

GAO

Report to the Ranking Minority Member,
Committee on Governmental Affairs, U.S.
Senate

February 1987

PROCUREMENT

Spare Parts Initiatives Air Force Implementation



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

National Security and
International Affairs Division
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February 13, 1987

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

Dear Senator Roth:

In response to your request, we have assessed the Department of Defense's (DOD's) progress in implementing its spare parts initiatives. The Secretary of Defense announced the initiatives in July and August 1983 to improve the procurement of spare parts. A more detailed discussion of these initiatives is provided in appendix I

We previously reported to you¹ on spare parts acquisition at the San Antonio Air Logistics Center (SA-ALC) Aviation Systems Command, Ships Parts Control Center, and Defense Electronics Supply Center. Our follow-up work was performed at these same activities and this report presents the results of our review at SA-ALC, including the following.

- Information on the price growth during the two periods we examined. (See app. III.)
- An evaluation of the adequacy of the price analysis procurement officials performed during each of these periods (See app. IV)
- An assessment of the personnel changes made in response to the initiatives. (See app. V)
- Our observations on how implementing selected initiatives could be improved. (See app. VI.)

Our methodology is explained in appendix II. The results of our review are summarized below and presented in more detail in the appendixes. We will issue separate reports on the Aviation Systems Command, Defense Electronics Supply Center, and the Ships Parts Control Center

We compared the prices on 15,938 procurements totaling \$190.7 million to determine the changes that occurred during the 12-month period ending March 31, 1985. Our review showed that 7 percent of the procurements experienced price growth of 25 percent or more while 56 percent had either no price change or a price decrease. We could not

¹DOD Initiatives to Improve the Acquisition of Spare Parts (GAO/NSIAD-86-52, Mar 11, 1986)

quantify the extent to which the initiatives, as opposed to other factors,² helped achieve these results. However, we found substantial evidence that the initiatives are being implemented and it is likely that they have had an effect. For example, SA-ALC is now buying in larger quantities and avoiding frequent buys of small quantities, as required by one of the initiatives. Further, additional personnel have been trained and allocated to the procurement function, and performance evaluation factors have been changed to emphasize the need for quality pricing. Also, estimated prices are being prepared by the Directorate of Competition Advocacy and provided to procurement officials for use in future price analyses.

While these efforts provide reasons for optimism, ample opportunity exists for further improvement. We found, for example, that inadequate price analyses occurred in 34.6 percent of our sampled procurements with price growth of 25 percent or more. Price growth of this magnitude should prompt close scrutiny. Further, inadequate price analyses occurred frequently on first time procurements (36.6 percent of our sample) and procurements with price decreases (30.6 percent of our sample). Adequate price analyses on first time procurements are particularly important because the acceptability of future prices often depends on how they compare with first time prices.

After receiving a draft of this report, the Air Force issued a letter to all commands outlining price analyses pitfalls and citing the examples of inadequate price analyses contained in the report. The letter requested appropriate officials to remind buyers of these pitfalls and to ask buyers to examine their use during price analyses. (See app. VII.)

We identified two areas that need improvement to better achieve the intent of the initiatives: the Voluntary Refund Program and purchase request consolidation. Air Force activities (primarily the SA-ALC Competition Advocate) had identified, as of September 1985, over \$21 million in potential voluntary refunds to the Directorate of Contracting and Manufacturing. However, only \$121,290, or less than 1 percent had been refunded. We also found that, in some instances, procurement officials were not taking advantage of opportunities to consolidate purchase requests. We found four contracts in our random sample where consolidation should have occurred. As a result, we performed further analyses

²Changes in spare parts prices could have been the result of several factors. Certainly lower inflation and improvement in the economy, probably played major roles. The attention given spare parts by top DOD officials and efforts by contractors to minimize price growth and avoid adverse media publicity probably also contributed.

and found 254 procurements valued at \$4.3 million were made for identical spare parts, up to 30 days apart.

We briefed SA-ALC officials on the results of our analyses. According to these officials, SA-ALC has made progress in consolidating procurements but can still improve. The Air Force indicated in its informal comments on a draft of this report that additional corrective actions had been taken and that we had not adequately recognized SA-ALC's efforts on the voluntary refund program. Air Force officials pointed out that as of May 1986, voluntary refunds totaled \$394,397 and the remaining cases were being actively reviewed.

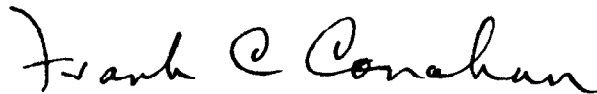
The Air Force also explained that the situation at SA-ALC during our review was unique. The Directorate of Competition Advocacy's responsibilities and procedures were evolving and being refined while the Directorate of Contracting and Manufacturing was experiencing a growing work load and a shortage of personnel that demanded primary emphasis be given to current procurement. Thus, progress under the voluntary refund program suffered from a low priority.

The Air Force Logistics Command recognized this problem and has, since completion of our review, reduced the role of its Competition Advocates in referring potential voluntary refunds to the Directorates of Contracting and Manufacturing for resolution. Under the change, routine procurements that made up the vast majority of awards for spare parts will no longer be subject to referrals from the Advocates to the Directorates of Contracting and Manufacturing. This will undoubtedly reduce or substantially eliminate the need for the Directorate of Contracting and Manufacturing to resolve referrals for voluntary refunds because there will be very few. This change, however, does not seem consistent with the Secretary's initiative to "aggressively pursue" voluntary refunds.

Since the Air Force alerted the five logistics centers to some of the "pitfalls" discussed in this report and instituted additional action to improve consolidation of procurement requests, we are not making any recommendations on any matter discussed in this report except the issue of voluntary refunds. On this matter, we recommend that the Secretary of the Air Force reestablish the requirement for Competition Advocates to make referrals when appropriate, and direct the Directorates of Contracting and Manufacturing to resolve referrals within a reasonable time period.

As arranged with your Office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of the report. At that time, we will send copies to the Secretaries of Defense and Air Force and the Chairmen of the Senate and House Armed Services and Appropriations Committees. We will also send copies to interested parties and make copies available to others upon request.

Sincerely yours,

A handwritten signature in cursive script that reads "Frank C. Conahan".

Frank C. Conahan
Assistant Comptroller General

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Abbreviations

AFLC	Air Force Logistics Command
DLA	Defense Logistics Agency
DOD	Department of Defense
FAR	Federal Acquisition Regulation
SA-ALC	San Antonio Air Logistics Center

Background

In July and August 1983, the Secretary of Defense set the tone for the DOD position on unwarranted price growth and excessive pricing on spare parts procurement. In two memorandums, the Secretary announced a series of initiatives such as

- refunds on a voluntary or legal basis;
- procedures for debarring and/or suspending contractors;
- refusal to do business with contractors guilty of excessive pricing; and
- identification of alternate sources, including foreign sources.

The Secretary of Defense requested each service and the Defense Logistics Agency (DLA) to initiate comprehensive programs to fully address the problem. In addition, the Secretary called for efforts by the DOD Inspector General and the Deputy Secretary of Defense and established an office of Spares Program Management. The Secretary's memorandums and the responses from the services and DLA have produced a corrective action plan commonly referred to as the "spare parts initiatives."

The Congress, also concerned with spare parts procurement, enacted the Defense Procurement Reform Act of 1984¹ which requires DOD to address spare parts pricing problems by

- refusing to enter into contracts unless the proposed prices are fair and reasonable;
- continuing and accelerating ongoing efforts to improve defense contracting procedures to encourage effective competition and ensure fair and reasonable prices;
- using standard or commercial parts whenever such use is technically acceptable and cost effective,
- acquiring replenishment parts in economic order quantities and on a multiyear basis whenever feasible, practicable, and cost effective; and
- reexamining the policies relating to acquisition, pricing, and management of replenishment spare parts and technical data related to such parts.

In 1984, several congressional requesters asked us to analyze growth in spare parts prices and to discuss DOD's improvement initiatives and their status. Our report on these matters, DOD Initiatives to Improve the Acquisition of Spare Parts (GAO/NSIAD-86-52, Mar 11, 1986), noted DOD's

¹Section 1201 of the Defense Authorization Act, 1985, was designated the Defense Procurement Reform Act of 1984.

progress although it will take time to fully implement the initiatives. The report also noted that from January 1980 through August 1983

- significant price growth occurred in the procurement of spare parts at four DOD locations;
- contractors' prices were, in many cases, accepted by DOD procurement officials² without challenge;
- management emphasized the number of awards made rather than the quality of prices obtained;
- procurement officials were encouraged to limit the amount of analysis performed on low dollar value procurements, and
- DOD announced the spare parts initiatives and established a system for monitoring their progress.

In 1985, the Chairman, Senate Committee on Governmental Affairs, requested a follow-up review. As agreed with the Committee's representatives, we did the follow-up at the same DOD locations where we performed our earlier work and will report the results separately by location (Air Force, Army, DLA, and Navy). This report, the first of four on the results of our follow-up review, addresses SA-ALC, San Antonio, Texas

²The term "procurement officials" refers to buyers and principal contracting officers

Objectives, Scope, and Methodology

Our review objectives were to determine whether

- growth in spare parts prices had improved when compared with the growth reported in our earlier review,
- the improvement, if any, indicated that the initiatives were working,
- the adequacy of price analyses on individual procurements had improved as compared with the results shown in our earlier report;
- personnel changes required by the initiatives had been implemented, and
- changes, other than personnel related changes, indicate that various initiatives are being followed

To meet the review objectives, we.

- Identified price changes that occurred on procurements made during the 12-month period ending March 31, 1985, and grouped these changes into four categories—price decreases, prices that remained unchanged, price increases of up to 24.9 percent, and price increases of 25 percent or more.
- Analyzed whether factors such as competition, changes in quantity, and dollar value influence price behavior. We had performed the same analyses during our previous review
- Selected a statistical sample of 165 procurements (contract files) from a universe of 15,938 procurements to evaluate the adequacy of price analyses performed by procurement officials on individual procurements and compared the results to those from our previous review
- Determined if SA-ALC had made changes in its personnel evaluation system as required by the initiatives.
- Determined the number of competitive awards and the number of procurements for which quantities had increased from previous buys (The initiatives emphasize the need for competition as well as buying in larger quantities to avoid frequent buys of small quantities)

To make unit price comparisons, we obtained the SA-ALC procurement history master file. This file contains detailed procurement information on all SA-ALC procurements, including end items, initial provisioning items, equipment modification and overhaul, and replenishment spare parts. We were concerned only with replenishment spare parts and eliminated procurements not meeting that definition from the data file with the help of SA-ALC Data Systems Branch, Directorate of Contracting and Manufacturing personnel.

We also excluded unpriced orders because price comparisons cannot be made on spare parts procured under such arrangements.¹ We included basic ordering agreements and other similar agreements in our sampling unless government representatives at contractor plants or other locations determined the final price. We excluded those procurements priced at other locations because our objective was to assess the adequacy of price analysis at SA-ALC.

Although engine spare parts represent about half the total dollars SA-ALC spends on replenishment spares, we eliminated them from our universe during our previous review because the DOD Inspector General was performing a study of engine parts. To maintain as much consistency as possible with data developed in the previous review, we also eliminated engine parts from this review.

We used computer analysis to compare price changes for each item. This analysis compared the most recent unit price within our time frame (April 1, 1984, through March 31, 1985) to the second most recent unit price and then compared the second most recent unit price to the third most recent unit price. If an item was procured only once during our review period, no comparison was made unless a procurement occurred between January 1, 1980, and April 1, 1984.

This process resulted in 10,531 unit price comparisons. If the interval between purchases exceeded 1 year, we adjusted percentage price changes by dividing 365 days by the number of days between procurements and multiplying this amount by the actual percentage price change.

$$\text{Annual percentage price change} = \frac{365}{\text{Number of days between procurements}} \times \text{Actual percentage price change}$$

If the interval between procurements was less than 1 year, we made no adjustment.

Our work covered any nonengine replenishment spare parts procurements for 1 year and compared them with procurements which had occurred in that same year or earlier, as far back as January 1, 1980.

¹We are doing a separate review of unpriced orders for the Senate Committee on Governmental Affairs.

Our earlier report covered procurements for 3-1/2 years between January 1, 1980, and June 30, 1983, a period in which both procurements had to occur. Because of the difference in designs, the earlier study contained a higher proportion of more frequently purchased items and used a shorter period for developing comparisons. These differences could affect the proportion of items purchased at relatively longer intervals included in the two periods. Thus, the results of the two studies cannot be directly compared.

Our results portray price growth within each period for those procurements which met our selection criteria. They also indicate some price growth differences, but because of the design differences noted above, the exact difference between periods is not known. However, because of the large number of procurements involved, we believe the results provide an indicator of change between periods.

To measure improvement, if any, in the adequacy of price analyses, we randomly sampled procurements from five categories—single procurements (or buys), those procurements with price decreases, those without price change, those with price increases up to 24.9 percent, and those with price increases of 25 percent or more. We established the sampling plan using the number and dollar value in each category, in addition to the results of our review on the first 50 sample contracts.

Price analysis is defined as the process used to determine whether the offered price—before making a contract award—is fair and reasonable. To evaluate the adequacy of the price analyses performed, we used criteria contained in the Federal Acquisition Regulations (FAR), the DOD FAR Supplement, and the Armed Services Pricing Manual Number Two.

We based our analysis on the information contained in the SA-ALC procurement history master file. Although we did not perform a formal reliability assessment of this data base, we did verify that 98 percent of the award dates, national stock numbers, and unit prices in our sample contracts were recorded correctly in the automated file.

We did not review the implementation of each initiative nor could we identify improvements in relation to specific initiatives. Although we did not evaluate the implementation of each initiative, we attempted to identify, based on discussions with procurement officials and a review of procurement files, those instances where it was evident that selected

initiatives were not being adequately implemented. Our review was performed in accordance with generally accepted government auditing standards.

Spare Parts Prices and Factors That Influence Price

Spare Parts Prices

Our review indicated that spare parts prices were moving in the right direction. The figures shown in table III.1 reflect an 18.9-percent increase in procurements with decreased or unchanged prices, fewer (6.3 percent) procurements with higher prices, and a decrease of 48 percent in procurements with price increases of 25 percent or more over data from our previous review. Table III.2 presents this data in terms of dollars and reflects a 225-percent increase in decreased or unchanged prices, fewer (2 percent) with higher prices, and a decrease of 58 percent in price increases of 25 percent or more

Table III.1: SA-ALC Spare Parts Procurements by Price Change Category in Transactions

Category	During the 42 months ended June 30, 1983		During the 12 months ended March 31, 1985	
	Number of transactions	Percent	Number of transactions	Percent
Price decrease	12,005	36.2	4,993	47.4
No change in price	3,567	10.8	897	8.5
0 to 24.9% increase	13,141	39.7	3,919	37.2
25% or more increase	4,419	13.3	722	6.9
Total	33,132	100.0	10,531	100.0

Table III.2: SA-ALC Spare Parts Procurements by Price Change Category in Dollars

Category	During the 42 months ended June 30, 1983		During the 12 months ended March 31, 1985	
	Dollars	Percent	Dollars	Percent
Price decrease	\$189.8	34.9	\$90.6	47.5
No change in price	51.9	9.6	13.3	7.0
0 to 24.9% increase	216.6	39.9	74.3	39.0
25% or more increase	84.8	15.6	12.5	6.5
Total	\$543.1	100.0	\$190.7	100.0

These changes in spare parts prices could have been the result of several factors. Certainly, lower inflation and improvement in the economy have played major roles, as could the attention given spare parts pricing by top DOD officials. Adverse media publicity may also have played a role. DOD's initiatives were also likely to have had a favorable effect on spare parts because:

- SA-ALC increased the proportion of procurements involving larger quantities, thereby supporting the initiative to take advantage of economic order quantities and avoid frequent buys of small quantities

- SA-ALC had 240 new employees in procurement and had provided on-the-job training. In responding to other initiatives, SA-ALC revised its evaluation system for people working in procurement and established a system of rewards designed to recognize employees who had obtained competition on spare parts that had been procured from one source.

Another initiative calls for “instituting actions to identify disparities in spare parts prices. . .” SA-ALC established a price analysis division in its Directorate of Competition Advocacy to independently develop target prices for spare parts. These target prices are provided to buyers in the Directorate of Contracting and Manufacturing for their use in evaluating and negotiating proposed prices. These target prices can also serve as indicators that pursuing voluntary refunds may be appropriate

We believe that the spare parts initiatives, as reflected in the various actions taken by SA-ALC, have contributed to the favorable direction spare parts prices have taken, but room exists for improvement in the adequacy of price analyses. However, we could not separate the effects of the initiatives from those other factors that have had a favorable effect on spare parts prices at SA-ALC

Factors That Influence Spare Parts Prices

As in our earlier review, we analyzed three factors to determine if they influenced price behavior: competitive versus noncompetitive procurement, quantities procured, and dollar value of procurement. The results of both our previous and current reviews are presented below

Competition

In the earlier review, we compared price increases in competitive procurements with those in noncompetitive procurements, and found that 58 percent of the noncompetitive procurements, compared to 43 percent of the competitive procurements, experienced price growth. We also found that 14 percent of the noncompetitive procurements experienced a price growth of 25 percent or more, compared to 11 percent for the competitive procurements. Therefore, we concluded that competition reduces both the frequency and severity of price growth. Competition is not a panacea, however, and its effectiveness depends largely on conditions in the marketplace

We were unable to make a similar comparison for the current review because 21.6 percent of the contracts did not show the method of purchase. A computer specialist at the Air Force Logistics Command (AFLC)

**Appendix III
Spare Parts Prices and Factors That
Influence Price**

Headquarters stated that a program had been modified and as a result, had not recorded the purchase codes. That problem has now been corrected for new procurements, but the method of purchase for previous procurements remains unavailable.

**Purchase Quantity
Variation**

Our previous review showed that for 58 percent of the procurements, unit prices decreased or remained unchanged when purchase quantities were increased. This relationship is even more apparent in the current review. When quantities increased, unit prices decreased or remained unchanged for 66 percent of the procurements (See table III.3.)

The data in table III.3 also show that decreases in quantities contribute to price growth. Our earlier review showed that 68.7 percent of decreased quantity procurements experienced price growth, including 19.7 percent with more than 25 percent growth. Our current review showed that 61.3 percent of such procurements experienced price growth, including 10.3 percent with more than 25 percent growth. The potential for lower prices or avoiding significant price growth on small quantity purchases, therefore, emphasizes the importance of consolidating purchase requests to the extent possible. Consolidating purchase requests is discussed on pages 28 and 29.

Table III.3: Price Change by Quantity Variation

Category	Previous review				Current review			
	Quantity decrease	Percent	Quantity increase	Percent	Quantity decrease	Percent	Quantity increase	Percent
Price decrease	2,883	21.9	8,598	47.9	1,019	29.5	3,807	58.5
No change	1,242	9.4	1,875	10.5	318	9.2	496	7.6
Less than 25 percent increase	6,462	49.0	5,873	32.7	1,760	51.0	1,929	29.6
More than 25 percent	2,595	19.7	1,599	8.9	357	10.3	282	4.3
Total	13,182	100.0	17,945	100.0	3,454	100.0	6,514	100.0

As pointed out in our earlier report, a prerequisite for buying in quantity is accurate requirements data. Sufficient quantities must be procured to meet needs, yet excesses must be avoided. If a large quantity is procured but is not sufficient to meet total needs, a subsequent procurement of a small quantity is quite likely to experience price growth.

**Appendix III
Spare Parts Prices and Factors That
Influence Price**

SA-ALC has successfully raised the number of procurements involving increased quantity. Our previous review showed 57.7 percent of all procurements had increases in quantities. In our current review, 65.3 percent of all procurements had quantity increases, as shown in table III.4.

Table III.4: Increased Quantity Procurements

	Previous review		Current review	
	No.	Percent	No.	Percent
Quantity decrease	13,182	42.3	3,454	34.7
Quantity increase	17,945	57.7	6,514	65.3
Total	31,127^a	100.0	9,968^a	100.0

^aThere were 2,005 comparisons with no change in price or quantity in our earlier review and 663 in our current review.

Dollar Value of Individual Procurements

Severe price growth occurs slightly more often in low dollar value procurements. Table III.5 shows that low dollar value (\$25,000 or less) procurements, which made up 87.9 percent of the 10,531 SA-ALC procurement comparisons, accounted for 89.3 percent of the procurements with a price growth of 25 percent or more.

DOD allocates resources for price or cost analysis based on contract dollar value. We believe this is a prudent policy because high dollar value procurements can expose DOD to significantly greater losses than low dollar value procurements. Procurement officials, however, are also responsible for performing adequate price analyses on low dollar value buys.

Table III.5: Number of Total Procurements and Procurements Increasing in Price by 25 Percent or More (In Dollar Ranges)

Dollar range	Total procurements		Procurements with 25 percent or more price growth	
	Number	Percent	Number	Percent
0 - 1,000	1,452	13.8	130	18.0
1,001 - 10,000	6,567	62.4	424	58.7
10,001 - 25,000	1,236	11.7	91	12.6
25,001 - 50,000	601	5.7	39	5.4
50,001 - 100,000	355	3.4	23	3.2
Over 100,000	320	3.0	15	2.1
Total	10,531	100.0	722	100.0

Adequacy of Price Analysis on Individual Procurements

Some improvement has occurred in the price analyses performed by procurement officials on procurements with a price growth of 25 percent or more. Table IV.1 shows that on a sample basis, 34.6 percent of such procurements were inadequately analyzed. The corresponding figure from our earlier review was 43 percent. Although improvement has occurred, the opportunity exists for further improvement since a price growth of this magnitude should prompt close scrutiny

Another procurement category where analyses need improvement is first-time buys. Of the 41 first-time buys randomly selected for review, price analyses on 15, or 36.6 percent, were inadequate. Inadequate analyses on first-time buys can perpetuate price growth because the acceptability of future prices often depends on how they compare with previous prices

To determine the adequacy of price analysis, we reviewed 165 procurements randomly selected from the universe of 15,938 contracts awarded between April 1, 1984, and March 31, 1985. We concluded that price analyses were adequate on 109 contracts and inadequate on 46 contracts, as shown in table IV.1. We were unable to reach a conclusion on the remaining 10 contracts for a variety of reasons.¹ Our conclusions were based on a review of the individual contract file and interviews with the responsible buyer and/or contracting officer. These interviews were done to resolve any questions resulting from a review of the documentation and to provide procurement officials an opportunity to discuss or comment on the case. We interviewed the buyer and/or contracting officer on 19 of the 25 cases where rate agreements were not used and 5 buyers and/or contracting officers responsible for 9 of the 21 procurements where rate agreements were used.

¹Some contracts were subsequently canceled, and some were outside our time frame. In addition, we were unable to match national stock numbers and locate certain files.

Appendix IV
Adequacy of Price Analysis on
Individual Procurements

Table IV.1: Summary of SA-ALC Price Analyses on 165 Sample Contracts Awarded During the 12-Month Period Ended March 31, 1985

Category	Total sample	Adequate price analysis		Inadequate price analysis		No conclusion reached	
		No.	Percent	No.	Percent	No.	Percent
Single buy items ^a	41	24	58.5	15	36.6	2	4.9
Price decrease	36	24	66.7	11	30.6	1	2.7
No change	26	19	73.1	4	15.4	3	11.5
Price increase up to 25%	36	26	72.2	7	19.4	3	8.3
Price increase over 25%	26	16	61.5	9	34.6	1	3.8
Total	165	109	66.0	46	27.9	10	6.1

^aSingle buy items were procured only once since January 1, 1980

Projecting our sample results, we estimate that procurement officials' price analyses may have been inadequate on 4,708 contract awards, plus or minus 1,227 of the 15,938 procurements. This estimate was made at the 95-percent confidence level, with a standard error rate of plus or minus 7.7 percent. In other words, between 3,481 and 5,935 contracts may not have had adequate price analyses.

Our evaluation does not provide a basis for determining if prices were fair and reasonable. However, it does provide a basis for determining the vulnerability to excessive prices because adequate price analysis was not done.

Buyer Actions Adequate

In determining that 109 contracts received adequate price analyses, we relied on guidance in FAR, the DOD FAR Supplement, and the Armed Services Pricing Manual Number Two, also known as the Small Purchases Manual. These documents state that procurement officials are responsible for selecting and using price analysis techniques that will ensure a fair and reasonable price. For example, the Armed Services Pricing Manual states that

"For every procurement, the contracting officer must decide as to the fairness and reasonableness of the price he is going to pay for a product or a service. The obligation to contract at fair and reasonable prices does not diminish as we move down the scale from multi-million dollar contracts for systems acquisition to the nickel and dime item prices for nuts, bolts and screws. The conclusion that a price is fair and reasonable must be based on some form of analysis. How detailed the analysis is will depend on the dollars and the nature of the product being purchased."

To determine that a price is fair and reasonable, a procurement official may

- compare competitive price quotations received in response to a solicitation,
- compare prior quotations and contract prices with current quotations for the same or similar items,
- compare proposed prices with independent government cost estimates,
- compare proposed prices with competitive published price lists, or
- exercise personal knowledge that the price quoted reflects the value of the item being purchased

Buyer Actions Inadequate

Table IV.2 summarizes our reasons for concluding that procurement officials did not perform adequate price analyses on 46 contracts.

Table IV.2: Reasons for Inadequate Price Analysis

Inappropriate use of spare parts formula pricing agreements	21
Purchases under \$1,000 for which buyer performed no price analysis	8
Invalid price comparison	4
Inadequate competition	9
Other	4
Total	46

The Air Force, after receiving our draft report, sent a letter to all major commands alerting them of these problems and reminding them of the proper pricing procedures. (See app. VII.)

Inappropriate Use of Spare Parts Formula Pricing Agreements

We questioned the acceptance of proposed prices on 21 contracts because buyers relied on spare parts formula pricing agreements and did not do adequate price analyses. The Armed Services Pricing Manual states that knowledge that an agreement exists is important to procurement officials because an agreement describes a contractor's spare parts pricing policies and practices. The manual also states, however, that knowing how a company prices spare parts and how spare parts formula pricing agreements are reviewed by cognizant government plant representatives does not guarantee the reasonableness of spare parts prices. The manual requires that price analysis be done to determine price reasonableness.

We discussed this issue with SA-ALC officials and provided details on the individual procurements. SA-ALC officials took immediate action to tell buyers and contracting officers of the need to do adequate price analyses in conjunction with spare parts formula pricing agreements. We also told DOD of the conditions found at SA-ALC in our report on Inappropriate Use of Rate Agreements (GAO/NSIAD-86-16, Jan. 13, 1986). In response, DOD requested the secretaries of the Army, Navy, and Air Force, and the Director of DLA to determine if similar conditions existed at other locations.

DOD, by letter dated May 12, 1986, told us that

“ the problem of using rate agreements had been recognized for some time, and although some actions had already been taken to improve the situation, your report and our subsequent review indicated more controls, training, and procedural changes are required and will be implemented ”

The Air Force also established a FAR case which proposes changes to existing regulations and outlines controls for properly establishing, monitoring, and using pricing agreements

**Purchases Under \$1,000 for
Which Buyers Performed
No Price Analyses**

We questioned eight contracts under \$1,000 in value because the buyers did not perform price analyses before making the awards. In five of the eight cases, the buyer or contracting officer told us that price analyses were not needed because the purchase price was under \$1,000. Although section 13.106(a)(4) of the FAR contains such a statement, it also points out that action should be taken to verify price reasonableness when purchasing an item for which no comparable pricing information is readily available. No valid baseline price existed for any of the eight contracts we questioned.

We discussed these cases with the Chief, Contracts Committee, Directorate of Contracting and Manufacturing, SA-ALC, who said that buyers would be reminded of the need to do a price analysis when an item under \$1,000 is purchased for the first time or when a valid baseline does not exist for a price comparison. The Air Force subsequently held seminars at SA-ALC on this issue and AFLC Regulation 70-18 is being revised to clarify pricing documentation requirements.

Invalid Price Comparisons

We questioned the adequacy of the price analyses on four contracts because the buyers inappropriately compared the previous price with

the offered price to determine whether the offered price was fair and reasonable. Because all the previous prices were also based on price comparisons, no valid baseline existed for comparison. The Armed Services Pricing Manual states that

“A price previously paid should not be accepted as a basis for determining that the offered price is reasonable unless it can be determined that the previous award was based on adequate competition or some other valid method of establishing that the price was reasonable.”

Air Force officials agreed that in three of the four cases there was no valid baseline. In one case, the Air Force pointed out that a 1981 contract had been awarded competitively, thus, a valid baseline existed. During our review of this procurement, we obtained a copy of the procurement history used by the buyer when awarding this contract. This procurement history did not show a 1981 contract; however, two previous contracts were shown, one in 1982 and one in 1983. Both contract awards were made on the basis of a comparison to the previous price. This information was used by the buyer and there was no indication that data on a 1981 contract was considered.

Inadequate Competition

In 9 of the 46 cases of inadequate price analyses, the buyers justified accepting the contract prices because of adequate competition. Although DOD procurement regulations state that adequate competition is presumed to establish a fair and reasonable price, the regulations also state that the following conditions must exist to satisfy the adequate competition requirement:

- Proposed prices must be similar enough to be considered truly competitive.
- Responsive offers must be received from two or more independent offerors.
- Qualified offerors must not be denied an opportunity to compete.

We questioned six of these nine procurement actions because the lowest proposal and the second lowest proposal differed by more than 50 percent. Additional price analyses should have been performed on these awards. We questioned two more awards because only one proposal was determined to be responsive. We questioned the remaining award because qualified offerors on previous awards were not solicited and did

not have an opportunity to compete. In fact, these offerors had proposed lower prices on the previous award than the price accepted on the contract

Air Force officials stated that the need for at least two responsible and responsive bidders to establish competition was highlighted in Headquarters, U.S. Air Force and AFLC procedure letters

Other Inadequate Analyses

We questioned the price analyses on 2 of the 165 sample contracts because the price had increased more than 50 percent in less than 3 months. In both cases, the buyers had not obtained updated procurement histories and, therefore, were not aware of the increased prices

We questioned a third price analysis because the buyer did not attempt to verify direct labor and material costs. The buyer was a trainee when this contract was awarded and now realizes that the price analyses should have been more inclusive.

We questioned a fourth analysis because the buyer stated that a published price list was used to evaluate the proposed price. We found, however, the part number being purchased did not appear in the price list. In discussing the results of our review, Air Force officials told us that the buyer did verify that the contractor was a manufacturer of the part and obtained information which identified another price list. The buyer then identified the item being acquired to that price list. The price list did include the item under the same part number but different nomenclature.

During our field work, we reviewed a copy of a price list and a copy of the determination and findings in the contract file. The determination and findings is prepared by the buyer to justify acceptance of the price. The determination and findings cited the accompanying price list, its date of publication, and a page number. We reviewed this documentation on two separate occasions with the buyer and were advised that the discrepancy (part number not listed) could not be explained. We therefore continue to hold the view that the price analysis was inadequate

Personnel Changes Relating to Spare Parts Initiatives

Our current review found three personnel related changes that are the result of the spare parts initiatives. We found, based on a limited number of interviews, an apparent change in the attitude of procurement officials—a shift from productivity (awarding contracts) to performing quality price analyses. In addition, the Air Force had hired, trained, and placed in procurement positions additional personnel authorized by the Congress. Finally, performance appraisals had been revised to emphasize quality of pricing and competitive procurement of spare parts, as required by the initiatives.

Apparent Shift in Attitude

In our earlier review, we found that buyers had not taken reasonable action to investigate large price increases. We discussed these cases with the buyers who told us that management had emphasized awarding small dollar value contracts as quickly as possible to prevent backlogs and that, consequently, buyers paid little attention to the quality of price analysis. During the current review, we interviewed 30 buyers, 22 of whom told us that their supervisors emphasize the quality of price analysis as well as the number of awards made (productivity).

We pointed out in our previous report that the emphasis on productivity had reduced the quantity of price analysis and therefore, the quality of pricing. Decisions on the proper balance between the cost of analysis and the dollar value of the procurement will always be a challenge, but the current focus on quality pricing is needed to strike a better balance.

Additional Personnel

The spare parts initiatives call for

- resources (personnel) to induce desirable breakout,¹ effective competitive procurement, and improved pricing and
- expanded training to ensure proper emphasis, understanding, and skill level for personnel engaged in the acquisition of spare parts.

Our review at SA-ALC found that in January 1984 newly hired personnel were training to become contract specialists at a 90-day course held at AFLC Headquarters. Seventy-three of these trainees were later assigned to the SA-ALC, Directorate of Contracting and Manufacturing. In December 1984, an additional 127 trainees were assigned to SA-ALC. 114

¹The term breakout has two meanings. One meaning involves buying parts directly from manufacturers that were previously bought from prime contractors which did not actually manufacture the part. The second meaning involves seeking alternate sources for items previously furnished by only one source.

to the Directorate of Contracting and Manufacturing and 13 to the Directorate of Competition Advocacy. The Chief, Contracts Committee, told us that the quality of the people hired is good and that as the new buyers become more experienced, the quality of pricing should improve.

Performance Appraisals

Another initiative required the departments and DLA to

“ revise performance evaluation factors for acquisition and logistics managers to include emphasis on spare parts pricing, breakout, and competition, ”

At SA-ALC, the following elements have been added to performance appraisals for buyers and contracting officers:

- keeping abreast of policies, regulations, and laws relating to spare parts procurement and
- supporting breakout and competition initiatives, and surveillance over the quality of pricing actions

SA-ALC Resource Management Branch officials told us that awards are given to individuals who receive outstanding performance appraisals and that carrying out the initiatives is certainly a factor in these awards. In addition, in several instances, individuals have been publicly recognized for obtaining competition for items previously purchased sole source.

Improvements Needed in Implementation of Selected Spare Parts Initiatives

We believe the Voluntary Refund Program and purchase request consolidation for items purchased repetitively are the two areas that need improving to better achieve the intent of the spare parts initiatives

Voluntary Refund Program

In 1983 the Secretary of Defense announced a 10-point program as part of the spare parts initiatives. This program was intended to "set the tone" for spare parts procurement. Point 7 of this program directed the services to

" take steps to obtain refunds in instances where we have been overcharged. In those contracts where we have the right to reduce an excessive price and set a more equitable price, we should not hesitate to exercise that right. If we have to, we should sue a contractor to recover unjustified payments. In some cases the contracts we signed may not give us the legal right to a refund. In these instances, the Services and Department should aggressively pursue refunds through discussions with senior managers of the company convey to them our strong belief that it is in the best interests of both the Department of Defense and the defense industry to have contractors voluntarily refund any payments unjustified." (Underscoring added)

In keeping with this initiative, as of September 1985, \$21 million in potential voluntary refunds had been identified to the SA-AIC Directorate of Contracting and Manufacturing. However, only \$121,290, or less than 1 percent, had been collected.

We discussed this issue with the Air Force and were told that as of May 1986, refunds totaled \$394,397. Air Force officials stated that all of the potential refunds were being actively reviewed and would be resolved.

While these actions may address the potential refunds previously identified, we learned after our fieldwork had been completed that the Air Force had reduced the role of the Directorates of Competition Advocacy in referring potential voluntary refunds to the Directorates of Contracting and Manufacturing. In providing pricing assistance, the Advocates routinely prepared target prices for items being procured and compared them to proposed prices. The results were provided to the Directorates of Contracting and Manufacturing to use, or consider, when awarding contracts. Data gathered during the preparation of these comparisons have been a primary source for identifying potential voluntary refunds.

During this comparison process, the Advocates often compared the target price to the price previously paid. It was this comparison that resulted in referrals for potential voluntary refunds. The Advocates had

been required to make a referral when the comparison showed a potential voluntary refund of \$2,500 or more

The AFIC Competition Advocate stated in an October 1985 letter to the Advocates at the five Air Logistics Centers that it proposed to delete all requirements for voluntary refund referrals with minor exceptions. Under this proposal, all of the referrals that the Advocates would have been required to make as a result of their providing pricing assistance (target prices) would no longer be required. The SA-ALC Directorate of Competition Advocacy issued implementing instructions to its personnel stating that the requirement for making potential voluntary refund referrals had been eliminated. This change will likely cause a significant decline in the number of potential voluntary refunds to be considered by SA-ALC.

Conclusions

We do not believe the change that deleted the requirement to make voluntary refund referrals is desirable or consistent with the Secretary's initiative. The Advocates' participation in the voluntary refund program will be reduced and initiation of potential voluntary refunds will depend primarily on the initiative of the Directorate of Contracting and Manufacturing. However, personnel in the Directorates of Contracting and Manufacturing are under pressure to process and award contracts rather than pursue voluntary refunds. For example, during discussions concerning a draft of this report Air Force officials stated

“ the contracting situation, its growing workload and people shortage demanded that current buys be given emphasis ”

“ it was determined more prudent to focus on target prices for current buy actions versus pursuing all items reviewed ”

It appears the Air Force faces a dilemma. It established a system where the Competition Advocate identified large numbers of “suspected” spare parts prices resulting in referrals for potential voluntary refunds. However, these referrals increased the already heavy work load of the procurement personnel whose major mission is to award contracts. The Air Force, therefore, eliminated any requirement for the Advocates to make referrals. This revision will help the work load situation by reducing the number of referrals procurement personnel must resolve, but it may also result in questionable spare parts prices going unchallenged.

Recommendations

We recommend that the Secretary of the Air Force reestablish the requirement for Competition Advocates to make referrals for voluntary refunds when appropriate. We also recommend that the Directorates of Contracting and Manufacturing be directed to resolve referrals in a timely manner.

Purchase Request Consolidation Needs Improvement

In May 1983, the Secretary of the Air Force formed the Air Force Management Analysis Group to study spare parts acquisition problems. The Group's final report concluded that the Air Force is most vulnerable to excessive prices when small quantities of low dollar value items are purchased and recommended that the Air Force strive to consolidate purchases.

During our review, we found that four separate contracts had been awarded shortly after another award for the identical spare part. In all four cases, the purchase requests were in process before award of the earlier contracts. Consolidation of these procurements, therefore, was feasible and should have occurred. For example, on February 1, 1984, a contractor told SA-ALC that two purchase requests could be consolidated and proposed a unit price of \$1.29 for 24 units. SA-ALC, however, awarded two contracts—one on March 21, 1984, for 4 units at \$1.29 each, and another on June 5, 1984, for 20 units at \$2.58 each. In another case, two purchase requests arrived in the Directorate of Contracting and Manufacturing 56 minutes apart. These purchase requests resulted in two contract awards made 43 days apart to the same contractor.

It was difficult to understand why these procurements were not consolidated. Consequently, we analyzed the number of days between awards made during the period April 1, 1984, through March 31, 1985, that shows 2,096 spare parts procurements totaling \$35.3 million were made within a 6-month period for the same parts. (See table VI.1.)

**Appendix VI
Improvements Needed in Implementation of
Selected Spare Parts Initiatives**

Table VI.1: Days Between Procurements of the Same Spare Parts Purchased From the Same and Different Contractors

Days between buys	Number and dollar value (in millions) of procurements					
	Same contractor		Different contractor		Total	
	Procurements	Dollars	Procurements	Dollars	Procurements	Dollars
0-30	217	\$3.6	37	\$0.7	254	\$4.3
31-60	231	4.1	49	1.1	280	5.1
61-90	255	4.1	58	0.8	313	4.9
91-120	257	3.9	74	1.3	331	5.3
121-150	322	4.6	97	1.2	419	5.8
151-180	357	8.1	142	1.7	499	9.9
Total	1,639	\$28.4	457	\$6.8	2,096	\$35.3

Conclusions

We did not perform a detailed review of the procurements. However, the data suggests that there may be consolidation opportunities being missed. We briefed SA-ALC officials on the results of our review. They said that SA-ALC has made progress in consolidating procurements, but can still improve.

Air Force Headquarters officials told us that several actions had been taken to improve consolidation of purchase requests. They were:

- AFLC implemented a minimum buy policy for economic order quantities that requires either a \$1,000 minimum buy or 15 years of support. This policy was programmed into the automated requirements system.
- Specific guidelines for purchase request consolidation were issued in the AFLC supplement to the FAR.
- A joint AFLC working group, consisting of material managers who generate requirements and contracting personnel who act on these requirements, was formed to identify ways of reducing the number of small dollar purchase requests.
- An AFLC team of persons from material management and contracting visited SA-ALC and the other centers to emphasize the need for acquisition planning and consolidation.
- SA-ALC programmed its automated purchase request system to (1) hold routine purchase requests for 21 days (7 days for urgent purchase requests) so appropriate consolidation can occur and (2) resolve the automated system's problem involving generation of two separate documents for peacetime operating stock and war reserve material. (The system now generates one purchase request with appropriate funds and packaging information for both requirements.)

**Appendix VI
Improvements Needed in Implementation of
Selected Spare Parts Initiatives**

- A DOD-foreign military sales purchase request consolidation test was established to determine if opportunities exist to reduce small quantity procurements.

These actions should improve the consolidation of purchase requests. It will, however, be necessary to continue the emphasis, particularly during periods of heavy work load.

Letter Dated April 18, 1986, From the Department of the Air Force



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS UNITED STATES AIR FORCE
WASHINGTON, D.C. 20330-5040

18 APR 1986

REPLY TO
ATTN OF

RDC

SUBJECT

Price Analysis Pitfalls

TO

ALMAJCOM (CONTRACTING)

1. The prices we pay for supplies and services continue to be closely watched by the public during this time of record Federal deficits. Several reviews have recently been completed, by both the GAO and the DOD/IG, which contain some favorable comments and indicate that our pricing initiatives are producing positive results. However, in one of these recent reviews, the GAO identified several contract actions where buyers had not taken appropriate pricing action to justify the acceptance of contract prices.

2. Our procurement regulations state that adequate competition is presumed to establish a fair and reasonable price, however; they also state that certain conditions must exist to satisfy the definition of adequate competition (See FAR 15.804-3(b)). In several cases the GAO found that there was more than a 50% difference between the lowest responsible proposal and the second lowest responsible proposal. While our regulations don't specify what range between offers is acceptable, a 50% difference is significant and additional price analysis, such as comparison to previous prices, should be taken to confirm the adequacy of the competition.

3. The GAO also found competitive procurements where prices had increased more than 50% in less than three months and no additional supporting price analysis was undertaken. Although the limitation on price increases (DFARS 17.7203(e)) only applies to sole source procurements, such a price increase should cause one to question the adequacy of competition. Additional price analysis must be conducted when it appears that price competition has not established prices that are fair and reasonable.

4. Another problem identified deals with prices generated by formula pricing agreements (FPAs). A FPA is an excellent pricing tool. However, their use cannot be taken for granted because they do not, in all cases, guarantee fair and reasonable prices for each individual item. In all cases additional price analysis techniques should be used to supplement the price generated by the formula pricing agreement.

5. The GAO also questioned the pricing of several contract actions under a \$1,000 in value because the buyer did not perform any price analysis before making the award. While purchases under \$1,000 may be made without competition, action should be taken to verify price reasonableness when purchasing an item for which no comparable pricing information is readily available or if information exists that suggests the price may not be reasonable.

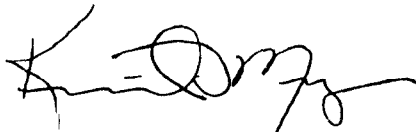
6. The final criticism raised by the GAO dealt with instances where buyers

Appendix VII
Letter Dated April 18, 1986, From the
Department of the Air Force

used a price comparison to conclude that the prices were fair and reasonable when all the previous baseline prices were based on earlier price comparisons. There was no evidence that a valid baseline existed for such a comparison. In addition to being checked for validity, baseline price histories should be continuously monitored for market sensitivity.

7. Although the above examples of pricing pitfalls were found on spare parts acquisitions, they are germane to any acquisition in which we use price analysis. Please remind your buyers of these pitfalls and ask them to examine their use of price analysis in light of concerns expressed above.

FOR THE CHIEF OF STAFF



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