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Assessment Of Air Force Should-Cost Studies B-159896

Department of the Air Force

*UNITED STATES
GENERAL ACCOUNTING OFFICE*

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JULY 31, 1973



UNITED STATES GENERAL ACCOUNTING OFFICE

WASHINGTON, D C 20548

PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION

B-159896

The Honorable
The Secretary of Defense

Dear Mr Secretary

This is our assessment of the Air Force's application of "should cost" concepts. We reported the results of our assessments of the Army and the Navy should-cost studies in October 1972 and May 1973, respectively (B-159896)

The Air Force uses the should-cost approach--a method of cost analysis made by a team of Government specialists in engineering, pricing, procurement, auditing, and management--to determine what the military hardware should cost, given attainable efficiency, and thereby facilitate the negotiation of realistic contract prices and to bring about improvements in the efficiency and economy of contractor operations. The Air Force Systems Command (AFSC) made the first should-cost study in the fall of 1970. Through January 1973, it had completed 14 studies and the Air Force Logistics Command had completed 5. Both commands plan to make additional studies.

This assessment covers 5 of the 14 AFSC studies. We selected two of the five studies for detailed examination. We reviewed price negotiation memorandums, agency procurement files, should-cost team workpapers, and interviewed contractor and agency officials involved in the studies and in ensuing negotiations. We also examined the scope and methodology used to analyze contractor operations, the potential savings identified and realized, and the costs incurred in making the studies. For the three remaining studies, we limited our review essentially to the price negotiation memorandums, since the Air Force did not prepare a formal should-cost report (See p 7)

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Our purpose was not to review and evaluate the overall conduct and success of the price negotiation process but to identify opportunities for improving the Air Force's use of should-cost concepts. Should-cost studies are an important part of the negotiation process, however, the success achieved during negotiations can be affected by other factors, such as the relative strengths of the two parties and the willingness and capability of the contractor to take the steps necessary to reduce costs

COST OF SHOULD-COST STUDIES

Air Force information showed the costs incurred to make the five studies as follows

<u>Study</u>	<u>Cost</u>
A	\$158,000
B	176,000
C	89,000
D	12,000
E	<u>39,000</u>
	<u>\$474,000</u>

These costs include the time and expenses of team members to plan and make the studies as well as participate in negotiations. The time spent in the contractors' plants varied from 9 days for study D to 56 days for study B. The number of team members ranged from 10 to 43.

The Air Force told us that, except for its first study (study A), private consultants were not used in making the studies.

IMPACT ON NEGOTIATIONS

Although the depth to which the teams analyzed contractors' operations and their findings and recommendations varied from study to study, the studies, in our opinion, strengthened the Air Force's bargaining position in contract negotiations. Air Force negotiation records indicate that a substantial portion--about 72 percent--of the potential price reductions identified by the teams was realized.

Potential Price Reductions Identified
and Achieved in Negotiations as Shown in the
Price Negotiation Memorandums

<u>Study</u>	<u>Contractors'</u> <u>proposals</u>	<u>Air Force</u> <u>price objective</u>	<u>Potential</u> <u>reduction</u>	<u>Reductions</u> <u>achieved</u>
(millions)				
A	\$ 93.7	\$ 75.9	\$ 17.8	\$ 16.7
B	381.4	266.9	114.5	71.9
C	81.3	^a 63.9	17.4	17.4
D	2.2	1.8	.4	.2
E	<u>39.5</u>	<u>31.5</u>	<u>8.0</u>	<u>6.9</u>
Total	<u>\$598.1</u>	<u>\$440.0</u>	<u>\$158.1</u>	<u>\$113.1</u>

^aThe price objective was \$2.6 million higher than the should-cost estimate. According to the negotiation record, this was due primarily to the submission of later information by the contractor.

Air Force information showed that, except for study D, the negotiated price reductions were greater than those realized on prior procurements from the same contractor. Our detailed review of studies C and E confirmed that greater price reductions were realized. For example, on five previous procurements of the item involved in study C, the Air Force negotiated an average price reduction of 10.3 percent, whereas it realized a reduction of 17.3 percent on the contract evaluated by the team. We could not measure on a cost-element by cost-element basis the extent to which the study results contributed to these greater reductions because final agreements were reached on a lump-sum basis. In addition, the amounts shown as reductions achieved in negotiations do not represent actual savings the Government realized since four of the five contracts are fixed-price incentive contracts and the final prices will be established after the work is completed.

For one of the studies that we reviewed in detail, the contractor identified some reductions in labor-hour estimates which were made in response to questions the team raised. These reductions represent a total reduction in the proposed

price of about \$586,000. The contractor attributed additional reductions in labor-hour estimates to later information and refinements of earlier estimates. We also noted that, after negotiations were suspended, this contractor had accepted an Air Force offer which was \$2 million less than the contractor's last offer. According to contractor officials, the lower price was accepted because the Government was adamant on the final target cost and price and because the contractor's impression was that the final Air Force position had been reinforced by the study.

CONTRACTOR OPERATIONS IMPACT
ON EFFICIENCY AND ECONOMY

In addition to their use in negotiating contract prices, the Air Force should-cost studies are intended to bring about improvements in contractor operations. Although we were told that the team made recommendations to the contractors in each of the cases we examined, we found evidence that this had been done in only two of the five studies.

In one case, the negotiation record stated that the contractor agreed with certain team recommendations. These included recommendations for (1) extending the coverage of the labor standards and performance measurement system to additional areas and for utilizing the standards as a basis for cost estimating, (2) amending the methodology for setting production lot sizes for work on certain critical machines, and (3) redesigning one tool to produce two items at a time rather than one.

In another case, the procuring agency in a letter to the contractor at the conclusion of negotiations identified 34 areas in which improvements were recommended. The recommendations covered improvements in systems, such as accounting, management control, purchasing, and estimating, as well as specific areas affecting operations, such as setting economic production lot sizes and reducing manpower for packing and shipping. Air Force information showed that the contractor had begun a structured program for evaluating and implementing the recommended improvements.

For the two studies we selected for detailed review, the Air Force told us that no record was made of the team's specific

recommendations or of the contractors' positions on them. Team leaders and negotiators said that the team identified the need for improvements in contractor operations and called these to the contractors' attention during negotiations. One of the contractors stated that the team's findings were discussed in general terms but that the team had not submitted written recommendations. The other contractor told us that it was not aware of any recommendations made by the team for improvements in its operations.

OPPORTUNITIES FOR IMPROVEMENT

Improvements should be made so that more benefits may be derived from future studies. These improvements concern the scope and coverage of the studies, communication and followup of recommendations, and documentation practices.

Scope and coverage

For the studies we reviewed in depth, the team primarily tested and evaluated the data and rationales the contractors used in developing their cost proposals. Although such work is important, our experience is that the potential for significant cost reductions can be identified as a result of evaluating manufacturing operations in such areas as plant layout, production control, preventive maintenance, equipment modernization, and quality assurance.

In our opinion, the team should give more emphasis to identifying opportunities to reduce costs by eliminating uneconomical or inefficient practices in contractor management and operations. Also contractor operations can be best evaluated on a plantwide basis. The team can provide constructive suggestions which the contractor can implement to realize cost reductions shown in the should-cost objective for the current negotiations as well as to realize benefits on current and future work by the contractors.

Air Force guidance issued after completion of the studies discussed in this report seems to adequately recognize the benefits to be achieved by giving appropriate attention to identifying and challenging uneconomical or inefficient practices in

contractor management and operations. This guidance also states that studies normally will be conducted on a plantwide basis. Appropriate use of this guidance should result in more benefits from the studies.

We believe that, in conducting its studies, the team should also be concerned with the impact of Government procurement practices and policies on contractors' costs of operations. We found no evidence that the should-cost team either analyzed or challenged Government practices or contractual requirements during its studies. The need for this improvement was also noted in the report on our assessment of the Army's studies. As we pointed out in that report, the team should identify opportunities for reducing the cost of contract performance by improving Government procurement policies and practices affecting contractor operations.

Air Force guidance does not address the need for the team to evaluate Government policies and practices as well as those of the contractor. Our experience in applying should-cost techniques is that benefits can be realized through evaluating Government policies and practices.

Communication and followup of recommendations

The team submitted written recommendations to the contractors for only one of the five studies we reviewed. In addition, agency plant representatives at two plants told us that they were not informed of any recommendations made as a result of the studies and that they were not asked to monitor any specific areas of contractor operations.

Air Force guidance provides that a letter be sent to the contractor setting forth the Air Force position concerning the need for improvements. The letter should confirm agreements reached with the contractor on a target date for submitting a plan for implementing agreed-upon recommendations. The guidance also states that the administrative contracting officer will follow up, as required, to insure that findings are implemented and that corrective action is monitored on a continuing basis.

This guidance, if properly implemented, should provide added assurance that appropriate actions are taken to improve the efficiency and economy of contractor operations.

Documentation practices

The Air Force does not prepare a formal should-cost report since it feels that this would duplicate the price negotiation memorandum information which serves as the official record of the contract negotiations. Four of the five negotiation memorandums gave little indication of the study scope, the basis for the should-cost positions, or the improvements recommended by the team.

In our opinion, adequate documentation of the study scope and depth of evaluation, findings developed, and recommended improvements is essential. In addition to providing information to permit assessments of the should-cost efforts by higher level Air Force officials and other interested parties, such documentation would provide

- a better basis for the Air Force negotiators to support the should-cost findings and recommendations in price negotiations with the contractors,
- a clear and permanent record of the improvements which the teams believe should be made to improve the economy and efficiency of the contractors' operations,
- a basis to follow up on the corrective actions taken in response to the team's recommendations, and
- a basis to develop lessons learned for use in improving future studies and in training future team members

Air Force guidance requires that the price negotiation memorandum reflect

"* * * good clear trackability of the cost and profit elements included in the negotiations, an explanation of the techniques and scope of analysis conducted, an identification of the data used (and that which was not used) in developing the Air Force cost objective, a clear and supportable discussion of the rationale used and judgments made in the analysis and subsequent projections of cost * * * "

RECOMMENDATIONS

We recommend that the Secretary of the Air Force (1) issue guidance emphasizing the need for should-cost teams to give appropriate attention to the potential for improvements through modifications of Government policies and practices and (2) periodically monitor the Air Force's should-cost program to determine the effectiveness of the should-cost guidance and its implementation in achieving the improvements needed concerning problems of the type discussed in this report

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We are sending copies of this report to the Director, Office of Management and Budget, the Secretary of the Air Force, and interested congressional committees

Sincerely yours,

A handwritten signature in black ink, appearing to read "R.W. Jutmann". The signature is written in a cursive, somewhat stylized font.

Director