimated \$13.9 million in unnecessary holding costs for the 15 items that we determined should have been terminated. As illustrated by the following example, holding costs can be very significant and, therefore, need to be considered.

**Stock No. 6130-01-123-7583ZS: A  
Power Supply Used on  
Teletypewriter Equipment**

On August 31, 1984, the Sacramento ALC awarded a contract to procure 992 units of this item at \$4,275 each. On January 11, 1986, due to declining requirements, the D041 system recommended 253 units, costing \$1,081,540, for termination. These excess units represented about a 15-year supply. The item manager recommended terminating the 253 items to the contracting and manufacturing directorate. That directorate's termination contracting officer decided it was uneconomical to take termination action because the contractor had incurred costs of over 60 percent of the contract price. In making this determination, the contracting officer did not compare the costs to accept the items, including inventory holding costs, to the costs to terminate, as required by AFLC Regulation 57-4. Our analysis showed that by comparing the cost to accept the items (\$1,791,780) with termination costs (\$654,924), costs of \$1,136,856 could have been avoided. The costs to accept the items included \$709,052 to hold the excess inventory for a 9-year period.<sup>5</sup> Consideration of the costs to accept and hold the items would have shown that it was cost beneficial for the government to terminate the procurement.

**Production Lead Time**

AFLC Regulation 57-4 states that item managers should consider the amount of elapsed production lead time when deciding to accept or terminate excess on-order material. Item managers' interpretation of this regulation caused them to assume that termination would not be cost effective if 10 percent or more of the total contract quantity of an item was scheduled to have been received at the time the item manager was deciding whether to terminate the procurement. Our review and an earlier AFLC study showed, however, that this assumption was causing item managers not to recommend termination of excess on-order material that should have been terminated.

<sup>5</sup>We consistently used a 9-year retention period to compute holding costs, in conformance with AFLC Regulation 57-4.

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The portion of AFLC Regulation 57-4 dealing with termination of on-order excess material states that one consideration which should be carefully evaluated in deciding to start termination action is whether 75 percent of production lead time has expired. The regulation indicates that it is generally considered uneconomical to terminate procurement of on-order excesses when 75 percent or more of production lead time has passed. However, the regulation states that production lead time in this context means "actual production as confirmed by procurement".

Our detailed analyses of the costs of accepting versus the costs of terminating excess on-order material showed that item managers did not recommend terminating 4 of the 19 items in our Sacramento sample that should have been terminated because they believed that 75 percent of production lead time had expired. The item managers believed that 75 percent of production lead time had expired when 10 percent or more of the contract quantities were scheduled for delivery. Their belief was based on AFLC's definition of production lead time used in computing requirements, i.e., as the time between the date of contract award and the time that 10 percent or more of the contract quantity has been delivered.

Item managers should not assume that termination will be uneconomical merely because 10 percent or more of the contract quantity is scheduled for delivery. Such an assumption does not adequately recognize that only minor costs might have actually been incurred by contractors on the undelivered contract quantity. Instead, they should consider the actual production status of the entire contract quantity and the effect on termination costs of total production costs that have been incurred by contractors at the time termination is being contemplated.

An AFLC-directed study completed in August 1984 at the Oklahoma City ALC showed that termination costs were about 20 percent of acquisition value when 10 percent of contract deliveries had been made and 75 to 85 percent of acquisition value when 75 percent of contract deliveries had been made. That study concluded that it generally becomes uneconomical to terminate when a majority of the contract quantity has been delivered.

One of the items in our Sacramento sample which should have been, but was not, recommended for termination is discussed below.

Stock No. 1560-00-767-8511BJ: A  
Pitch Feel Assembly Used on the  
F-111 Aircraft

On August 7, 1984, the Sacramento ALC awarded a contract for 13 of these units at \$42,529 each, a total of about \$553,000. On December 14, 1985, the D041 system identified all 13 units for possible termination because of decreasing use. This excess on-order quantity represented more than a 9-year supply. The item manager determined that 75 percent of production lead time had expired and, consequently, did not recommend termination. This determination was made on the basis that 10 percent of the contracted quantities were scheduled for delivery. Our analysis disclosed that none of the contracted quantities had actually been delivered and comparing the \$909,613 in costs to accept the items (\$553,151 for the items and \$356,462 for holding costs) with the \$67,119 in termination costs (\$63,119 contractor incurred cost and \$4,000 administrative termination costs) showed that costs of \$842,494 could have been avoided by termination, as shown in table 1. After we brought this to the attention of the item manager and his supervisor, they reconsidered their earlier decision and recommended that procurement of the 13 excess on-order units be terminated, which was done on July 21, 1986.

## Excessive Delays

Although AFLC regulations require that the ALCS review D041 system termination recommendations in a timely manner, we found that this requirement was not always being met.

AFLC Regulation 57-4 requires that item managers review termination recommendations within 10 work days after receipt of the D041 system computation. Prompt processing of these recommendations is essential to avoid continued contractor costs for items that may no longer be required. Item managers at the Sacramento ALC did not review all D041 system-recommended terminations within the established time frames. The delays were attributed, among other reasons, to heavy workloads and higher priority matters. Of the 19 items at Sacramento, 12 were not reviewed within the required 10 work days. Six of the 12 items had been in the materiel management directorate's review process for more than 60 days, including one item which was under management review for 98 days and another which had been held for 89 days with no action.

In addition to the 10 work days prescribed by AFLC regulation, the materiel management directorate at the San Antonio ALC had authorized an additional 15 work days for management review of the item managers' termination actions. The additional 15 days were added in response to an August 1985 Air Force Audit Agency report, which found the ALC

was not reviewing terminations within the required time frame. However, many of the reviews were not being completed within the longer time frame of 25 days. Of the 25 items in our San Antonio sample, 11 items—or 44 percent—were not reviewed within the 25-day timeframe. Of these 11 items, 8 had taken 30 work days or longer, including one which had been in the review process for 7 months. AFLC is required to approve deviations from the regulations governing contract terminations. We found that although AFLC was aware of the San Antonio ALC’s 15-day extension, it had not approved it.

### Tentative Termination Recommendations Unreliable Because D041 System Data Are Inaccurate

The data on which the D041 system bases its tentative termination recommendations are highly inaccurate. As a result, item managers cannot rely on the system’s termination recommendations.

According to AFLC Regulation 57-4, item managers are required to validate the requirements data on which the D041 system bases its tentative termination recommendations and to revise the data as necessary to assure their accuracy. These data pertain to such things as quantities of spares on hand (serviceable and unserviceable) and on order, amount and timing of projected use, and procurement lead times. Changes in various factors can change current requirements and cause material on hand and on order to become excess.

The D041 system data providing the bases for the tentative termination recommendations were inaccurate for 40 of the 44 sample items we reviewed at the two ALCs and had to be revised before reliable termination decisions could be made. The D041 system initially recommended that orders of \$441.9 million for our 44 sample items be terminated. However, after the data pertaining to 40 of these items were corrected, we found that the system should have identified orders of only \$74.2 million for 34 items for possible termination, as shown in table 3.

**Table 3: Number and Value of D041 System-Recommended Terminations Based on Original and Corrected Sample Data**

Dollars in millions				
	Number		Value	
	Original data	Corrected data	Original data	Corrected data
<b>Air logistics center</b>				
Sacramento	19	16	\$30.7	\$17.0
San Antonio	25	18	411.2	57.2
<b>Total</b>	<b>44</b>	<b>34</b>	<b>\$441.9</b>	<b>\$74.2</b>

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In one case, the value of an item to be terminated was revised from about \$300 million to \$4.4 million after errors in the D041 system data were corrected. In another case, the item manager revised the termination value of a sample item from about \$9 million to a buy value of about \$300,000.

During our review, in June 1986, AFLC emphasized to the ALCS the importance of identifying and reducing data errors in the D041 system. An AFLC study of the validity of reported on-order excesses completed in September 1986 also revealed significant inaccuracies. In response to congressional concern about the amount of reported on-order excesses resulting from the March 31, 1985, requirement computation cycle, AFLC directed its five ALCS to validate reported on-order item excesses that exceeded \$1 million for the March 31, 1986, cycle. The ALCS' review of items with reported on-order excess values totaling \$1,405.9 million revealed that the reported value was overstated by \$730.2 million, or 51.9 percent.

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## Conclusions

Our review and the August 1984 AFLC study indicate that the Air Force terminates less than 3 percent of the total value of excess on-order aircraft spare parts. We believe it would be cost effective for the Air Force to terminate substantially more procurements of excess on-order parts.

The two ALCS we reviewed did not take maximum advantage of cost-effective terminations, primarily because AFLC had not given them specific guidance for calculating the required factors, such as inventory holding costs, to determine whether it would be more economical to terminate or to accept on-order excess items. In addition, increased management attention to D041 system data accuracy and management controls over the processing of termination actions were needed to ensure that system termination recommendations were based on accurate data and termination actions were processed promptly.

AFLC officials acknowledged that the termination process should be improved at all five ALCS. We believe that, by improving the process at all ALCS, the Air Force could significantly reduce its procurement outlays and inventory holding costs. This in turn should enable it to reduce its future aircraft procurement appropriation requests for spares.

## Agency Comments and Our Evaluation

In commenting on a draft of this report (see app. II), the Department of Defense (DOD) agreed that improvement is needed in the procedures and practices governing terminations of on-order material. DOD concurred with our recommendation and indicated that, upon receipt of additional information from an ongoing DOD Inspector General (IG) review, it would issue policy guidelines regarding such terminations.

DOD cautioned that the economic model we used in our work should not be the only decision tool employed in determining whether to terminate orders, noting that other factors, such as stability of demands and diminishing sources, should be considered. According to DOD, the policy guidelines it plans to issue will balance two objectives: preventing the acquisition of material which significantly exceeds requirements and avoiding termination costs when there is a high probability that the material will be required and reprocured within a short period of time.

We understand DOD's desire not to terminate procurements of material which will be required again in the near future and we considered this desire in performing our review. As discussed earlier, we did not base our analyses on the raw, uncorrected D041 system data and tentative termination recommendations. Before we analyzed the cost effectiveness of potential terminations, we asked the appropriate item managers to ensure that we were working with accurate data regarding requirements for and status of the items we reviewed. As previously stated, these item manager reviews resulted in many significant changes and greatly reduced the number and value of potential terminations. In addition, we discussed each item we reviewed with the item manager to ensure that we considered such factors as those mentioned by DOD. We concluded that a contract for an item should be terminated only after considering all of the pertinent information provided to us.

DOD also pointed out that the termination costs used in our analyses are estimates and that contractors have up to one year to present termination claims against the government. AFLC Regulation 57-4 requires that estimated costs be used. The estimated termination costs used in our analyses were provided by the Air Force.

DOD took exception to our draft report statement that management controls had not been adequate to ensure that D041 system termination recommendations were based on accurate data. We have revised the statement.

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DOD also asserted that our report "further justifies the Air Force need to modernize and acquire a more responsive requirements system." DOD stated that the Requirements Data Bank (RDB), an automated system currently being developed, will provide the Air Force with the real-time capabilities required for updates and management visibility and will sharply reduce errors like those that currently make the D041 system tentative termination recommendations unreliable.

We do not agree that our report justifies the Air Force's need to acquire a new system. The scope of our work in this review did not encompass an evaluation of that need. We recently issued a report<sup>6</sup> to the Chairman, House Committee on Government Operations, however, dealing with the Air Forces' program to replace 94 of its logistics management systems. One of the main conclusions of that report was that because the Air Force generally did not complete the required initial planning activities for the individual projects, which include the RDB, it had not ensured that the most cost-effective alternatives were being pursued or that the projects as designed would correct existing system deficiencies and achieve expected benefits. The report makes many specific references to the RDB, which was not expected to be completed until September 1994, including the following:

"Project officials of the Requirements Data Bank relied on a systems engineering management plan to define the system's overall concept and acquisition strategy. However, this plan did not evaluate the current way of doing business, identify existing problems in the operations, or present alternative solutions to correct these problems as required by regulations.

"... we visited two of the Air Logistics Centers where the Air Force Logistics Command said some project segments were being used. We observed that for one Requirements Data Bank project segment, users were generally not using the system because the data were up to 3 months old. Instead, users said they relied on the old system because the data were only a week old. Although neither system was considered adequate because users felt they needed overnight updates, the old system's data were at least more current than the new system's data.

"None of the eight economic analyses we reviewed contained the criteria to be used for measuring the degree to which the project would resolve current operational problems.... Project officials of the Requirements Data Bank project told us that they could not explain why their economic analysis did not include this information."

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<sup>6</sup>Air Force Computers: Development Risks of Logistics Modernization Program Can Be Reduced (GAO/IMTEC-87-19, May 15, 1987).

Also, DOD did not agree with our conclusion that improvements in the termination process should enable the Air Force to reduce its future aircraft appropriation requests. It stated that the savings resulting from improving the process "will be applied to meet other pressing requirements ...." DOD did not provide any specific data describing the nature of these "other pressing requirements." When we asked DOD to be more specific, we learned that the Air Force intended to use the savings to procure unfunded spares requirements, i.e., such things as war reserve stocks for which the budget justification provided to the Congress has not requested funding.

We believe a more appropriate approach would be for the Air Force and DOD to more fully inform the Congress in advance of the intended use of funds that are appropriated. This can be done by the Air Force and DOD (1) reducing funding requests by the estimated amount of savings which will be realized for funded requirements through improved termination practices and (2) justifying to the Congress during the budget process any alternative plans to use the savings to procure unfunded requirements.

As stated previously, DOD indicated that it will issue policy guidelines to improve the termination process. However, DOD did not indicate specifically when the Air Force could be expected to implement our recommendation. When we followed up, we learned that DOD no longer intended to wait for information from the DOD IG review, but that implementation could not reasonably be expected before February 1988.

We believe our recommendation to improve the Air Force termination process should be implemented promptly. In a January 1987 report<sup>7</sup> to the Chairman, Subcommittee on Defense, House Committee on Appropriations, we pointed out that the value of aircraft spares on-order excesses had increased from \$334.4 million to \$817.7 million between March 1985 and March 1986. As a percentage of total aircraft spares on order, the excess grew from 4.3 to 9.6 percent. In view of this increase, which averaged more than \$120 million per quarter, and the fact that Air Force terminations can be effected only on a quarterly basis (i.e., at 3-month intervals), we believe that implementation of our recommendation should not be deferred pending issuance of the new DOD guidance. Proper coordination between the Air Force and DOD should allow the

<sup>7</sup>Air Force Budget: Potential for Reducing Requirements and Funding for Aircraft Spares (GAO/NSIAD-87-48BR, Jan. 13, 1987).



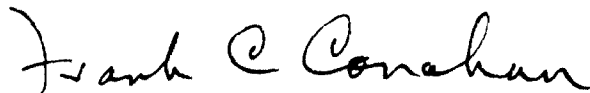
implementation of prompt, effective actions in line with our recommendation which will not conflict with the DOD policy guidance when it is issued. This should result in achieving significant savings which will be lost if action is delayed.

## Recommendations

We recommend that the Secretary of the Air Force emphasize to the Commander, AFLC, the importance of an effective program, including appropriate management guidance and oversight, for terminating procurements of excess on-order spares when termination is in the best interest of the government. Such a program should ensure that:

- Item managers base termination decisions on timely comparisons of the costs of accepting excess material with those of terminating procurements. In order to prepare such comparisons, item managers should be given clear, specific guidance on how to consider all appropriate costs.
- Item managers do not routinely conclude that it is uneconomical to terminate on-order material solely because they believe 75 percent or more of the production lead time has expired.
- The data in the D041 requirements system are accurate.
- ALCs not deviate from AFLC termination regulations without proper approval.

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



Frank C. Conahan  
Assistant Comptroller General

# Objectives, Scope, and Methodology

Our primary objective was to determine whether Air Force procedures and practices for terminating excess on-order material were adequate to avoid unnecessary procurement and inventory holding costs. We also wanted to examine the controls established by the Air Force to manage the termination process.

We did our work between November 1985 and August 1986 at the Headquarters of the Air Force Logistics Command in Dayton, Ohio; the Sacramento ALC at McClellan Air Force Base, California; and the San Antonio ALC at Kelly Air Force Base, Texas.

We reviewed Air Force procedures and practices for terminating excess on-order recoverable spares. We also interviewed AFLC and ALC officials responsible for carrying out these activities and examined records to determine whether item managers reviewed termination actions within established time frames.

We obtained computer printouts listing recommended termination actions for recoverable items managed by the Sacramento and San Antonio ALCs for the September 1985 requirements computation cycle, the most recent quarter for which data were available at the start of our review. We analyzed the printouts and identified a universe of items with termination values of \$1 million or more for detailed review. We selected a threshold of \$1 million or more because of the large number of items in the universe, the wide distribution of dollar values, and the audit time which would have been required for a complete review of all the September 1985 requirements computation cycle termination actions. Our universe consisted of 70 items with recommended excess on-order terminations valued at \$537.4 million—19 items valued at \$30.7 million at the Sacramento ALC and 51 items valued at \$506.7 million at the San Antonio ALC. Our sample consisted of 44 items with recommended excess on-order terminations valued at \$441.9 million. We selected all 19 Sacramento items and randomly selected 25 of the 51 San Antonio items. After the D041 system data pertaining to our universe of 70 items were corrected, the total termination value of the universe was \$103.2 million and that of our 44 sample items was \$74.2 million.

We determined which sampled items the two ALCs' item managers recommended be terminated and which items actually were terminated. We also determined whether items that were not recommended for termination could have been recommended for termination, had appropriate cost factors been considered and termination regulations followed.

Our work at the San Antonio ALC was based on a random sample of potential terminations. Therefore, we were able to estimate the number and value of additional items that we would have found should have been terminated if we had reviewed the entire universe. We computed the estimate and its associated variance at the 80-percent confidence level. That is, we are 80-percent confident that the additional terminations that could have been effected in the September 1985 requirements cycle is between the lower and upper limits of the range, as shown in table I.1.

**Table I.1: Projection of Additional Terminations to San Antonio's Universe**

	80-percent confidence level		
	Median estimate	Lower limit	Upper limit
<b>Costs</b>			
Procurement	\$8,531,560	\$3,412,624	\$13,650,496
Inventory holding	4,665,910	1,866,364	7,465,456
Contractor termination	476,914	190,766	763,062
Administrative termination	16,961	6,784	27,138
Reprocurement	8,531,560	3,412,624	13,650,496
<b>Savings</b>			
If not reprocured	\$12,703,595	\$5,081,438	\$20,325,752
If reprocured	4,172,035	1,668,814	6,675,256

To determine whether the Air Force should terminate procurements of excess material, we compared the costs of accepting the on-order material with the costs of terminating the procurements. We considered termination economically feasible for items whose acceptance costs exceeded their termination costs. To determine the costs of accepting items, we included acquisition, transportation, and inventory holding costs. To determine the costs of terminating items, we included incurred costs as reported by contractors, contractor administrative costs, Air Force administrative costs, and reprocurement costs.<sup>1</sup>

We calculated holding cost factors as a percentage of each item's unit price, as shown in table I.2.

<sup>1</sup>Reprocurement costs represent the cost of items the Air Force may have to repurchase in the future. We used the number of units listed for termination at the current contract price to calculate the present value cost of buying the items in the future.

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**Appendix I**  
**Objectives, Scope, and Methodology**

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**Table I.2: Holding Cost Factors**

<b>Factors</b>	<b>Percent</b>
Interest	7.81
Obsolescence and losses	2.50
Storage	1.00
<b>Total</b>	<b>11.31</b>

We used AFLC-provided factors for obsolescence and storage costs and the U.S. Treasury's cost to borrow for the interest rate. We did not attempt to validate the AFLC-provided factors. We performed present value analyses of holding costs for the items in inventory to determine the costs to the Air Force after accounting for the time value of money.

Our review was made in accordance with generally accepted government audit standards.

# Comments From the Assistant Secretary of Defense (Production & Logistics)



ASSISTANT SECRETARY OF DEFENSE

WASHINGTON, D.C. 20301-8000

PRODUCTION & LOGISTICS

APR 24 1987

L/SD

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 PROCUREMENT: Air Force Should Terminate More Contracts For On-Order Excess Spare Parts," dated March 2, 1987 (GAO Code 392161, OSD Case 7242).

The Department agrees with the GAO finding that improvement is needed in the procedures and practices for terminating procurements of on-order materiel. The DoD Logistics Systems Analysis Office has reviewed this area, and the DoD Inspector General (IG) is currently reviewing it. Upon receipt of additional information from the DoD IG review, the Department will issue policy guidance to balance the objective of preventing the acquisition of materiel which significantly exceeds requirements with the objective of avoiding contract termination costs when there is a high probability that the materiel will be required and reprocured within a short period of time.

The Department does not agree with the GAO conclusion that future aircraft procurement appropriation requests can be reduced if the management of the termination process is improved. Savings accrued from improving the management of the termination process will be applied to meet other pressing requirements, as would savings from any other management improvement.

Detailed DoD comments are provided in the enclosure. Thank you for the opportunity to comment on the draft report.

Sincerely,

  
Robert B. Costello

Enclosure

Appendix II  
Comments From the Assistant Secretary of  
Defense (Production & Logistics)

GAO DRAFT REPORT - DATED MARCH 2, 1987  
(GAO CODE 392161) OSD CASE 7242

"MILITARY PROCUREMENT: AIR FORCE SHOULD TERMINATE MORE  
CONTRACTS FOR ON-ORDER EXCESS SPARE PARTS"

FINDINGS AND RECOMMENDATIONS TO BE ADDRESSED IN THE  
DOD RESPONSE TO THE GAO DRAFT REPORT

\* \* \* \*

FINDINGS

FINDING A: Cost Benefits of Terminations Were Not Adequately and Promptly Analyzed. The GAO reviewed the Air Force procedures and practices for terminating procurements of excess on-order recoverable aircraft spare parts. The GAO tested the adequacy of the Air Force Logistics Command (AFLC) procedures and practices for terminating on-order excess material by selecting 44 items with termination values totaling \$74.2 million from the September 1985 Recoverable Item Computation System (DO41) listing of items recommended for termination. The GAO then determined whether it would have been cost effective to terminate procurement of the 44 items by determining and comparing the costs of accepting the on-order material and those of terminating the procurements. The GAO found that the Sacramento and San Antonio Air Logistics Centers (ALCs) had terminated only \$1.8 million of material of the \$74.2 million sample of items. The GAO concluded, however, that it would have been cost effective for the two ALCs to have terminated an additional \$24.9 million, of the \$103.2 million universe of items represented by the GAO sample. The GAO observed that overall, the Air Force terminated less than 3 percent of the total value of excess on-order aircraft spare parts. The GAO further concluded, therefore, that it would be cost effective for the Air Force to terminate substantially more procurements of excess on-order parts. The GAO reported that after discussing its conclusions with AFLC officials, they reconsidered their earlier decisions; at the completion of the GAO review, the ALCs had terminated about \$10.5 million of the \$24.9 million. The GAO estimated that this will save between \$5.2 million and \$15.7 million. (pp. 1-2, pp. 4-6, p. 15/GAO Draft Report)

DoD RESPONSE: Partially concur. The Department concurs with importance of timely and accurate reviewing of potential excess on-order spare parts. It is the DoD position, however, that the economic model used in the GAO survey should not be the exclusive and final decision tool in the termination decision process. Other supply factors such as stability of demands, planned requirements, projected production plans for the next higher assembly, and the impact on defense readiness, must be considered

Now on pp. 1-6 and 11-12.

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before making a termination decision. Additional considerations may include the adequacy of technical data to reprocur the item in the future, expected long lead time production factors, and diminishing sources. The Department will define termination guidelines that consider both the economic factors and supply and procurement factors peculiar to the item. It should be noted that termination costs determined within the 10 day time frame prescribed by Air Force, and used during the GAO review, must be considered estimates. The Federal Acquisition Regulation (FAR) allows contractors up to one year to present a termination claim against the government.

FINDING B: Why Excess Items Were Not Terminated. The GAO found that the Sacramento ALC and San Antonio ALC item managers and procurement personnel were not thoroughly and promptly analyzing and comparing all of the relative costs of accepting or terminating contracts for the material, as required by AFLC Regulation 57-4. The GAO reported that, according to AFLC officials, a lack of adequate guidance was mostly responsible for the item managers not recognizing that terminating procurements would have been less costly than accepting and holding the material. The GAO also found the following:

- The item managers were not considering the costs of holding excess material in stock as required by AFLC Regulation 57-4. The GAO noted that the ALCs will incur an estimated \$13.9 million in unnecessary holding costs for the 15 items that it determined should have been terminated.
- The item managers were interpreting AFLC Regulation 57-4 in a way that caused them to make inaccurate assumptions as to when terminations would be economical. According to the GAO, item managers were assuming that termination would not be cost effective if 10 percent or more of the total contract quantity of an item was scheduled to have been received at the time the item managers were deciding whether to accept or terminate the material.
- The item managers often took excessive time to complete their analyses, allowing contractors to incur additional costs and causing terminations to become uneconomical. The GAO noted that AFLC Regulation 57-4 requires item managers to review termination recommendations within 10 work days after receipt of the DO41 system computation. The GAO concluded that at the ALCs it reviewed, item managers did not take advantage of cost-effective terminations, primarily because AFLC had not given them specific guidance for calculating the required factors (such as inventory holding costs) to determine whether it is more economical to terminate or to accept on-order excess items. (pp. 1-2, pp. 7-13, p. 15/GAO Draft Report)

Now on pp. 1-2, 6-10,  
and 11-12.

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Comments From the Assistant Secretary of  
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DoD RESPONSE: Concur. However, the contract termination decision requires both the economic analysis and the consideration of supply factors, such as the stability of demands, potential long-range requirements, procurement and production factors, and the impact on defense readiness.

FINDING C: Tentative Termination Recommendations Are Unreliable Because D041 System Data Is Unreliable. The GAO found that the data on which the D041 system bases its tentative termination recommendations are highly inaccurate. The GAO observed that, as a result, item managers cannot rely on the system's termination recommendations. The GAO concluded that the D041 system data providing the basis for the tentative terminations were inaccurate for 40 of the 44 sample items it reviewed and had to be revised before reliable termination decisions could be made. The GAO found that, initially, the System recommended that orders of \$441.9 million for the GAO sample be terminated; but after the data was corrected, orders of only \$74.2 million for 34 items should have been identified for possible termination. The GAO reported that at the time of its June 1986 onsite work, HQ AFLC emphasized the importance of identifying and reducing data errors in the D041 system and directed the five ALCs to validate reported on-order item excesses that exceeded \$1 million for the March 31, 1986 cycle. The GAO found that the AFLC review of items with reported on-order excess values totaling \$1,405.9 million revealed that the reported value was overstated by \$730.2 million. The GAO concluded that management controls were not adequate to ensure that the D041 system termination recommendations were based on accurate data or that termination actions were processed promptly. (p. 2, pp. 13-15/GAO Draft Report)

Now on pp. 2, 10, 11, and 12.

DoD RESPONSE: Partially concur. The Department does not agree with the GAO conclusion that Recoverable Item Computation System (D041) inaccuracies have resulted from inadequate Air Force management controls. The D041 does not provide management or item managers with up-to-date visibility or the capability to make updates and immediately see their effect. Instead, AFLC must rely on D041's quarterly outputs to obtain the results or verify factor changes. As a result, item managers must revalidate hundreds of data elements as well as make their termination decisions. These problems are peculiar to the system and not a result of management control.

This report further justifies the Air Force need to modernize and acquire a more responsive requirements system. The Requirements Data Bank (RDB) will provide the Air Force with the real-time capabilities required for updates and management visibility. The RDB capability will sharply reduce the system errors now found in the D041 system.



**Appendix II  
Comments From the Assistant Secretary of  
Defense (Production & Logistics)**

**RECOMMENDATION**

**RECOMMENDATION:** The GAO recommended that the Secretary of the Air Force emphasize to the Commander, AFLC, the importance of an effective program, including appropriate management guidance and oversight, for terminating procurements of excess on-order spares when termination is in the best interest of the Government, ensuring that:

- item managers base termination decisions on timely comparison of the costs of accepting excess material with those of terminating procurements;
- item managers are given clear and specific guidance on how to consider all appropriate costs;
- item managers do not routinely conclude it is uneconomical to terminate on-order material solely because they believe 75 percent or more of the production lead time has expired;
- the data in the DO41 requirements system are accurate; and
- the AFLC formally approve any deviations from its termination regulations. (pp. 15-16/GAO Draft Report)

**DoD RESPONSE:** Concur. The OSD Logistics Systems Analysis Office has reviewed this area, and the DoD Inspector General (IG) is currently reviewing it. Upon receipt of additional information from the DoD IG's review, which is expected within six months, the Department will issue policy guidance to balance the objective of preventing the acquisition of materiel which significantly exceeds requirements and the objective of avoiding contract termination costs when there is a high probability that the materiel will be required and reprocured within a short period of time.

Now on p. 15.



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