UNITED STATES GENERAL ACCOUNTING OFFICE
WASHINGTON, D.C. 20548

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PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION

B-168450

MARCH 12, 1979

The Honorable Harold Brown
The Secretary of Defense

Attention: Assistant Secretary of Defense
(Comptroller)

Dear Mr. Secretary:

We have completed a review of the pricing of subcontract 11-52797 awarded to Aeronca, Inc., Aerospace Group, Middletown, Ohio, by the Grumman Aerospace Corporation. This firm-fixed price subcontract provides for the follow-on procurement of engine inlet ramps for 80 (Lot VII) F-14 aircraft, at a price of $2,525,000. We also did a limited review of the pricing of expendable material and labor in Lots VIII, IX, and X. The F-14 is being manufactured by Grumman for the Department of the Navy under prime contracts N00019-75-C-0078 and N00019-75-C-0013.

This examination was part of a nationwide review of the pricing of noncompetitive subcontracts awarded under the Department of Defense-negotiated noncompetitive prime contracts. Our objective was to determine the reasonableness of the subcontract price in relation to the subcontractor's supporting cost or pricing data, as required by Public Law 87-653.

Our review was performed at the subcontractor's facility, where we reviewed documents and held discussions with subcontractor personnel. We also considered work done by the Defense Contract Audit Agency, Defense Contract Administrative Services, and the prime contractor.

In summary, we found that the Lot VII subcontract was overpriced by about $280,859 (see enc. 1) and the Lots VIII, IX, and X subcontracts were overpriced by about $84,337 (see enc. 2) because Aeronca did not disclose current, complete, and accurate cost or pricing data before negotiations.

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The overpricing was primarily in the material cost area and resulted from Aeronca's using unreasonable escalation factors, unsupported manufacturing allowances, and mathematical errors and including unneeded material.

We believe that if Aeronca had provided Grumman current, complete, and accurate data, Grumman would have had a sound basis to reduce the subject subcontract prices by about $365,196.

Aeronca was given 5 weeks to provide written comments regarding the results of our review. At the end of the 5 weeks, Aeronca officials said they needed much more time to prepare their comments. For this reason, we are issuing our report without Aeronca's comments.

We recommend that you have the Naval Air Systems Command consider the information presented herein, along with any additional information available, to determine whether the Government is entitled to price adjustments under the Navy's prime contracts with Grumman for Lots VII through X. We did not determine the effect of Grumman's add-ons to the overpricing of the Aeronca subcontracts; however, this should be determined in computing the total amount of overpricing.

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Copies of this letter are being sent to Aeronca, Inc.; Grumman Aerospace Corporation; the Director, Office of Management and Budget; and the Secretary of the Navy. We are also sending copies of this letter to the Chairmen, House and Senate Committees on Appropriations and Armed Services; the House Committee on Government Operations; and the Senate Committee on Governmental Affairs.

As you know, section 236 of the Legislative Reorganization Act of 1970 requires the head of a Federal agency to submit a written statement on actions taken on our recommendations to the Senate Committee on Governmental Affairs and the House Committee on Government Operations not later than 60 days after the date of the report and to the House and Senate Committees on Appropriations with the agency's first request for appropriations made more than 60 days after the date of the report.

We would appreciate receiving your comments on the matters discussed in this report and would be pleased to discuss any questions that you may have.

Sincerely yours,

J. H. Stolarow
Director

Enclosures - 2

ENCLOSURE 1

REVIEW OF REASONABLENESS OF PRICING OF GRUMMAN AEROSPACE CORPORATION SUBCONTRACT 11-52797 WITH AERONCA, INC.

BACKGROUND

Public Law 87-653 requires that, with certain exceptions, contractors and their subcontractors be required to submit cost or pricing data in support of proposed prices for noncompetitive contracts and contract modifications expected to exceed $100,000. Also, contractors are required to certify, at the time of negotiations, that data submitted is current, complete, and accurate. A clause is inserted in the contract, which gives the Government a right to a price reduction where it is determined that the price was increased because the data submitted were not in accordance with the certification.

Subcontract 11-52797, dated February 25, 1975, was awarded by Grumman to Aeronca, Inc., under Navy prime contracts N00019-75-C-0078 and N00019-75-C-0013. The subcontract is a follow-on procurement of engine inlet ramps for the F-14. The subcontract price of $2,525,000 was negotiated between Grumman and Aeronca on October 29, 1974, 4 days after negotiation of the prime contracts between Grumman and the Navy. The subcontract price was increased to $2,533,094 on August 6, 1975, when a change order revised the scope of work.

The Certificate of Current Cost or Pricing Data from Grumman to the Navy, which certified proposal data as being current, complete, and accurate as of October 25, 1974, was executed on December 11, 1974. The Certificate of Current Cost or Pricing Data from Aeronca to Grumman, which certified proposal data as being current, complete, and accurate as of October 29, 1974, was executed on December 10, 1974.

Aeronca's proposal was reviewed by Grumman, but no Government preaward evaluation was made.

MATERIALS

Aeronca's proposal contained material costs (excluding freight) of $1,309,440. We found this was overpriced by at least $205,216, because Aeronca's proposal used unreasonably high escalation factors, had unsupported manufacturing allowances, contained mathematical errors, and included unneeded material.

Escalation

Aeronca's escalation of material costs resulted in overpricing of $175,686. Its escalation factors ranged from 15 to 75 percent, with the greatest majority of the material costs, titanium, being increased by 60 percent. Aeronca officials were not able to produce any supporting data to substantiate the proposed escalation. We examined Aeronca's purchase orders, correspondence, and vendor quotes for all production material purchases and found that Aeronca had sufficient evidence, before certification of cost or pricing data, to show that at least some of its proposed material cost escalation factors were excessive.

At the time of negotiation, Aeronca had firm-fixed prices for most of the titanium sheet material included in its proposal. These firm prices were obtained on purchase orders 24766 and 24777 dated September 20, 1974. Based on these firm prices, Aeronca should have revised its proposed cost for this material from $384,126 to $245,358. Aeronca's failure to do so resulted in overpricing of titanium sheet material by $138,768. Also, as of September 19, 1974, on purchase orders 24864 through 24869, Aeronca had obtained firm prices for 74 percent of the required titanium core foil and had reason to believe the price for the remaining material would increase by only 30 percent. Based on this information, Aeronca's proposed price should have been $165,209, instead of $191,201, or $25,992 more than it should have been had it been based on the most current data.

We found that Aeronca also had firm-fixed prices on many other miscellaneous material items before October 29, 1974, which resulted in overpricing of $10,926. The items ranged in size anywhere from purchase order number 24838 for blind rivets (part number NAS1919C0603), dated September 10, 1974, which was overpriced by $3,522 to as little as $1.60 on purchase order number 23757 for rivets (part number MS20426AD4-4), dated April 24, 1974.

Manufacturing allowance

Aeronca's proposal contained manufacturing allowances ranging from 1 to 10 percent. An Aeronca official explained that the manufacturing allowances were estimates to cover the cost of scrap and unusable excess (dropoff) material, but that Aeronca had no support for the rates.

We learned that Aeronca's material control department had initially established a 5-percent scrap allowance at the

start of Aeronca's F-14 ramp program, based on past experience with similar contracts. Aeronca's "bill of materials" for the Lot VII contract clearly shows that 5 percent was the only scrap allowance used by material control to compute the total material requirements for this program. Material control instructs purchasing to buy the same quantities as listed on the bill of materials, less any excess inventory, to fulfill the program material requirements.

Our review of Aeronca's bill of materials also indicated that very little of the material was bought in sizes where there would be any dropoff. In fact, there were only 10 titanium sheet parts where a factor for dropoff was appropriate. These 10 parts represented 10 percent of the titanium sheet material cost.

Based on the above finding, we believe that any material, except the 10 titanium sheet parts, to which a higher rate than 5 percent was applied was overpriced. Aeronca's proposed titanium core foil, titanium sheet, and miscellaneous material items were therefore overpriced by $7,510, $10,037, and $3,474, respectively, for a total of $21,021. If consideration is given to the material items for which Aeronca proposed a manufacturing allowance of less than 5 percent, the amount of overpricing would be reduced by $8,578.

Mathematical error

Aeronca's proposed material cost contained two mathematical errors which overpriced the proposal by $7,933. The errors were made when 160 units each of part numbers A51B86015-1 and A51B86016-1 were incorrectly escalated by 150 percent, rather than the intended 15 percent. Aeronca's estimated unit cost for both parts, without escalation, was $18.36. At 15 percent, the amount of escalation per unit should have been $2.75, instead of the $27.54 calculated and proposed by Aeronca.

Unneeded expendable material

Aeronca's proposal for Lot VII included $9,154 for purchasing titanium pressure bars for which there was no requirement. Before Lot VII, Aeronca purchased enough titanium bar material to make the required number of pressure bars plus an extra set, and these bars were still available for use in Lot VII. The cost of this material was covered by the amounts proposed for this material in the prior lots.

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A knowledgeable Aeronca official said that the pressure bars should last almost forever because, in the way they are used, there is practically no way to damage them. The bars are used inside sealed containers (retort assemblies) to hold ramp components in place during the brazing process.

We found that Aeronca did not purchase any titanium bar material for Lot VII nor subsequent Lots VIII, IX, and X. We also found that Aeronca's proposals and negotiated prices for Lots VIII, IX, and X included cost for buying more of the bars. (See enc. 2.)

In our opinion, Aeronca had no basis for proposing any cost for this material in Lots VII through X and each of these lots was overpriced by the amounts included for this material. As stated above, the amount included in Lot VII for this material was $9,154. The amounts included in the subsequent lots are given in enclosure 2.

FREIGHT

Aeronca's proposed freight charges are applied at 2 percent of material cost. Material cost included production and outside machined material, core holddown material, X-ray film, expendable material, and packing and crating material.

We examined freight charges for a 5-year period (1970 through 1974). We found that the freight rates fluctuated between 1.4 to 1.6 percent. The maximum rate to be used should have been 1.6 percent. Questioned freight costs also included all freight charges included in the proposal for the materials which we have already questioned. Therefore, freight was overpriced by $5,449, due to the use of an incorrect freight rate and $3,283, due to the material costs questioned.

EXPENDABLE LABOR

Expendable labor includes the labor necessary to make retort assemblies and master reference panels used in brazing the ramps. Expendable labor was overpriced by $4,323, because the labor hours were incorrectly computated for both the retort assemblies and the master reference panels.

Labor to make the retort assemblies was overpriced by $938, because Aeronca used the Lot V engine set quantity of 96 to compute setup time rather than Lot VII's 160 engine sets.

ENCLOSURE 1

Master reference panel labor was overpriced, because the supported labor hours of 7.94 per engine set were increased by an unexplained 3.97 hours per engine set, or a 50-percent increase. The supported labor hours are based on detailed assembly operation sheets where the estimating department, using its experience, established its best estimate of the necessary time to perform each individual operation. The additional 50-percent labor hour increase appears to be a completely arbitrary, unsupported number used by Aeronca. Because Aeronca officials could provide no supporting detail for the 50-percent increase or explain what it represented, we believe the proposal was overpriced by the resultant $3,385.

SUMMATION OF OVERPRICING FOR LOT VII

We determined the total amount of overpricing of Lot VII by applying the overhead and general and administrative rates proposed by Aeronca and the profit rate considered negotiated by Grumman. Our computation of the total Lot VII overpricing is shown on the following table.

Cost element	Net overstatement
Materials escalation:	
Titanium sheet	$138,768
Titanium core foil	25,992
Other miscellaneous items	10,926
Excessive manufacturing allowance:	
Titanium sheet	10,037
Titanium core foil	7,510
Other miscellaneous items	3,474
Offset for items proposed at less than 5%	-8,578
Other:	
Mathematical error	7,933
Retort pressure bars	9,154
Total material	205,216
Freight:	
Incorrect rate	5,449
Freight applied to questioned material cost	3,283
Total material and freight	213,948
Material overhead:	
Questioned material and freight x 8%	17,116
Expendable labor:	
Incorrect setup rate--retort and unsupported increase in master reference panel labor hours	4,323
Expendable overhead:	
Questioned labor x 180%	7,781
Subtotal	243,168
General and administrative (5%)	12,158
Subtotal	255,326
Profit 10%	25,533
Total overpricing	$280,859

ENCLOSURE 2

OVERPRICING OF LOTS VIII, IX, AND X

As a result of reviewing the expendable material cost proposed by Aeronca for Lot VII and finding that some of the material was not required (see p. 3 of enc. 1), we expanded our review in this area to later lots. As discussed in enclosure 1, we found that Aeronca's proposals for Lots VIII, IX, and X included cost for titanium pressure bar material which was not needed. The amounts proposed for this material in each of the lots are shown in the table on page 5 of this enclosure.

In addition to the pressure bar material, we found that Aeronca's proposals for the subject lots included expendable material and labor cost for building reference panels and their retort assemblies which were not required for those lots. This is a similar situation to the pressure bars, in that the original reference panels and their retort assemblies built for Lots V and VI had not been replaced as of July 31, 1978.

The reference panels match the contour of the ramps and are placed in the bottom of the sealed containers in which the ramps are brazed to assure that the ramps maintain their contour. The reference panels have a brazed construction similar to the ramps themselves, in that they consist of a honeycomb core sandwiched between two pieces of sheet metal. The reference panel retort assemblies are the sealed containers in which the reference panels were brazed.

Aeronca officials said there is no way of knowing how long the reference panels will last and, therefore, when new retort assemblies will be needed to braze new reference panels. Since Aeronca had only produced a total of 82 engine sets at the time the Lot VII price was negotiated, this may have been a legitimate reason for including the cost of a new set of these items in the Lot VII proposal. However, as of July 1975, when the Lot VIII price was negotiated, Aeronca had completed 202 engine sets without replacing any of the panels.

Considering the number of ramps Aeronca had produced with the original set of reference panels and that the Lot VII price already included funds for buying a new set of reference panels and retorts, we believe Aeronca had no basis for including any cost for these items in their Lot VIII, IX, and X proposals. Therefore, we believe that Aeronca's contracts for Lots VIII through X were overpriced by the amounts shown on the following table. These amounts were computed using Aeronca's proposed rates for freight-in,

ENCLOSURE 2

material overhead, manufacturing overhead, and general and administrative. The profit rate used in computing the amount of overpricing in each lot was the rate considered negotiated by Grumman.

Summation of Overpricing in Lots VIII, IX, and X

	Lot VIII	Lot IX	Lot X
Expendable material:			
Pressure bars	$14,071	$ 904	$1,016
Reference panels	11,091	1,854	2,085
Reference panel retorts	2,776	1,021	1,148
Total	27,938	3,779	4,249
Freight-in	559(2%)	43(1.13%)	48(1.13%)
Subtotal	28,497	3,822	4,297
Material overhead	2,280(8%)	306(8%)	344(8%)
Subtotal	30,777	4,128	4,641
Expendable labor	12,486	-	-
Manufacturing overhead	23,349(187%)	-	-
Total manufacturing cost	66,612	4,128	4,641
General and administrative	3,530(5.3%)	338(8.2%)	381(8.2%)
Total operating cost (note a)	70,142	4,466	5,022
Profit	3,507(5%)	572(12.8%)	628(12.5%)
Total	$73,649	$5,038	$5,650

a/Based on Aeronca's proposed cost.