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MAY 20 1976

Commander, Aeronautical Systems Division 194
Air Force Systems Command
Wright Patterson Air Force Base, Ohio

Dear Commander:

As part of our nationwide survey of noncompetitive prime contracts negotiated under the provisions of Public Law 87-653 (10 U.S.C. 2306), we examined the prices proposed and negotiated for fixed price, incentive firm (FPIF) contract F33657-74-C-0105. The Aeronautical Systems C.532 Division (ASD) awarded the contract to E-Systems, Inc. (ESI), Greenville, Texas, on November 15, 1973. The original contract included a target price of $14,397,000 and a ceiling price of $15,900,000, or about 123 percent of the target cost. The contract also contained a sharing arrangement whereby within the ceiling price the Government and the contractor shared in any under or overrun of target cost by 80 and 20 percent, respectively.

Contract -0105 provided for the modification and maintenance of three C-135 aircraft and followed a contract for similar work on the prototype C-135 aircraft. By the time we had finished our work at ESI, the target price had increased to about $18 million because of various contract modifications. This total included about $400,000 for over and above work not subject to the contract incentive provisions. Over and above work includes tasks which can be expected but not specifically identified in the initial contract.

Our objective at ESI was to determine whether the price negotiated for contract -0105 was reasonable in relation to cost or pricing data available to the contractor when the price was established, and whether the Government adequately evaluated the pricing data. We therefore examined the cost or pricing data submitted by the contractor in support of the proposed costs, the negotiation memorandum, and the Government's evaluation of the contractor's price proposal. We also examined, on a selected basis, costs incurred by the contractor.

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We found that (1) the contractor did not provide support for probability factors used in developing proposed forward pricing overhead rates for calendar year 1974 and (2) the Government did not adequately evaluate the contractor's proposed forward pricing, manufacturing, and general and administrative (G&A) expense overhead rates from the standpoint of other information that the Government had available. We believe that had the contractor properly presented its rationale for the sales workoff forecast or had the Government adequately evaluated the contractor's proposed overhead rates on the basis of other available information, there would have been a sound basis for negotiating lower overhead rates for the contract, with a resulting decrease in the initial contract target price. Also, because forward pricing overhead rates were involved, we believe that other contracts awarded to the contractor may have been similarly treated.

Although the amount of a contract underrun would not be the basis for any contract price adjustment, we did note that for the basic work subject to the incentive provisions of contract -0105, the contractor was projecting a net cost underrun of about $1,461,000 as of December 31, 1975. Of this amount, approximately $806,000 was attributable to actual lower overhead rates. The remainder represented the net of certain overruns and underruns applicable to direct material and labor.

Our findings, details of which follow, are being brought to your attention for consideration in (1) determining the extent to which the Government may be entitled to a price adjustment on contract F33657-74-C-0105 and other contracts negotiated with ESI on the basis of the calendar year 1974 forward pricing overhead rates, and (2) improving the applicable procurement procedures.

THE CONTRACTOR'S PROPOSAL

ESI's price proposal for contract -0105 was based upon calendar year 1974 forward pricing overhead rates which had been proposed, but not negotiated at that time. However, before the contract negotiations, both the Defense Contract Audit Agency (DCAA) and Defense Contract Administration Services Office (DCASO) had evaluated the forward pricing proposal and made recommendations. ASD's negotiation objective was based upon DCASO's recommended forward pricing overhead rates.

At ESI, a key factor in developing overhead rates is the sales workoff forecast, i.e., work actually performed as it relates to a prorata amount of sales value. It is the basis for estimating direct labor costs to which overhead expenses will be allocated. On August 23, 1973, ESI proposed the following sales workoff forecast for calendar year 1974 forward pricing.

Type of business	Number of individual estimates	Amount
Firm	9	$13,270,000
Probable	60	37,337,000
Unidentified	-	4,393,000
Calendar year 1974 sales		$55,000,000

On the basis of this forecast, the contractor proposed a manufacturing overhead rate of 113.9 percent and a G&A rate of 17.8 percent for calendar year 1974. As later discussed, manufacturing overhead and G&A overhead rates of 109.3 and 17.6 percent, respectively, were negotiated for contract -0105.

ESI establishes its sales workoff forecast, or goal, principally by adding the estimated probable sales workoff to the firm sales workoff. An estimated amount is also added to cover potential unidentified business. Probable sales workoff represents ESI's judgment of the value of known new or follow-on contract awards the company may receive. Unidentified business represents unknown new business or unanticipated additions to existing contracts.

The probable sales workoff is determined in three steps. First, the sales workoff value of each potential new or follow-on contract is estimated. Second, each value thus estimated is reduced to a percentage representing ESI's judgment of the probability of actually receiving the award. Third, these reduced sales workoff values are allocated proportionately to each calendar year during which the work is expected to be done. The sum of all such values allocated to a given year represents the probable sales workoff forecast for that year. ESI provided no documented support for the probability factors used in forecasting probable sales workoff.

The firm and probable sales workoff forecasts for calendar year 1974 included a combined total of 69 separately identified estimates. To evaluate ESI's sales workoff forecast, we analyzed the estimated calendar year 1974 sales workoff forecast for five large contracts which represented 49 percent of the total sales workoff forecast for that year of $55 million. The table below compares the calendar year 1974 sales workoff forecast and approximate 1974 actual costs for the five contracts (i.e., the approximate 1974 actual cost amounts represent actual sales less profit). A brief discussion of each contract follows the schedule.

Contract	Calendar year 1974 Sales workoff forecast	Approximate actual cost (a)
A	$ 8,900,000	$13,658,000
B	1,475,000	2,442,000
C	3,442,000)	
	)	6,050,000 (b)
D	2,011,000)	
E	11,101,000	19,787,000
Total	$26,929,000	$41,937,000

(a) We utilized the approximate actual cost for comparison purposes because these amounts were generally readily available by contract and the amounts represent actual sales workoff for the year less profits.

(b) Combined amount for contracts C and D which are consecutive awards under the same program.

Contract A (Code name: Rivet Joint 2, 3 and 4)

This is contract -0105, which was still considered probable business when the forecast was prepared. ESI had correctly estimated its sales workoff potential at $15,000,000 but only $9,000,000 was used in forecasting sales workoff and overhead rates for 1974. This occurred because the contractor believed there was only a 60 percent probability of actually receiving the award. There are three reasons why the probability factor should have been higher: (1) funds had already been earmarked for the contract, (2) once negotiations were scheduled, the award was virtually certain, and (3) this was a follow-on contract to one previously awarded to ESI.

Contract B (Code name: Rivet Joint 5, 6 and 7)

This was the anticipated follow-on to contract -0105; ESI also forecast it at a 60 percent award probability. We believe a higher probability was warranted because (1) the award of contract -0105 was a near certainty, (2) the Air Force was projecting follow-on work beyond contract B, (3) the Big Safari program, which includes the Rivet Joint work, had been going on for about 16 years, and (4) ESI operates the Rivet Joint depot at the Greenville plant. On July 29, 1974, the Rivet Joint 5, 6 and 7 contract was awarded to ESI.

Contract C (Code name: Sam Fleet Fiscal Year 1974)

This was an existing contract which was part of another long-running program. ESI based its forecast solely on a firm sales work-off of $4,790,000, even though historically it had received over and above work in excess of 40 percent of each year's firm workoff, supporting a sales workoff of up to $7,000,000. Accordingly, the sales workoff forecast should have included a factor for potential over and above work.

Contract D (Code name: Sam Fleet Fiscal Year 1975)

This was the anticipated follow-on to contract C. ESI estimated it to have a sales workoff potential of $7,000,000 on the basis of the historical experience mentioned above. However, only a 60-percent probability was used in the forecast of annual sales. We believe a higher probability was warranted because (1) the program was long-running, (2) this was a follow-on to a contract already in hand, and (3) the procuring activity had negotiated the overhead rates for a 3-year period beginning with contract C and including contract D.

Contract E (Code name: Command Post)

Work scheduled for calendar year 1973 had slipped on this existing contract and a cost overrun was indicated. The calendar year 1974 sales workoff forecast included amounts already under contract and certain option work estimated at a 90-percent award probability. However, no provision was made for the impact of the 1973 work slippage. Since this problem was known, some effect on calendar year 1974 should have been anticipated.

Contract -0105 negotiations were concluded on November 12, 1973. Four days later, on November 16, 1973, ESI submitted a revised calendar year 1974 overhead rate proposal for forward pricing purposes. It was based on data as of October 28, 1973, which was before contract -0105 was negotiated. The basis for the new rates was a revised sales workoff forecast of $56,500,000, or $1.5 million more than the previous forecast. Proposed manufacturing overhead had dropped to 111.6 percent. Three months after contract -0105 negotiations, on February 13, 1974, ESI again revised its proposed calendar year 1974 overhead rates as of January 28, 1974, based on a new sales workoff forecast of $61,500,000 or $6.5 million more than the $55 million sales workoff forecast proposed by ESI in August 1973 (see page 3). The February 1974 revision proposed a 105 percent manufacturing overhead rate.

Actual sales workoff for calendar year 1974 was $66,967,020, or almost $12,000,000 more than the forecast used for contract -0105. The actual manufacturing overhead and G&A rates (i.e., based on contractor's recorded, but unaudited, expense and sales workoff) were 90.5 percent and 15 percent, respectively. Although there were undoubtedly many of the 60 probable business estimates which did not materialize, the October 1973 data which the contractor had available and the preceding analysis of five large contracts show that, before contract -0105 negotiations, there was sufficient evidence to support a calendar year 1974 sales workoff forecast higher than that proposed by ESI. Also, the rapid postnegotiation drop in the rates, as revised by ESI, shows that, at about the time of negotiations, there were a number of contracts for which ESI was very much in contention.

We recomputed the proposed manufacturing overhead rate using (1) a 90-percent award probability for contracts A, B, and D, (2) the historical sales workoff value of $7,000,000 for contract C and (3) one-half of the actual overrun on contract E. Although the latter factor is somewhat arbitrary, it should be noted that the sole purpose of this recomputation was to demonstrate the approximate effect on manufacturing overhead of more realistic sales workoff estimates for the five large contracts. Our computation, which included appropriate adjustments to the base and expense pool, resulted in a manufacturing overhead rate of about 105.8 percent. As previously stated, ESI proposed 113.9 percent, and a 109.3 percent rate was negotiated.

Assuming that all other factors would have remained the same, the use of the 105.8 percent manufacturing overhead rate would have decreased the negotiated price of contract -0105 by about $80,000. We did not quantify the effect of our estimated sales workoff forecast on the G&A overhead rate. However, in our opinion, the use of a higher sales workoff forecast would result in at least a small reduction in the negotiated G&A rate, or, stated differently, the actual increase in sales was partially responsible for the decrease in the G&A rate from the 17.6 percent negotiated to the actual calendar year 1974 G&A rate of 15 percent.

THE GOVERNMENT EVALUATION AND CONTRACT NEGOTIATIONS

DCAA accepted the overhead bases as proposed by ESI, with one exception. The manufacturing overhead base was increased to reflect the transfer of two indirect labor units to that direct labor base. Each proposed expense pool was decreased for items questioned by DCAA. As a result of these adjustments, all rates recommended by DCAA were lower than those proposed by ESI.

The DCAA audit report did not question the award probabilities used by the contractor to estimate the probable sales workoff. However, the working papers show that one auditor asked ESI officials why contracts A and D were not forecast at a 90-percent award probability. Those contractor personnel cited lack of funding and the possibility of program reduction as bases for their use of 60 percent probability. However, as previously stated, funds had already been earmarked for contract A. The auditor did not pursue these questions further.

DCAA personnel told us they did not "accept" the contractor's award probabilities, but rather they simply did not audit them because there was no supporting data. However, the proposed probabilities are reflected in DCAA's recommended overhead rates. They agreed that the 60 percent probabilities used were too low. Also, DCAA did not question the fact that no potential over and above work was proposed for contract C or that the proposal did not allow for the known schedule slippage on contract E.

DCASO merely applied percentage factors to DCAA's overhead base and pool adjustments to develop its rate recommendations. For example, DCASO disregarded the fringe benefits expense questioned by DCAA but accepted 50 percent of DCAA's questioned pension plan expenses. Also, DCASO accepted only 75 percent of DCAA's recommended manufacturing overhead base additions for the transferred indirect labor units. The bases for these adjustments were not documented.

Like DCAA, DCASO did not challenge any of the award probabilities proposed by ESI. The administrative contracting officer at ESI told us he should have caught the 60-percent factors used for contracts A and D. He said his heavy workload at the time probably caused him to overlook them. He also said he was aware of the schedule slippage on Contract E. The administrative contracting officer agreed that higher probability factors should have been used.

The procurement contracting officer at ASD told us that no formal price analysis report was prepared for contract -0105. He said that, since the ASD negotiator was a price analyst, his preparation of a price analysis report would have been redundant. The Air Force negotiating team made a factfinding trip to ESI during the period October 30 to November 2, 1973. The purpose of this visit was to compile a negotiation objective using all available Government input and recommendations and data received from the contractor.

Formal negotiations were conducted at ASD during the period November 6 - 8, 1973. According to the procurement contracting officer, the contractor personnel walked out on the negotiations. As a result, the final agreement was reached by telephone on November 12. No DCAA or DCASO personnel from ESI attended the negotiations. The price negotiation memorandum, dated November 28, 1973, lists several reports and evaluations used by ASD. DCAA's audit report lists several evaluations for use by ASD. DCAA's audit report on ESI's calendar year 1974 forward pricing proposal was not included on the memorandum.

The following table compares proposed, recommended, and negotiated manufacturing overhead and G&A rates for contract -0105. Also shown are the actual rates for calendar year 1974, since most of the contract work was scheduled for that year.

	Manufacturing	G&A
Proposed	113.9%	17.8%
DCAA recommendation	102.6	16.4
DCASO recommendation	108.3	17.1
ASD objective for contract -0105	108.4	17.3
Negotiated rates for contract -0105	109.3	17.6
Actual (i.e., based on unaudited contractor records) calendar year 1974 rates	90.5	15.0

CONCLUSIONS AND RECOMMENDATIONS

We believe that ESI's failure to furnish complete and pertinent support for its calendar year 1974 sales workoff forecast may have resulted in the overpricing of contract -0105 and possibly other contracts. More importantly, however, the Government did not challenge the forecast even though there was evidence to show it was understated. We believe that had these functions been performed, there would have been a sound basis for negotiating lower overhead rates for the contract, with a resulting decrease in contract price. We recommend that the Air Force consider the above findings, along with any other available information to (1) determine the extent to which the Government may be entitled to a price adjustment under contract F33657-74-C-0105 and other contracts because the contractor failed to furnish complete and pertinent data supporting its calendar year 1974 sales workoff forecast and (2) identify procurement procedures that need to be improved, to assure that ASD, DCAA and DCASO properly evaluate contractor's proposed overhead rates for negotiated contracts.

We would appreciate a written reply within 30 days expressing your views and comments on the matters discussed herein. Copies of this letter are being sent to ESI, DCAA, and DCASO at Greenville, Texas.

Sincerely yours,

Forrest R. Browne
Regional Manager