HUB AEROSPACE

Review this case carefully and answer the questions at the end of the case in detail.

Hub Aerospace, Inc. was awarded a fixed-price-incentive contract for jet aircraft engines. The engines were assembled by Hub from components furnished by subcontractors. Hub had received competitive bids on all their components, which they had compiled, to come up with the bid price. Included in a number of these components was one termed a "chamber." Hub's make-or-buy study in the pre-contract phase had concluded with the decision to buy 70 chambers from one of its subcontractors.

Mr. Brosky, the contracting officer, had reduced the target price by $58,751 pursuant to the clause on price reductions for defective cost or pricing data. His decision to take this action was based on information furnished him by the GAO, who found in their post-award audit under PL 87-653 that Hub had failed to disclose price quotations submitted by a subcontractor, Steele Tube and Pipe Company, in competition for the chambers. This subcontractor's quotation of 1 February 19X0 to Hub had been a unit price of $16,211. Hub's proposal to the government was based on the unit price of $17,000 submitted by the Weller Steel Tube Company. The difference between these two vendor prices of $789, adjusted by contract pricing arrangement of 75/25, G&A and profit was the basis of Mr. Brosky's price adjustment.

Also at issue is a substantial increase in the amount of price reduction based on another undisclosed quotation of $15,451, 3 June 19X0. This quotation was submitted by Steele after the prime contract negotiations were completed and after Hub had executed its certificate of current pricing but before signing the prime contract. Hub then awarded the subcontract to Steele at the reduced price.

The circumstances preceding award of the government's contract to Hub Aerospace, Inc. were substantially as follows:

> The number of chambers to be purchased or to be made in-house under the make-or-buy program was uncertain. Changes were made in the program and in the quantities to be quoted on by the subcontractors. In January 19X0, the range of prices per unit for chambers was as follows:

Quantity	Steele	Weller
76	$18,463.51	$19,283.00
102	18,278.90	18,835.00
128	18,186.59	18,486.00
154	18,094.29	18,228.00
180	17,909.68	17,990.00

On 6 February 19X0, Weller's oral quotation for 144 units was given: $16,866 for delivery beginning in November. On 7 February 19X0, Steele's written quotation for delivery in July 19X0 was submitted as follows:

Quantity	Price Each Lot Of
144	$16,142.58
120	16,179.85
96	16,211.12

> "The above prices are based on uninterrupted production at rates shown above commencing July 19X0."

The delivery conditions imposed by Steele made their quotations nonresponsive, since Hub's RFQ called for delivery in November, not July. Hub's subcontracting Negotiation Memorandum showed an attempt to have Steele eliminate that condition, and their statement they would give some consideration to the effect on pricing if they complied with the delivery schedule. The Memorandum contained no evidence to show that when Hub submitted its proposal to the Government in March 19X0, or before conclusions of the negotiations in May, that Steele had eliminated its delivery condition. On the basis of delivery, Hub accepted Weller's quotation of $16,866 adjusted to $17,000 because of program changes from 144 to 136.

The government's Negotiation Memorandum reflected a close and cooperative relationship between Hub and the government personnel. The cost analyst could have learned of the quotation differences by asking for access to the chambers' procurement records. The government representatives were familiar with both Steele and Weller and when a make-or-buy decision arose they would be logical subcontracting sources. In relying on the cost and pricing data, the government was satisfied with the Weller $17,000 price. However, it had been pricing practice when loser prices were known to attempt to secure a lower overall price. This had happened with other contractors.

The Negotiation Memorandum also showed concessions by both parties. Each had altered its position several times on target cost, profit, share-ratio, and ceiling price. As finally negotiated, Hub's target cost had been reduced from $12,859 to $9,735, and there had been adjustments of profit percentages from the original position of each party. As they finally were incorporated in the contract, target costs had been arrived at on a total cost approach.

When Mr. Peterson, Hub's President, met with the contracting officer to discuss the price reduction, he was aware of Clause 51 of his contract, providing for a price reduction when a contract has: ". . . furnished incomplete or inaccurate cost or pricing data or data not current as certified in the contractor's Certificate of Current Cost or Pricing Data . . ." On the other hand, he was convinced that his firm had not violated either the letter, or the spirit of PL 87-653. After an exchange of greetings, Mr. Peterson introduced Mr. Blackstone, his attorney, to Mr. Brosky. The counselor was quick to "get down to the case at hand" presenting to the contracting officer the company's position that:

> Hub does not object to the minor adjustments or the method of adjusting the contract amount, i.e., reducing the contract price by the target cost and target profit attributable to a nondisclosure. Hub objects to any adjustment being made and on the

theory, that in the total cost negotiations in this case, the target cost would have been reduced by the entire amount of the difference between the Steele and Weller quotations.

Hub contends that no price adjustment is due because of its failure to disclose Steele's $15,451 price, quoted in June 19X0. Because that quotation was neither solicited nor received until after the 7 May 19X0 date of certificate of current pricing and until after the prime contract price had been negotiated.

Hub further objects on various grounds to the government's entitlement to adjustments, as included in Mr. Brosky's decision, contending:

(1) Steele's quotation of 1 February 19X0 was not cost or pricing data as of 7 May 19X0 because it was conditioned on an unacceptable delivery schedule, had a 30-day acceptance limitation, and was at that time neither responsive nor current.

(2) The quotation was in fact disclosed to the government prior to or in connection with the contract price negotiations.

(3) If there was a nondisclosure, the government has failed to prove that it caused an overstatement in the contract price. That is, the government did not rely on Weller's $17,000 quotation or on the alleged absence of the Steele quotation. In addition to other evidence, the government's conduct in asserting no such claim when chargeable with knowledge of the facts shows its lack of reliance, its construction of the contract and, perhaps, a waiver of the right to a price adjustment.

QUESTIONS:

1. ***Evaluate <u>each</u> of Hub's contentions. Do you agree or disagree? Why?***

2. ***What should Mr. Brosky do now?***

DELAY CLAIMS

Review this case carefully and answer the questions at the end of the case in detail.

You are the contracting officer in charge of administration of a contract for the manufacture of aircraft jet engines. The contract was entered into on August 18, 19X0, for a firm-fixed-price and contains the normal general provisions. The delivery schedule on this contract must be adhered to since the engines are to be furnished to aircraft manufacturers as government-furnished property.

During the performance of this contract the following delays occur:

1. *September 10 to October 18, 19X0* – on September 10, the contractor informed you that the specifications for the jet engine contained a number of requirements which could not be met if the delivery schedule was to be met. Your review of the specific requirements pointed out by the contractor indicates that they are primarily items that were added to the specification after the last procurement by your technical division. Your technical people review the items and agree that most of them can be changed back to the previous requirements in order to facilitate meeting the schedule. Your change order accomplishing this reaches the contractor on October 18. In the interim, the contractor has been working on the manufacturing engineering aspect of the contract but has been unable to order long lead time components. He claims 30 days delay.

2. *October 12-26, 19X0* – a strike of the machinists in the contractor's plant closes the plant completely.

3. *November 3 to December 21, 19X0* – on November 3, your technical division informs you that a major change to the rotor section of the engine must be processed since defects have been reported in the field. You order the contractor to conduct an immediate expedited study of this problem under his continuing engineering contract (a separate contract) and to submit a proposed design change in three weeks. Because of the urgency of this redesign your technical people spend the three weeks at the contractor's plant and are able to process the change in 10 days after it is submitted by the contractor. You issue the change on December 7, and the contractor takes two additional weeks to process the change through manufacturing engineering into his plant. He stopped work on the rotor assemblies on November 3, when he found out about the change and therefore claims a delay of the entire 48 days.

4. *January 5 to February 7, 19X1* – on January 5, the Excello Company informed the contractor that they were unable to deliver the subcontracted fuel pump for the engine because they cannot hold the precise tolerances required to manufacture the pump. In previous contracts the contractor had bought these pumps from the Ace Pump Company with no difficulty. However, on this procurement, following the clause in the contract requiring competition in subcontracting to the maximum practical degree, the contractor had awarded the job to Excello on the basis of their low competitive bid. The contractor immediately awarded another contract to Ace with orders to expedite delivery to the maximum. He claims a delay of 33 days.

Facing a delivery schedule calling for initial deliveries on April 15, 19X1, and knowing that the government would not allow schedule slippage, the contractor began working overtime on December 1, 19X0. As further slippages occurred, he added extra shifts and took all possible steps to expedite progress on the contract. However, it was apparent that he was in trouble and on January 25, 19X1, the head of your agency called a meeting with the contractor to determine what could be done. At this meeting the head of your agency told the contractor that the contract must be performed on schedule and suggested that he take further steps to assure timely delivery. The contractor worked Saturdays and Sundays from that time on and was able to deliver the initial group of engines at the end of April 19X1 (two weeks late).

He now claims compensation for the overtime, shift premium, loss of efficiency in expediting, subcontractor expediting costs, etc.

QUESTIONS:

1. ***How would you handle such a claim? Discuss each of the claimed delays and claim for additional compensation.***

ELECTRON CORPORATION

Review this case carefully and answer the questions at the end of the case in detail.

You are the contracting officer in charge of administering a $3,550,000 firm-fixed-price contract with the Electron Corporation. The contract calls for the manufacture of 530 electronic reading machines. It contains general provisions, a normal schedule and a Federal Specification describing the reading machine. This specification, in general, is a performance specification containing numerous performance requirements and an elaborate set of test procedures and test results which must be complied with to achieve satisfactory performance. In addition, the specification calls for a large number of specific electronic components which must be used by the contractor. The delivery schedule allows approximately two months for design of the reading machine (first delivery is eight months after the contract date and the lead time for several of the electronic components is six months). The contract was let to Electron after competitive negotiation in which Electron submitted the third low proposal out of eight companies. The procurement contracting officer rejected the two lower offerors on technical and management grounds and had negotiated Electron down in price by $165,000.

After six weeks of work on the contract, the Contract Manager of Electron asks you to attend a conference at which various people in the company are going to discuss the progress to date on this contract. At the conference, on March 15, it appears that the Engineering Department is having some difficulty in completing the design on time – the difficulty seems to be that several of the circuits have failed to their initial testing with the result that systems tests cannot be undertaken in accordance with the original design schedule. After a thorough discussion the various department heads decide to delay the manufacturing schedule by one month but to order the specified long lead time components in order to assure that the contract delivery schedule will be met.

Three weeks later, on April 5, the Contract Manager and the Director of Engineering of Electron present you with the facts. Continued difficulties have been encountered in the engineering process and the cause seems to be several of the specified electronic components. The Director of Engineering is quite certain that the reading machine could be made to meet the test specifications if newer (and more expensive) components are used. He suggests that you issue a change to the specifications substituting these components at an estimated price increase of $430,000 (including $180,000 termination charges for long lead time components already on order). You immediately submit the request to your technical branch with a request that they furnish an expeditious answer since time is vital to the contractor at this stage of performance. Two days later your technical people tell you that they do not object to the substitution of the components at no increase in price. However, they assert that the contractor's difficulty is really one of circuitry which he does not want to redesign. They point out that the development contractor of this electronic reading machine, Neutron Company, used the specified components on their development model and successfully completed almost all of the tests in the specification without too much difficulty. They also pointed out that the use of Electron's suggested components will eventually raise the costs of the government since the specified components are in stock and hence maintenance costs during operation would be cheaper if the original specification is followed.

When you present the facts to Electron personnel, they are quite incensed and point out that the Neutron development model was developed to an earlier model of the specification which did not include all of the tests specified in the present specification. They do admit, however, that improvements could be made in the reading machine with a redesign of the circuitry but that such an effort would take six weeks and would cost over $500,000. They express a willingness to undertake such a redesign if the government is willing to order it by a change to the contract.

QUESTIONS:

1. ***What action would you take in these circumstances? Why?***

2. ***What responsibilities has the government assumed in this procurement?***

3. ***Would your answer be different if the contract had been awarded through a sealed bid procurement process? Why or why not?***

NEGOTIATION PLANNING

Review this case carefully and answer the questions at the end of the case in detail.

(BUYER'S POSITION)

William Pilgrim, Buyer for the Tappan Missile Company, was assigned a procurement request for the modification of 45 optical instruments.

The Gilbert Instrument Company had previously manufactured the item for Tappan and had title to certain special tooling necessary for the modification work. Pilgrim realized that he was faced with a sole source procurement and requested a quotation from Gilbert for the modification work. The following quotation was submitted by Gilbert:

	UNIT PRICE	
Direct Material	$ 410.00 × 45 =	$18,450.00
Direct Labor	1,719.50 × 45 =	77,377.50
Factory Overhead (100%)	1,719.50 × 45 =	77,377.50
Total	$3,849.00 × 45 =	$173,205.00
G & A (10%)	384.90 × 45 =	17,320.50
Total	$4,233.90 × 45 =	$190,525.50
Special Tooling	329.60 × 45 =	14,832.00
Total	$4,563.50 × 45 =	$205,357.50
Profit (10%)	456.35 × 45 =	20,535.75
Total	$5,019.85 × 45 =	$225,893.25

Mr. Pilgrim requested a cost analysis and Fred Day, Price Analyst, and Charles Morton, Cost Engineer, were assigned to review the case.

When Mr. Pilgrim received the report from the two analysts, concerning the modification of the optical instruments, he was quite concerned at a substantial difference between the cost breakdown furnished by Gilbert Instrument and the estimate of cost by the Price Analyst. He knew from painful experience that when the Buyer's and Seller's estimate are so far apart, substantial problems would occur in the negotiation. He also recognized the fact that he was in comparatively weak bargaining position since he had no alternate supplier to go to for the modification work, a situation which he knew Gilbert Instrument Company would be well aware.

In his favor, however, was the fact that Gilbert Instrument Company did a large amount of business with the Tappan Missile Company and this procurement was for a relatively small dollar amount.

He called in Mr. Morton and Mr. Day to help him prepare his negotiation plan.

PRICE ANALYST'S REPORT

SUBJECT:	Price Analysis, Gilbert Instruments, Inc.
ITEM:	Modification of 45 Optical Instruments
PROPOSED PRICE:	$225,893.25
TYPE OF CONTRACT:	Firm-Fixed-Price Contract

1. Supplier's estimate cost submission dated 23 March 20X1 was for the modification of 45 Optical Instruments.

2. Scope of Review

Price Analyst examined the related labor rates, through payroll analysis of all employees for the week ending 21 April 20X1. Overhead and G&A rates for the year 20X0 were computed by the Analyst, who is of the opinion that figures for a complete year are generally of greater value for projection purposes than a shorter period. However, the contractor insisted that the last six months of 20X0 were more representative of current operations, and thus submitted details for that period. The number of persons employed appeared to support the contractor's position.

Price Analyst and Cost Engineer visited contractor's plant on 25 April 20X1 contacting the Chief Estimator and the Comptroller.

Cost Engineer evaluated the estimated direct materials and estimated direct labor hours.

Following are the unit cost details as submitted and accepted:

	Per Contractor	Per Analyst & Engineer	Decreases
Direct Material	$ 410.00	$ 280.80	$ 129.20
Direct Labor	1,719.50	704.00	1,015.50
Factory Overhead (100%)	1,719.50	704.00	1,015.50
Total	$3,849.00	$1,688.80	$2,160.20
G&A (10%)	384.90	168.88	216.00
Total	$4,233.90	$1,857.68	$2,376.20
Special Tooling	329.60	0.00	329.60
Grand Total	$4,563.50	$1,857.68	$2,705.80

3. Below is the Cost Engineer's evaluation of the material and labor hour estimates:

Direct Material: The Cost Engineer allows the following direct material estimates:

Item	Cost Per Unit
Reticle	$ 83.00
Nameplate	10.00
Heat Seal Bag	25.00
Carton	20.00
Selica Gel	7.00
Indicator	1.00
Miscellaneous Packing Materials	15.00
New Instrument Cover	20.00
Miscellaneous Material (alcohol, cement, nitrogen, lens tissues, etc.)	15.00
Miscellaneous Hardware	20.00
	$216.00
30% Allowance for Contingencies	64.80
	$280.80

Direct Labor: The supplier has, to date, failed to substantiate labor estimates on a sound engineering basis. The contractor has submitted general grouping of operations and has placed a time value on each group. Cost Engineer allows 32 hours direct labor.

Per Contractor	Per Analyst & Cost Engineer
54 Hrs. @ 31.8425	32 Hrs. @ $22.00
$1,719.50	$704.00

Supplier utilized selected employees while the Analyst utilized a payroll average based upon the latest payroll information available at the time of Analyst's plant visit, namely the week ending 21 April 20X1. Utilization of the plant wide average is consistent with supplier's past policy of using plant wide average rates when diverse personnel are required on a job. Contractor's representative, in the instance indicated, claimed that these key persons may be the only ones available at the time of the award.

4. Factory Overhead and G&A: Contractor utilized 100% of direct factory labor as factory overhead and 10% of total factory costs as G&A in its submission.

The Analyst is accepting the rates on the basis of prior to Analyst's report of 12 January 20X1, utilizing figures for the calendar year 20X0 as well as the first three months of 20X1. The trend appears to be upward with continued increases in overhead and G&A percentage. The last six months of 20X0, as adjusted, indicates higher rates than those utilized in contractor's submission. Contractor's business has decreased considerably.

5. Special Tooling: Contractor has estimated 212 hours as the time required to remove the necessary special tooling from storage and return same to lay-away condition upon completion of the specific mission.

The following estimates were submitted by the Contractor:

Remove tooling from storage and clean	64 hours
Set-up of Coolimators	38 hours
Subtotal	102 hours
Put back in storage	110 hours
Total	212 hours

The supplier refused to furnish a cost breakdown for the special tooling. Using the same labor and overhead rates as used in the rest of the proposal, the following approximation was furnished:

212 hours	@ $32.40	$ 6,868.80
Overhead	@ 100%	6,868.80
G&A		1,094.40
		$14,832.00

The Chief Estimator for Gilbert Instrument, Mr. Peterson, stated that his estimate was very rough since this work is performed by maintenance personnel who are usually carried as an indirect charge.

6. Type of Contract: Ordinarily, a cost-type contract would be recommended; however, subject contractor's lack of a desirable cost system precludes such a contract. Thus, a fixed price contract is contemplated. Contractor's cost trend upward is such that a redeterminable contract would not be beneficial to the Government's interest.

(SELLER'S POSITION)

The Gilbert Instrument Company manufactures optical instruments. They had manufactured 45 instruments for the Tappan Missile Company and delivered them in 19X9. Tappan is one of Gilbert Instrument's biggest customers. In March, 20X1, they received a Request for Quotation for the modification of the 45 instruments which they had delivered in 19X9.

When the Request for Quotation for the modification of the 45 optical instruments came into the Gilbert Instrument Company, it was turned over to John Peterson, Gilbert's Chief Estimator. He frowned when he saw it because he knew from previous experience that modification contracts were very difficult to estimate. He much preferred preparing estimates for new items to preparing estimates for modification contracts.

He assigned one of his more experienced estimators and within a short time the estimator furnished him with the following estimate of direct costs:

Direct Material	$ 244.00
Direct Labor	1,064.50

Peterson then went to Bruce Jones, the Comptroller, and asked him for the most recent projected rates for the period of performance of the contract. He found that there was some discussion in the accounting group regarding the overhead rate to be used for bidding purposes. Peterson and the Comptroller, Mr. Bruce Jones, finally agreed that they would use the current rate of 100% and a G&A rate of 10%. Apply these factors, Mr. Peterson came up with the following estimate:

Direct Material	$ 244.00
Direct Labor	1,064.50
Overhead @ 100%	1,064.50
	$2,373.00
G&A @ 10%	237.30
	$2,610.30

Peterson then considered tooling costs. While the Company had all the special tooling required for the job, considerable effort had been spent in storing the tooling. However, this work had been performed by maintenance personnel whose time was charged to overhead on an available time basis. These costs were charged to overhead and therefore he had no historical costs to fall back on. He developed a rough estimate of 150 hours at a labor charge of approximately $25.00 per hour to put the tooling in operation and to clean and store it at the conclusion of the contract.

Peterson then talked to John Gobel, the Marketing Manager. Gobel, after looking at the figures that Peterson showed him, asked him how much confidence he had in his estimate. Peterson stated that while he had done his best, his past experience with modification contracts showed that the actual cost of such work could vary widely from the estimated cost. Gobel agreed and asked him what was the extent of the variation he had encountered in similar modification work. Peterson replied that the actual cost could vary as much as 100% over the estimate due to unforeseen difficulties. Gobel then stated that Tappan Missile Company could not have the work performed anywhere else, and that the modification work was only a small percentage of the value of the instruments involved, and that, in his opinion, the price quoted

should be based on the most pessimistic cost estimate. The two men then put their heads together and developed the following cost estimate:

Direct Material	$ 410.00
Direct Labor	1,719.50
Factory Overhead @ 100%	1,719.50
	$3,849.00
G&A @ 10%	384.90
	$4,233.90
Special Tooling	329.60
	$4,563.50
Profit @ 10%	456.35
	$5,019.85

The quotation was furnished to Tappan Missile Company. Approximately one week after the quotation was submitted to Tappan Missile, Mr. Fred Day, the Price Analyst for Tappan, called and requested an appointment with Mr. Peterson to review the quotation for the modification work. Mr. Peterson was concerned as to the extent of the review contemplated. His worst fears were confirmed when Mr. Day, the Price Analyst, arrived accompanied by Charles Morton, a Cost Engineer, and stated that their purpose was to review the basis for Peterson's estimate.

Peterson at first tried to restrict their analysis to overhead and G&A factors; however, the two men insisted on reviewing the complete cost estimate.

Peterson consulted with John Gobel, the Marketing Manager, for advice. Gobel told him that while he did not have to provide the information the men had requested, since the procurement was for a small amount considering the total business done by Gilbert and Tappan Missile Company, it would be in the overall interest of the Company to cooperate with the Buyer's Representatives. Peterson agreed to cooperate.

The following items were discussed by the Analyst:

Material

Peterson was able to show Charles Morton, the Cost Engineer, invoices for the following items that would be needed in the modification work. These represented approximately 85% of the material costs.

Item	Cost Per Unit
Reticle	$ 83.00
Nameplate	10.00
Heat Seal Bag	25.00
Carton	20.00
Selica Gel	7.00
Indicator	1.00
Miscellaneous Packing Materials	15.00
New Instrument Cover	20.00
Miscellaneous Material (alcohol, cement, nitrogen, lens tissues, etc.)	15.00
Miscellaneous Hardware	20.00
	$216.00

The Cost Engineer asked him for an explanation for the difference between these material costs and the material costs included in the cost estimate which he had furnished with his quotation. Peterson replied that while this was the bulk of the material required for the modification, that in modification work, many problems arose which could not be anticipated. To illustrate, he cited problems of spoilage in the new items required, the possibility that in removing the parts of the instruments which required modification, other parts might be damaged or destroyed and require replacement. Peterson stated that since this was to be a fixed price contract, provision had to be made for these costs.

Direct Labor

Mr. Morton, the Cost Engineer, did not tell Mr. Peterson what his estimate of the amount of direct labor required was, but he strongly inferred that Peterson's estimate of 54 hours of direct labor for the modification of each unit was considerably higher than it should be. Mr. Day, the Price Analyst, questioned the rate of $31.80 per hour used by Mr. Peterson in his estimate on the basis that Gilbert Instrument had consistently used a payroll average in bidding on previous proposals and if they followed the same practice in this quotation, the labor hour rate used should be $22.00. Mr. Peterson told Mr. Day that the $31.80 rate which he had used in his estimate was developed on the basis of the actual labor cost of the type of employees which he contemplated using; that he was forced to use his top instrument repair men on this job since they would be the only ones available during the period in which the modification work would take place. Mr. Day did not seem convinced by this argument. Mr. Day, the Price Analyst, discussed with Mr. Bruce Jones, the Comptroller, the overhead and G&A rates used by the Company in the quotation. Mr. Jones showed them the basis for the projection of both rates. After examining the information that Mr. Jones had furnished, Mr. Day made no further comments and left.

In the meantime, Mr. Morton, the Cost Engineer, had been discussing with Peterson the basis for the estimate for the special tooling costs included in the proposal. Peterson explained that he had no historical cost information or experience to back up his estimate of the cost associated with taking the tooling out of storage and returning it to storage at the conclusion of the contract. He stated that the time estimate was based on his long experience with this type of work. Mr. Day, the Price Analyst, questioned Mr. Peterson concerning possible duplication of the tooling charge in overhead.

Peterson supplied the following estimate of the tooling hours:

Remove tooling from storage and clean	64 hours
Set-up of Coolimators	38 hours
Subtotal	102 hours
Put back in storage	110 hours
Total	212 hours

He refused to supply a detailed estimate of tooling costs but did provide the following approximates:

212 hours	@ $32.40	$ 6,868.80
Overhead	@ 100%	6,868.80
G&A and Material		1,094.40
		$14,832.00

The representatives of Tappan Missile Company thanked Mr. Peterson for his cooperation and told him that he would probably next hear from Mr. William Pilgrim, the Buyer.

Approximately one week later, Mr. Gobel, the Marketing Manager, was contacted by Mr. Pilgrim, the Buyer for the Tappan Missile Company, and requested him to come in to negotiate the contract. Mr. Gobel decided that since Mr. Peterson was most familiar with the estimate, he would be the Chief Negotiator, and that he, Gobel, and Bruce Jones, the Comptroller, would assist him. The three men then sat down to discuss their approach to the coming negotiations.

QUESTIONS:

1. ***Prepare separate written analysis of the procurement situation for both parties.***

2. ***Prepare separate written negotiation plans for each party to include cost element objectives.***

3. ***Are there any major misconceptions in the way the parties perceive each other's positions? Elaborate.***

PRICING PROBLEM

This pricing problem has been designed to permit application of a wide-range of price/cost analysis techniques. These include use of such tools as:

- *Learning curves*
- *Trend analysis, including index numbers*
- *Overhead analysis*
- *Profit analysis*
- *Judgment*

Required:

Your job is to develop a prenegotiation position for all cost elements with explanations. Available information includes program information, a cost proposal, DCAS and DCAA reports, and an ASD Cost Research Report.

There is no one right answer. You should strive for a Fair and Reasonable objective. Grades will be based both on what you considered and how and why you considered it.

Table of Contents

PROGRAM INFORMATION

Program History

1. In July 19X5 a requirement for a very small, very reliable, lightweight radio receiver transmitter/receiver for use in a new aircraft, the A-B became known. The aircraft was, at this time, in prototype production and units of the new receiver transmitter were necessary prior to flight test scheduled for July 19X7.

2. Due to the lack of acquisition leadtime it was necessary to select on a single source basis, a contractor with the necessary technical background to provide the equipment. Radiotronics, Inc was, after careful analysis, chosen to develop and produce the RT/ARC 1984 receiver transmitter unit.

3. The RT/ARC 1984 has proven to be extremely effective and reliable and has been repurchased four times from Radiotronics to meet the needs of the Air Force.

CONTRACT DATA

Lot	Contract Type	Target Price	Actual Price
1	CPIF	$1,450,000	$1,500,000
2	CPIF	3,000,000	2,660,000
3	FPIF	3,250,000	3,270,000
4	FPIF	4,700,000	4,720,000
5	FPIF	3,900,000	Unknown
6 (Proposed)	FFP	5,233,404	

PROGRAM SCHEDULE

SYSTEM (Project): RT/ARC 1984

SUBSYSTEM:

TYPE OF SCHEDULE:

AS OF DATE: 15 Apr 19XE

LINE		CY 19X7												CY 19X8												CY 19X9												CY 19											
		J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D
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AUTHENTICATION

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Technical Specifications

RT/ARC 1984 - Airborne Receiver Transmitter

14 Mar 19X8

1. SCOPE

This Technical Exhibit delineates the performance requirements necessary to satisfy the development, design, production and testing of the RT/ARC 1984 Airborne Receiver Transmitter System.

2. APPLICABLE DOCUMENTS

2.1	MIL-I-6181	Interference Control Requirements Aircraft Equipment Apr 19X7
2.2	MIL-STD-781B	Reliability Jun 19X5
2.3	MIL-STD-783	Maintainability Jul 19X6
2.4	MIL-N-7513	Nomenclature Assignment - Contractor's Method of Obtaining Jul 19X7
2.5	MIL-STD-810	Environmental Test Methods Jun 19X6

3. REQUIREMENTS

3.1 Dimensions, Weight and Interface

The control box (including RT Unit) for the RT/ARC 1984 shall not weigh more than two (2) pounds nor have dimensions exceeding 6" x 4" x 4". The system must satisfactorily interface with the power supply and communications systems of the A-8 Aircraft.

3.2 Interference

The RT/ARC 1984 shall be designed to comply with the interference control requirements of MIL-I-6181.

3.3 Non-Standard Parts

Approval to use non-standard parts is not required. Test data on non-standard parts shall be made available at the request of the Contracting Activity.

3.4 Performance Requirements

3.4.1 Audio Band Width; 100 Hz - 3000 Hz.

3.4.2 Power Output not less than 125 watts.

3.4.3 Receiver sensitivity at least 85 dbm.

3.4.4 Impedance 50 ohms ± 3%.

3.4.5 Audio Output to earphone not less than 2 watts.

3.5 Reliability Requirement.

Demonstration of a mean time between failure (MTBF) rate of 200 hours is to be demonstrated in accordance with MIL-STD-781B, Test Plan "C".

3.6 Operational Environment.

The equipment will be subject to altitudes between sea level and 50,000 feet. Temperature range of -54°C to +70°C.

3.7 The product will be marked in accordance with MIL-N-7513. Major component nomenclature will be requested in accordance with MIL-N-7513.

4.0 Quality Assurance Provisions

4.1 Responsibility for Inspection

4.1.1 Unless otherwise specified in the contract, the contractor is responsible for the performance of all testing required herein. The Government reserves the right to witness or perform all tests required which are deemed necessary to assure supplies perform to specifications.

4.2 Sample Test.

4.2.1 Sample tests will be conducted on one (1) unit of each 25 produced. The tests required for sample test shall be:

4.2.1.1 Temperature - performance from -54°C to +70°C.

4.2.1.2 Sensitivity - a minimum of 85 dbm is required.

4.2.2 Individual Tests

4.2.2.1 Temperature/altitude - shall be subjected to testing required under test procedure 1.2 of MIL-STD-810.

4.2.2.2 Vibration - shall be conducted on the assembly in accordance with MIL-STD-810. Vibration of 5 "g"s is required.

4.2.2.3 Electrical - control panel must be operational. Transmit and receive functions must work satisfactorily.

4.2.2.4 Shock - shall be conducted in accordance with procedure of MIL-STD-810. A minimum shock of 4.0"g"s must be withstood for a minimum of 11 milliseconds.

RADIOTRONCIS, INC.
333 Broad Street
Alpha, Mississippi 39999

TO: ASD/NMKS (Commander) 1 July, 19X8
Astronomical Contracting Element (ACE)
Astronomical Systems Division, OH 49999

SUBJ: Proposal on RFP F33657-X8-9999 (Our Proposal X101)

We are pleased to submit herewith subject firm-fixed price proposal for a total price of $5,233,404. This proposal is valid through 31 Aug 19X8. Any delay beyond that date will require reproposal and an extension of the delivery schedule.

A review of your Technical Specifications dated 14 Mar 19X8 has been conducted and that specification has been found acceptable as written. Our interpretation is that all technical parameters of your Technical Specification dated 12 August 19X6 and Amendments 1 - 14 thereto remain intact.

All terms and conditions set forth in your solicitation are acceptable. The required make or buy program is included in Volume II - Cost Proposal. All other certifications are included in Volume 1 - Certification & Representations.

Any questions concerning this proposal should reference our Proposal Number X-101 and should be directed to the undersigned or Ms. I. C. DeFuture, Chief of Estimating.

Sincerely,

John E. Carson

John E. Carson
President

Encl: Volume 1 - Certifications & Representations
Volume II - Cost Proposal

DEPARTMENT OF DEFENSE
CONTRACT PRICING PROPOSAL

FORM APPROVED
OMB NO. 22-R0261

This form is for use in procurements when submission of cost or pricing data is required (See DAR 3-807)

NAME, ADDRESS AND TELEPHONE NUMBER OF ORGANIZATIONAL ELEMENT RESPONSIBLE FOR SUPPORTING PROPOSAL

Radiotronics, Inc.
333 Broad Street
Alpha, Mississippi 39999

TYPE OF CONTRACT: FFP

PLACE(S) AND PERIOD(S) OF PERFORMANCE

Alpha, Mississippi

July 19X8 - July 19X9

TOTAL COST	$4,572,741
PROFIT/FEE	660,663
TOTAL	$5,233,404

TYPE OF PROCUREMENT ACTION

☐ NEW PROCUREMENT ☐ LETTER CONTRACT ☐ OTHER (Specify)
☐ CHANGE ORDER ☐ UNPRICED ORDER
☐ PRICE REVISION/REDETERMINATION

LINE ITEM NO	IDENTIFICATION NOTE: List and reference the identification, quantity and total price proposed for each contract line item. A line item cost breakdown supporting this recap is required unless otherwise specified by the Contracting Officer. (Attach continuation page if required.)	QUANTITY	TOTAL PRICE	REF
1.	RT/ARC 1984 Transceiver	50	$5,233,404	Page 2A

I. IF YOUR ACCOUNTS AND RECORDS HAVE BEEN REVIEWED IN CONNECTION WITH ANY GOVERNMENT CONTRACT (PRIME OR SUBCONTRACT) GRANT OR PROPOSAL WITHIN THE PAST 3 YEARS BY A GOVERNMENT AGENCY OTHER THAN IRS OR GAO PROVIDE NAME, ADDRESS AND TELEPHONE NUMBER BELOW

CONTRACT ADMINISTRATION OFFICE	AUDIT OFFICE
Defense Logistics Agency (DLA) Alpha DCAS Management Area Alpha,Mississippi 39999	DCAA Bayou Region Bayou, Louisiana 59999

II. WILL YOU REQUIRE THE USE OF ANY GOVERNMENT PROPERTY IN THE PERFORMANCE OF THIS WORK?
☐ YES ☒ NO *If yes, identify*

III. DO YOU REQUIRE GOVERNMENT CONTRACT FINANCING TO PERFORM THIS PROPOSED CONTRACT?
☒ YES ☐ NO *If yes, identify* ☐ ADVANCE PAYMENTS ☐ PROGRESS PAYMENTS OR ☐ GUARANTEED LOANS

IV. HAVE YOU BEEN AWARDED ANY CONTRACTS OR SUBCONTRACTS FOR THE SAME OR SIMILAR ITEMS WITHIN THE PAST 3 YEARS?
☒ YES ☐ NO *If yes, identify item(s), customer(s) and contract numbers*

F33657-X7-C-9999

V. IS THIS PROPOSAL CONSISTENT WITH YOUR ESTABLISHED ESTIMATING AND ACCOUNTING PRACTICES AND PROCEDURES AND DAR SECTION XV COST PRINCIPLES?
☒ YES ☐ NO *If no, explain*

VI. COST ACCOUNTING STANDARDS BOARD (CASB) DATA (PUBLIC LAW 91-379 AS AMENDED)

a. WILL THIS PROCUREMENT ACTION BE SUBJECT TO CASB REGULATIONS?
☒ YES ☐ NO *If no, explain*

b. HAVE YOU SUBMITTED A CASB DISCLOSURE STATEMENT (CASB DS-1 or 2)?
☒ YES ☐ NO *If yes, specify the office to which submitted and if determined to be adequate*

c. HAVE YOU BEEN NOTIFIED THAT YOU ARE OR MAY BE IN NONCOMPLIANCE WITH YOUR DISCLOSURE STATEMENT OR COST ACCOUNTING STANDARDS?
☐ YES ☒ NO *If yes, explain*

d. IS ANY ASPECT OF THIS PROPOSAL INCONSISTENT WITH YOUR DISCLOSED PRACTICES OR APPLICABLE COST ACCOUNTING STANDARDS?
☐ YES ☒ NO *If yes, explain*

This proposal is submitted in response to (RFP, contract, mod, etc.) F33657-X8-R-9999

and reflects our best estimates and/or actual costs as of this date, in accordance with the instructions of this form.

TYPED NAME AND TITLE	SIGNATURE
John E. Carson President	John E. Carson

NAME OF FIRM	DATE OF SUBMISSION
Radiotronics, Inc.	1 July 19X8

DD FORM 633
1 April 79

Previous edition is obsolete. Replaces DD Form 633-1 through 5, ... and DD Form ..., which are obsolete.

	COST ELEMENT	DOLLARS	PAGE REFERENCE
(A)	Purchased Parts	500,000	9
(B)	Subcontracted Items	830,000	9, 10
(C)	Commercial Items	825,000	9. 11
(D)	Material Overhead 2.1%	45,255	16, 17
(E)	Direct Engineering Labor	183,000	12, 13
(F)	Engineering Overhead 84.0%	153,720	16, 17
(G)	Direct Mfg Labor	500,000	14, 15
(H)	Manufacturing Overhead 200.0%	1,000,000	16, 17
	Total Mfg Cost	4,190,695	
(I)	G&A 5.1%	213,726	16, 17
	Total Contractor Effort	4,404,421	
(J)	CAS 414	168,320	18, 19
	Total Cost (15% of Contractor Effort)	4,572,741	
	Profit	660,663	
		5,233,404	

MATERIAL

a. Purchased Parts $500,000

Radiotronics is purchasing 987 individual line items in support of this procurement with quantities of some line items as high as 500 units. Because of the great volume of items and sources (15) involved, we have prepared a computer run listing cross referencing items to units and quoted prices. Simply because of the bulk of this list and supporting data, we have not furnished a copy with this proposal. However, these documents are on file and will be made available to reviewing agencies upon request.

b. Subcontracted Items $830,000

One subcontract is contemplated with Heterodyne, Inc for the micro-miniturized receiver unit to be used in the RT/ARC 1984. Review of the Heterodyne proposal by Radiotronics technical personnel and a support audit by DCAA Baltimore revealed no material problems in the Heterodyne cost proposal. (ASD Form 69, Page 11)

c. Commercial Items $825,000

The antenna used in the RT/ARC 1984 is a standard commercial aircraft antenna with minor modification. Currently Sooper is the only firm capable of meeting our specifications and delivery requirements. Their price is based on $15,000 for the commercial unit and $1,500 for the modification. The $1,500 has been constant in terms of real (inflation adjusted) dollars since the beginning of the program. The base unit is a catalog item as shown by the following DD Form 633-7 submitted 25 June 19X8.

DEPARTMENT OF DEFENSE

CLAIM FOR EXEMPTION FROM SUBMISSION OF CERTIFIED COST OR PRICING DATA

FORM APPROVED OMB No. 22-R0294

NOTE: Numbers in parenthesis refer to instructions on reverse. (1)

NAME OF OFFEROR	ITEM OF SUPPLIES AND/OR SERVICES TO BE FURNISHED (2)
Sooper Antenna	Antenna & Coupler
HOME OFFICE ADDRESS (Include ZIP Code): 100 Main St. Biloxi , Miss 49787	QUANTITY: 50
	TOTAL AMOUNT PROPOSED FOR ITEM(S): $825,000
DIVISION(S) AND LOCATION(S) WHERE WORK IS TO BE PERFORMED: Biloxi, Miss	GOVERNMENT SOLICITATION NO.: F33657-X8-999

By submission of this form the offeror claims exemption as checked below from requirements for submitting cost or pricing data on the basis that the price offered is, or is based on, an established catalog or market price of an item sold in substantial quantities to the general public or is a price set by law or controlled by regulation (see ASPR 3-807). Check I, II, or III below and provide applicable information.) (3)

I. [X] CATALOG PRICE: (4)

Catalog identification: Catalog page 8-5, Item 81-J Date: January 1, 19X8

Period Covered (5) From: 1 Feb X8 to: 1 Jun X8

SALES CATEGORIES:

A. U. S. Government sales (6): 39 * Units

B. Sales at Catalog Price to the General Public (7): 42 * Units

C. Sales to the General Public at other than Catalog Price (8): 13 * Units

(* If the offeror's accounting system does not provide precise information, the offeror should insert his best estimate and explain in an attachment the basis for his estimate.)

LIST THREE SALES OF THE ITEM OFFERED. (9)

	CATEGORY: B	CATEGORY: C	DATE	NO. OF UNITS SOLD	*PRICE/UNIT
1.	[X]	[ ]	15 Feb X8	20	$15,000
2.	[X]	[ ]	18 Mar X8	10	$15,000
3.	[ ]	[X]	21 Apr X8	13	$13,500(10% discount to an established customer)

II. [ ] MARKET PRICE: Set forth the source and date or period of the market quotation or other basis for market price, the base amount and applicable discounts. (10)

III. [ ] LAW OR REGULATION Identification: (11)

The offeror represents that all statements made above and on attachments submitted are accurate and are submitted for the purpose of claiming exemption from requirements for cost or pricing data. The offeror also represents that, except as stated in an attachment, a like claim for exemption involving the same or a substantially similar item has not been denied by a Government contracting officer within the last two years. Pending consideration of the proposal supported in whole or in part by this submission and, if this proposal or a modification thereof is accepted by the Government, thereafter until the expiration of three years from the date of final payment under a contract resulting from this proposal, the contracting officer or any other authorized employee of the United States Government is granted access to books, records, documents and other supporting data which will permit verification of the claim. (12)

TYPED NAME AND TITLE	SIGNATURE
William Sooper	Wm Sooper
NAME OF FIRM: Sooper Antenna	DATE OF SUBMISSION: 25 Jun 19X8

DD FORM 633-7

MAKE-OR-BUY PROGRAM

DATE: 1 July, 19X8

MUST MAKE	MUST BUY	CAN MAKE OR BUY	PRIME CONTRACTOR NAME	CONTRACT NO.
		x	Radiotronics, Inc	

ADDRESS: 333 Broad Street, Alpha, Mississippi 39999

RFP/RFQ/IFB: F33657-X8-R-9999

PART NO.: X421371609

ITEM NAME & DESCRIPTION: Receiver (Miniaturized Unit for RT/ARC 1984)

1. RECOMMENDED SOURCE AND LOCATION	2. QUANTITY PER END ITEM	3. TOTAL CONTRACT QUANTITY	4. ITEM COST	5. SPECIAL TOOLING COST	5. SPECIAL TOOLING CAP/MO	6. ITEM LEAD TIME	7. EXISTING FACILITIES GOVT OWNED	7. EXISTING FACILITIES CORP OWNED	8. ADDITIONAL FACILITY REQUIREMENTS ANT GOVT	8. ADDITIONAL FACILITY REQUIREMENTS ANT CORP	9. SOURCE DATA SMALL BUS	9. SOURCE DATA LAB & SURP AREA	9. SOURCE DATA CANA-DIAN	10. PREVIOUS SIMILAR EXPERIENCE
Heterodyne, Inc[1] Baltimore, MD 21203	1 ea	50	$16,600	On Hand		3 mos.	--	100%	--	--	x	--	--	See Below [2]
OTHER SOURCES CONSIDERED:														
Radcom			$17,500	$150,000		6 mos.	20%	80%	--	--	--	--	--	

11. REMARKS

1. Heterodyne, Inc is currently the only manufacturer of this highly complex micro-miniturized transceiver.

2. Item History (Not adjusted for inflation)

Lot	Quantity	Delivered	Cost
1	5	Dec 19X6	$ 338,725
2	20	Mar 19X7	$ 660,000
3	30	Jun 19X7	$ 687,300
4	46	Nov 19X7	$1,024,880
5	39	May 19X8	$ 693,225

ASD FORM JAN 69 69

DIRECT ENGINEERING LABOR

This proposal calls for engineering of a recurring nature only for this follow-on production run. We have estimated the total engineering effort required to encompass 13,000 labor-hours. These hours are categorized as follows:

Engineering Category	Manhours	Labor Rate	Cost
Shop Liaison	7,500	$20.00	$150,000
Configuration Management	1,000	18.00	18,000
Drafting	1,000	15.00	15,000
TOTAL	$9,500		$183,000

These estimates were arrived at through engineering estimates of the hours required and labor rate projections.

a. Labor-Hour History

Labor Category	Hours			
	Lot 1	Lot 2	Lot 3	Lot 4
Shop Liaison	6,000	4,500	5,460	7,866
Configuration Management	2,250	1,800	1,250	1,025
Drafting	4,500	1,500	1,110	1,050

b. Labor-Hour Loading

Labor	MONTH										
	19X8							19X9			
Category	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Shop Liaison	680	680	680	680	680	700	680	680	680	680	680
Configuration Management					140	140	140	160	140	140	140
Drafting					140	140	140	160	140	140	140

c. Labor Rates

The labor rate history and projections are shown on page 13 .

QUARTERLY ENGINEERING
LABOR RATE HISTORY/PROJECTIONS

	19X6				19X7				19X8				19X9			
	1	2	3	4	5	6	7	8	9	10	11*	12*	13*	14*	15*	16*
Shop Liaison	16.40	16.60	16.70	16.90	17.30	17.50	17.60	17.80	18.00	18.32	18.68	19.06	20.00	20.40	20.80	21.10
Configuration Management	14.40	14.60	14.70	14.90	15.30	15.50	15.50	15.80	16.00	16.32	16.68	17.06	17.60	18.00	18.40	18.70
Drafting	11.40	11.60	11.70	11.90	12.30	12.50	12.60	12.80	13.00	13.32	13.68	14.06	14.60	15.00	15.40	15.70

*Projected Rates

DIRECT MANUFACTURING LABOR

This proposal calls for manufacturing, assembling and inspecting of highly complex, high quality radio transceivers. A minimum of $50,000 labor-hours are required to produce these systems based on past experience.

Proposal Hours	50,000
Proposal Labor Rate	$10.00 per hour
Proposal Amount	$500,000

These estimates were arrived at through use of production labor hour history and labor rate projections.

a. Labor Hour History

Lot	Units	Total Recurring Manufacturing Labor Hours Expended
Lot 1	5	10,500
Lot 2	20	30,000
Lot 3	30	36,000
Lot 4	46	52,900
Lot 5	39	Not Available

b. Labor Rates

The plant-wide labor rate history and projections are shown on Page 15.

The plant-wide labor rate is used in estimating the contract rate. This rate is a weighted average developed using the following weights:

Foreman	10%
Production Control	10%
Lead Technician	20%
Technician	60%

c. Labor-Hour Loading

Month	Hours	Month	Hours	Month	Hours
Sep	4,500	Jan	7,000	Apr	4,500
Oct	6,000	Feb	6,000	May	2,000
Nov	7,000	Mar	4,500	Jun	1,000
Dec	7,000			Jul	500

QUARTERLY MANUFACTURING

LABOR RATE HISTORY/PROJECTIONS

	19X6				19X7				19X8				19X9			
	1	2	3	4	1	2	3	4	1	2	3*	4*	1*	2*	3*	4*
Average Labor Rate	7.40	7.50	7.90	8.10	8.20	8.40	8.70	8.70	9.00	9.20	9.40	9.60	9.80	10.00	10.20	10.40

*Projected Rates

Projected Overhead Bases for 19X8 and Forward

Estimates of overhead bases for 19X8 and 19X9 are based on firm estimates of commercial and military sales volume. This includes $5.4 million production of the ARC/RT 1984, research and production in the Navy Flying Dutchman system, and commercial production of Pie on Ear Stores.

Material Overhead	$7,000,000
Engineering Overhead	$5,600,000
Manufacturing Overhead	$9,000,000
G&A Expense	$47,000,000

OVERHEAD ACCOUNT ACTUALS

IN $000

	19X4		19X5		19X6		19X7		19X8 Actuals Year to 30 Jun	
Overhead Account	Pool	Base	Pool	Base	Pool	Base	Pool	Base	Pool	Base
Material	$ 157	$ 7,500	$ 160	$ 8,000	$ 150	$ 7,000	$ 145	$ 6,000	$ 100	$ 3,400
Engineering	$ 4,400	$ 6,600	$ 5,200	$ 7,400	$ 4,400	$ 6,000	$ 4,000	$ 5,300	$ 3,000	$ 2,900
Manufacturing	$15,500	$10,000	$18,000	$12,000	$17,500	$11,000	$15,000	$ 8,400	$11,000	$ 4,700
G&A	2,600	$46,000	$ 2,700	$54,000	$ 2,600	$50,000	$ 2,300	$41,000	$ 1,500	$27,000

OVERHEAD ACCOUNT BASES

Material Overhead - Direct Material

Engineering Overhead - Direct Engineering Labor

Manufacturing Overhead - Direct Manufacturing Labor

G&A - Total Manufacturing Cost including Direct Material, Material Overhead, Direct Engineering Labor, Engineering Overhead, Direct Manufacturing Labor, Manufacturing Overhead and Other Costs excluding CAS 414 costs.

FACILITIES CAPITAL COST OF MONEY

See CASB-CAS Form on Page 19 for Facilities Capital Cost of Money Factor development.

Pool	Base	Factor	Cost of Money
Material	$2,155,000	.02000	$ 43,100
Engineering	183,000	.04000	7,320
Manufacturing	500,000	.21000	105,900
G&A	4,318,255	.00300	12,900
			$168,320

FORM CASB-CMF

FACILITIES CAPITAL
COST OF MONEY FACTORS COMPUTATION

CONTRACTOR: Radiotronics, Inc.
BUSINESS UNIT: Corporate
ADDRESS: 333 Broad St.
Alpha, Mississippi 39999

COST ACCOUNTING PERIOD:		1. APPLICABLE COST OF MONEY RATE 8 %	2. ACCUMULATION & DIRECT DISTRIBUTION OF N.B.V.	3. ALLOCATION OF UNDISTRIBUTED	4. TOTAL NET BOOK VALUE	5. COST OF MONEY FOR THE COST ACCOUNTING PERIOD	6. ALLOCATION BASE FOR THE PERIOD	7. FACILITIES CAPITAL COST OF MONEY FACTORS
BUSINESS UNIT FACILITIES CAPITAL	RECORDED		$26,000,000	BASIS OF ALLOCATION	COLUMNS 2 + 3	COLUMNS 1X4	IN UNIT(S) OF MEASURE	COLUMNS 5 ÷ 6
	LEASED PROPERTY							
	CORPORATE OR GROUP		1,537,500					
	TOTAL		$27,737,500					
	UNDISTRIBUTED		$12,237,500					
	DISTRIBUTED		$15,500,000					
OVERHEAD POOLS	Material		$1,500,000		$1,500,000	$120,000	$6,000,000	.02000
	Engineering		2,000,000	$650,000	2,650,000	212,000	5,300,000	.04000
	Manufacturing		11,000,000	11,050,000	22,050,000	1,764,000	8,400,000	.21000
G&A EXPENSE POOLS	G&A Expense		1,000,000	537,500	1,537,500	123,000	41,000,000	.00300
TOTAL			$15,500,000	12,237,500	27,737,500	2,219,000	//////////	//////////

DEFENSE LOGISTICS AGENCY
ALPHA DCAS MANAGEMENT AREA
ALPHA, MISSISSIPPI

22 July 19X8

Reply to
Attn of: DCPP

Subject: Request for Proposal Analysis, RFP F33657-X8-R-9999
Radiotronics, Inc

To: ASD/NMK (Commander)
Astronomical Contracting Element (ACE)
Astronomical Systems Division, OH 49999

1. In compliance with your request of 5 July 19X8 an audit and technical review have been conducted for subject proposal. This price analysis is qualified to the extent specified in Exhibits A and B.

2. The following summary incorporates the comments of the auditor and technical team.

Element of Proposal	Contractor Proposed	Recommended	Notes
Purchased Parts	$ 500,000	$ 500,000	1
Subcontracted Items	830,000	830,000	
Commercial Items	825,000	747,550	2
Material Overhead	45,255	43,629	3
Direct Engineering Labor	183,000	237,500	4
Engineering Overhead	153,720	179,075	5
Direct Manufacturing Labor	500,000	500,000	
Manufacturing Overhead	1,000,000	893,000	6
Total Manufacturing Cost	$4,190,695	$4,086,764	
G&A	213,726	208,425	7
Total Contractor Effort	$4,402,421	$4,295,189	
CAS 414	168,320	168,311	8
Total Cost	$4,572,741	$4,463,500	
Profit	660,663		
Total Price	$5,233,404		

Note 1: The $1,000 that the auditor found unsupported has now been supported by a vendor quote.

Note 2: See Technical Analysis paragraph 5.

Note 3: The difference results from the proposed rate being applied to a reduced base.

Note 4: See Audit Report Note 4.

Note 5: See Audit Report Notes 5 and 6.

Note 6. See Audit Report Note 7.

Note 7: This figure was arrived by applying the proposed and DCAA recommended rate to Total Manufacturing Cost.

Note 8: Recommended CAS 414 costs were developed by applying contractor proposed, DCAA recommended rates to recommended base costs.

3. This office is presently involved in negotiating overhead rates for 19X8. Results are expected in the near future.

PAPHER CHASER
Administrative Contracting Officer

2 Atchs
1. Exhibit "A", Tech Report
2. Exhibit "B", DCAA Report

Defense Logistics Agency
Alpha DCAS Management Area
Alpha, Mississippi

EXHIBIT "A"
Technical Report

21 July 19X8

TO: DCPP

SUBJECT: Technical Evaluation F33657-X8-R-9999
RT/ARC 1984, Radiotronics, Inc (Case No. X8-M-99)

1. In compliance with your request of 5 July 19X8 we have conducted a complete technical review of the subject proposal. The findings of this review are discussed in the following paragraphs.

2. General. The RT/ARC 1984 units being produced on this contract are identical to those currently being produced under F33657-X7-C-0000. Therefore, that contract and previous production runs for this item were used as a baseline for this review.

3. Purchased Parts. Review of the proposed material revealed no areas of significant exception. In fact, Radiotronics has reduced the material purchased to support production losses from their historical average of 10% to 5%.

4. Subcontracted items. Our research resulted in no questions in this area.

5. Commercial Items. During the past six months the ACE has purchased several similarly modified antennae directly from Sooper Antenna for delivery during October-December 19X8. These units are very similar in design and construction to the units being purchased for the RT/ARC 1984. While none of these are exactly the same as the 85DBM unit to be used in this contract and the use of Government Furnished Property (GFP) is not approved for this contract, the price history may be used as a comparison base.

DBM	Lots of 60 Cost per Unit
130	$13,000
100	14,800
90	15,400
70	16,600

The average of these prices is $14,950 ($59,800 ÷ 4). Using this figure, our recommended cost is $747,500 ($14,950 X 50).

6. Engineering Hours. Review of past engineering support of production of the RT/ARC 1984 revealed several patterns of engineering support. Based on this history, the following hours are recommended:

Labor Category	Hours	Notes
Shop Liaison	7,500	a
Configuration Management	1,000	b
Drafting	1,000	b
Total	9,500	

a. Shop Liaison involves production problem resolution and is required during the production period. Historically under RT/ARC 1984 production contracts, Shop Liaison has averaged 15% of production labor. This proposal is consistent with that average.

b. Configuration Management and Drafting are related to both production hours and engineering changes. Both are adequately covered under contract F33657-X7-C-0000 through December 19X8. Based upon the maturity of this program, the hours proposed appear reasonable.

7. Manufacturing Hours. We recommend acceptance of manufacturing hours as proposed based upon the average of past production.

I. M. NUTS
Chief, Technical Division

Exhibit "B"

ADVISORY AUDIT REPORT ON EVALUATION

OF FIRM-FIXED-PRICE PROPOSAL

FOR RT/ARC 1984

SUBMITTED BY

RADIOTRONICS, INC

ALPHA, MISSISSIPPI

The Defense Contract Audit Agency has no objection to the release of this report, at the discretion of the Contractiong Officer, to the duly authorized representatives of Radiotronics, Inc.

Release to the public of any contractor information contained in this report is prohibited by 18 USC 1905.

DEFENSE CONTRACT AUDIT AGENCY
BAYOU REGION
BAYOU, LOUISIANA

AUDIT REPORT NO. 9999-03-8-9999

DATE OF REPORT 20 July 19X8

DEFENSE CONTRACT AUDIT AGENCY
BAYOU REGION
200 West Street
Bayou, Louisiana

SUBJECT: Advisory Audit Report on Evaluation of
Firm-Fixed-Price Proposal for RT/ARC 1984
Submitted by
Radiotronics, Inc
Alpha, Mississippi
Audit Report No. 9999-03-8-9999

TO: Chief, Financial Services Branch
Alpha DCAS Management Area
Alpha, Mississippi
Attn: DCPP

1. Purpose and Scope of Audit. In response to your request of 5 July 19X8 (DCPP, Case No. X8-M-999), we reviewed the subject proposal to determine the reasonableness of the proposed costs. The contractor proposes to furnish RT/ARC 1984 Transceivers on a firm-fixed-price basis for a total amount of $5,390,000 including a profit of $680,514.

Our review was performed in accordance with generally accepted auditing standards and included such tests of the contractor's data and records and such other auditing procedures as were considered necessary under the circumstances. The cost principles contained in DAR Section XV, Part 2 were used as criteria in the determination of acceptable costs.

This report may not be released to any Federal agency outside the Department of Defense without prior approval of Headquarters, DCAA, except where an agency requests the report in connection with the negotiation or administration of a contract by that agency.

2. Special Circumstances Affecting the Examination. The results of our review are qualified as described below:

a. As stated in the request for audit, we will not be provided with the results of a technical evaluation. Although we reviewed the proposal to the extent possible in the circumstances, we were unable to reach a definitive conclusion on certain of the quantitative and qualitative aspects of the proposal by available audit means. The results of our review are therefore qualified accordingly.

b. The proposed overhead and G and A rates are based on the contractor's budgetary forecast for calendar year (CY) 19X8, which is currently being reviewed. Until completion of our review, we are applying the results of our evaluation of CY 19X7 rates to the proposed rates for CY 19X8. The results of our review are therefore qualified accordingly.

3. Conclusions. We consider the offeror's proposal to be acceptable as a basis for negotiation of a price. This statement should not be interpreted to mean that the data are necessarily accurate, complete and current in all respects in accordance with Public Law 87-653, since a postaward review may disclose evidence not now discernible; nor should this statement be interpreted to mean that the offeror is necessarily in compliance with Public Law 91-379, since a final recommendation cannot be made in a preaward evaluation. Instances of noncompliance with Public Law 91-379 may be reported during contract performance.

The results of our review are detailed in the Exhibit and appendices of the report.

The results of our review were discussed with the contractor's designated representative, Mr. John E. Carson, President, to the extent

necessary to determine the basis for the proposed costs and to establish the validity of our audit results.

Caution is urged in using the information contained in this report for any purpose other than that immediately intended without prior consultation with this office regarding its applicability.

Please furnish our office with a copy of the memorandum of negotiations in accordance with DAR 3-811 (a).

Defense Contract Audit Agency

J. M. Careful

J. M. Careful, Branch Manager

Table of Contents

Radiotronics, Inc.
Alpha, Mississippi

Element of Proposal	Contractor Proposed	Costs Questioned	Costs Unsupported	Notes
Purchased Parts	$ 500,000		$ 1,000	1
Subcontracted Items	830,000			
Commercial Items	825,000		825,000	2
Material Overhead	45,255		17,346	3
Direct Engineering Labor		$ 9,500		4
Engineering Overhead		22,901		5 & 6
Direct Manufacturing Labor	500,000			
Manufacturing Overhead	1,000,000	107,000		7
Total Manufacturing Cost	$4,190,695	$139,401	$843,346	
G&A	213,726	7,110	43,011	8
Total Contractor Effort	$4,404,421	$146,511	$886,357	
CAS 414	168,320	798	19,050	9
Total Cost	$4,572,741	$147,309	$905,407	
Profit	660,663			
Total Proposed Price	$5,233,404			

Explanatory Notes

1. The purchased parts records referenced in the proposal were reviewed by this office. All quotes over $50 were reviewed individually for accuracy and support. This constituted a review of 92% of the purchased parts dollars. Except for one verbal $1,000 quote from Herty Gerry Industries for a variety of components, all prices were supported by written quotations. Some 70% of the items were quoted by three or more suppliers.

2. The proposal price of $825,000 is based on verbal quotes for the antennas being purchased from Sooper Antenna, and is thus unsupported. Neither this price, nor those for the parts being purchased from Heterodyne, Inc., have been negotiated at this time.

3. Material overhead questioned is related to the material not supported. ($826,000 x 2.1% = $17,346)

4. Proposed wages are higher than recent history would indicate is necessary. The contractor contends that the increases are necessitated by the growing national shortage of engineers and correspondingly higher wages. Our audits of other local contractors have not revealed such higher wage requirements. Accordingly, we have questioned the proposed wage rates. Costs questioned may be summarized as follows:

Labor Element	Hours	Proposed Rate	DCAA Rate	Difference	Cost Difference
Shop Liaison	7,500	$20.00	$19.00	$1.00	$7,500
Configuration Management	1,000	18.00	17.00	1.00	1,000
Drafting	1,000	15.00	14.00	1.00	1,000
Total	13,000				$9,500

5. The Engineering Overhead associated with the questioned Engineering Direct Labor is also questioned, $7,980. ($9,500 x 84% = $7,980)

6. Engineering overhead is presently under DCAA evaluation. Until this evaluation is complete, we are recommending a rate of 75.4% based upon the rate of the last completed cost accounting period a reduction of 8.6%. ($183,000 - 9,500 = $173,500) (173,500 X 8.6% = $14,921)

7. Manufacturing overhead is presently under DCAA evaluation. Until this evaluation is complete, we are recommending a rate of 178.6% based upon the rate of the last completed cost accounting period, a reduction of 21.4%. ($500,000 x 21.4% = $107,000)

8. The G&A rate is acceptable based upon past history although evaluation is not complete. The costs questioned and found unsupported are related to manufacturing costs previously discussed. ($139,401 x 5.1% = $7,110) ($843,345 x 5.1% = $43,011)

9. The Radiotronics CASB/CMF Form was prepared using the historical method. The factors developed are reasonable and have been accepted by this office. The costs questioned or found unsupported are based upon reductions in the various bases.

Factor Base	Base Dollars Question	Base Dollars Unsupported	Factor	Questioned	Unsupported
Material	--	$826,000	.02000	--	$16,520
Engineering	$ 9,500	--	.04000	$380	--
G&A	139,401	843,346	.00300	418	2,530
				$798	$19,050

Radiotronics, Inc
Alpha, Mississippi

Contractor's Organization and Operations

Radiotronics, Inc is an independent corporation which has been operating since 24 July 1969.

Government contracts account for the major portion of Radiotronics sales. Of the total sales in 19X7, cost type contracts represented about 40 percent and fixed price and commercial work about 60 percent.

Radiotronics is engaged in engineering research, development and production of electronic systems and components. Radiotronics has active programs in three major product areas - Electronic Warfare Systems, Communications Systems and Equipment, and Production Electronics.

Corporate facilities are above average for a business of this type. The corporate plant is seven years old and production equipment is sophisticated. Some 20 percent of this equipment is only a few months old.

Historically, contracts have been performed on time and to specification. Research contracts have produced noticable advances in the state of the art.

Radiotronics has small business and labor surplus area programs. Results of these programs are typical for this area.

Radiotronics has a total capacity (engineering and manufacturing) of about $60 million. Since 19X4 they have operated at varying levels of production, 19X4-81%, 19X5-95%, 19X6-88%, 19X7-72%. Volume projections for 19X8 and 19X9 appear firm at 82 percent of capacity unless currently unanticipated business is received.

Radiotronics, Inc
Alpha, Mississippi

Contractor's Accounting System

Radiotronics, Inc uses a job order cost accounting system. This system is employed to maintain cost control on each task as well as identifiable portions of each task. We consider this system adequate for accumulation of costs under fixed priced and flexibly priced Government contracts.

Radiotronics, Inc.
Alpha, Mississippi

Comments on Profit

The contractor has proposed a profit of $680,514, which represents approximately 15 percent of contractor effort. This 15 percent figure is the rate Radiotronics Inc. traditionally proposes for production efforts. In our opinion, the elements of cost are sufficiently delineated to permit determination of profit using the Weighted Guidelines Method.

COST RESEARCH REPORT

HISTORICAL AND FORECASTED

COST INDICES

31 MAY 19X8

Electronic Units

Aircraft emitters and transceivers, multi-band radios, radio control units, special frequency transmitting receiving and transceiving devices

Wave Isolators

Devices for isolating electromagnetic waves, aircraft antennae, surface radio antennae, and a variety of coupler units.

Integrating and Measuring Instruments

Electronic measuring units, such as oscilloscopes, watt-hour meters, volt-meters, relay transformers, and a variety of testing equipment.

Electronic Components

Miniature tubes, cathode ray tubes, capacitors, resistors, transistors, and linear integrated circuits.

HISTORICAL AND FORECASTED INDEXES

	Electronic Units	Wave Isolators	Integrating and Measuring Instruments	Electronic Components
19X6				
Jan	100.00	100.00	100.00	100.00
Feb	100.40	98.60	99.87	100.01
Mar	100.95	97.50	100.00	100.01
Apr	101.35	97.00	100.02	100.02
May	101.75	97.30	100.05	100.02
Jun	102.00	97.65	100.14	100.05
Jul	102.25	97.91	100.24	100.06
Aug	102.60	98.25	100.35	100.05
Sep	102.80	98.49	100.45	100.06
Oct	103.10	98.73	100.56	100.07
Nov	103.43	99.00	100.64	100.07
Dec	108.00	99.23	100.75	100.08
19X7				
Jan	109.00	99.40	100.85	100.08
Feb	109.25	99.65	100.95	100.09
Mar	110.00	99.90	101.04	100.11
Apr	110.25	100.15	101.16	100.10
May	111.00	100.40	101.25	100.10
Jun	112.00	100.59	101.36	100.11
Jul	113.00	100.85	101.45	100.12
Aug	114.00	101.07	101.54	100.15
Sep	114.50	101.30	101.63	100.17
Oct	115.00	101.53	101.73	100.18
Nov	114.00	101.82	101.85	100.20
Dec	115.00	102.00	101.96	100.25
19X8				
Jan	115.10	102.22	102.05	100.30
Feb	115.05	102.45	102.16	100.29
Mar	114.90	102.66	102.26	100.28
Apr	114.95	102.90	102.34	100.27
May	115.00	103.13	102.46	100.26
Jun	114.95	103.40	102.47	100.26
Jul	114.80	103.60	102.65	100.25
Aug	114.25	103.83	102.75	100.25
Sep	113.60	104.00	102.85	100.24
Oct	112.60	104.29	102.94	100.23
Nov	110.00	104.50	103.08	100.22
Dec	110.00	104.75	103.18	100.21
19X9				
Jan	110.95	104.98	103.25	100.20
Feb	110.90	105.21	103.33	100.19
Mar	110.80	105.45	103.45	100.18
Apr	110.70	105.67	103.56	100.17
May	110.50	105.90	103.65	100.16
Jun	110.40	106.15	103.75	100.15
Jul	110.40	106.36	103.84	100.14
Aug	110.30	106.60	103.95	100.10
Sep	110.20	106.85	104.00	100.12
Oct	110.10	107.05	104.15	100.11
Nov	110.00	107.28	104.26	100.10
Dec	110.00	107.51	104.35	100.05

SELECTION OF CONTRACT TYPES

Review Cases 1 through 5 below carefully and answer the questions at the end of each case in detail.

Case 1

In July 19X7, Harry James, a negotiator in the Air Force Office of Scientific Research, was faced with the task of negotiating a cost reimbursement type contract with the Smith Engineering Company for a research study in the area of astrophysics. In its cost proposal, the company had broken down direct labor costs into six categories of scientific talent, which it estimated would be needed for the study. These categories were, in turn, priced out on the basis of a weighted average rate per man-month. For example, the company's proposal included the following direct labor costs:

Senior Physicist:	6 man-months @ $12,000	$72,000

Further investigation revealed that the salaries of the company's six senior physicists ranged from $9,500 to $14,000 per month. The quoted figure of $12,000 represented an average of the salaries of those personnel who were expected to work on the project, weighted as to the total estimated time each would be utilized.

The company's proposal, of course, contained no direct material costs. Overhead was allocated on the basis of total direct labor dollars. The fixed fee of six percent was calculated on the basis of total costs, excluding travel and per diem. Mr. James wished to avoid having the company load the project with top-salaried personnel so as to maximize the absorption of overhead costs under the contract. He believed, therefore, that a time and materials contract or CPFF contract providing for reimbursement at (i) a weighted average rate by category of labor, or (ii) a weighted average rate for all categories of labor might be more desirable than a straight CPFF contract, under which the firm would be reimbursed for its actual incurred direct labor costs.

QUESTIONS:

1. ***Do you agree or disagree with Mr. James in this case?***

2. ***What type of contract would you attempt to negotiate for the proposed procurement?***

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Case 2

George Hiller, a negotiator for the Lewis Research Center, had just received a procurement request for a study in the area of astrophysics. The proposed study had grown out of an unsolicited proposal submitted by Professor James Arnold, head of the physics department at Southeast University. In essence, the study would involve nine months of research by Professor Arnold and his research assistant. At the end of this period, the two men would submit a report of their investigation and findings to NASA.

All work was to be performed at the University's laboratories and data center, and would take place during Professor Arnold's sabbatical the following year. Professor Arnold indicated that the University would allow him to use school facilities without charge. The work was of an extremely advanced nature and, it was hoped, would greatly advance the current state-of-the-art. NASA was very much interested in the study.

QUESTIONS:

1. ***What type of contract should Mr. Hiller attempt to negotiate? With whom?***

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Case 3

Negotiations with the Aerospace Division of Notting Aircraft Corporation were not going well. Aerospace and the NASA negotiator had agreed on estimated cost and most of the other conditions of the prospective $5 million contract for development of a new weather satellite; the controversy revolved around the Rights in Inventions and Basic Data clauses, and the fee that Aerospace desired.

Aerospace was adamant in refusing to give up rights to inventions and data considered proprietary that might arise out of its research effort. The company maintained that it would supply NASA with a workable satellite, according to the work statement and specifications, but no inventions and no data. The negotiator insisted that NASA must have the inventions and data in the Government's best interests, and that no final contract could be written without the required clauses.

In addition, NASA was interested in a CPIF contract with a fee range of three percent to twelve percent, based on multiple incentives of performance, delivery, and cost. Aerospace refused to consider this type of arrangement because of the complexities and unknowns involved in developing the spacecraft. They felt that they were entitled to a ten percent fee on a CPFF basis because of the high risk factor inherent in the job.

George Smith, the cognizant engineer, who was sitting in on the negotiation, became more disturbed by the minute. Finally, he said, "Look, this job has to get started. Why don't we write a letter contract to include all the things we've agreed to, and continue this discussion later on? We just don't have the time to sit around talking. This project must get moving."

QUESTIONS:

1. ***Do you agree or disagree with Mr. Smith's suggestion? Why?***

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Case 4

Assume that as a negotiator for the Army Electronic Research & Development Command, you are about to place a contract for the development of a prototype model of an electromechanical device. Estimated cost of the development is $120,000, which appears reasonable and is well supported.

Costs might vary from that estimate by ten percent or so. You have little doubt about the contractor's ability to succeed in the development. No great advancement of the state-of-the-art is required, nor will any special know-how be developed by the contractor. The contractor has an excellent record of past performance, as do several close competitors for the job; but he has been chosen largely because his location is nearby, since most other factors are about equal, including estimated cost. No financial assistance or property will be required by the contractor. Subcontracting will amount to about twenty percent and will be of a routine nature. A potential follow-on contract may amount to $2,000,000, which would probably be awarded to the developer. The contractor has almost always been awarded fees of seven percent on past jobs, which were generally similar in scope, and has proposed a fee of $9,000 for this contract.

QUESTIONS:

1. ***What fee would you attempt to negotiate for this contract?***

2. ***Would your answer change if your research indicated the other sources for similar work have usually been awarded CPFF contracts carrying fees of approximately six percent?***

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Case 5

Mr. Paul Sanders, a negotiator in the Air Force Aeronautical Systems Center (ASC), received an urgent procurement request for 500 units of a new type of electronics equipment. The equipment had been developed under an initial ASC research and development contract by Electrosonics, Inc. of Atlanta, Georgia, a medium-sized development-production firm. Exhaustive ground and flight testing had shown that the performance characteristics of the new equipment were markedly superior to those of similar equipment then in service. Accordingly, ASC decided to proceed immediately with quantity production of the new equipment.

It was decided to place this initial production contract for 500 units with Electrosonics on a sole-source basis because of: (1) the firm's previous experience in developing and fabricating ten units of the equipment for test purposes; and (2) the urgent nature of the project – production quantities were needed immediately as GFE for a prime airframe manufacturer producing a new interceptor aircraft for the Air Force.

Upon solicitation, Electrosonics quoted a price of $39,500 each for the 500 units, with deliveries scheduled to begin three months after receipt of a contract, at the rate of 100 units per month. Although this price appeared reasonable as compared to ASC's estimate of $40,300 each for the new units. Mr. Sanders was not sure that the price was realistic, because Electrosonics

lacked previous cost experience with the equipment and the firm had a reputation for being fairly high-priced on production work. Firm plans and specifications for the new equipment existed, and ASC intended to promote an additional source of supply as future requirements developed.

QUESTIONS:

1. ***If you were Mr. Sanders, what type of contract would you attempt to negotiate for the proposed procurement?***

Assume the same facts as stated above, except that the ASC had estimated the cost of the new units at $30,000 each.

2. ***What type of contract would you attempt to negotiate for the proposed equipment, assuming you were unable to effect any reductions in Electrosonics' quotation?***

Assume the same facts as stated above, except that: (1) ASC had not developed any estimate of costs for the new equipment; (2) the procurement is not urgent; (3) quotations have been solicited from three firms, Electrosonics' quotation being the lowest; and (4) the firm has a reputation for fair and reasonable prices on production work.

3. ***What type of contract would you attempt to negotiate for the proposed procurement?***

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ACME MANUFACTURING

Review this case carefully and answer the questions at the end of the case in detail.

You are the contracting officer in charge of radar procurement at the Federal Aviation Agency. You have awarded a firm fixed price contract for the design, development and test of a new radar pedestal to the Acme Manufacturing Co. at a price of $6,250,000. This contract was given with Acme proposing the lowest price and being among the top three companies in technical and management ability. (The next lowest price was $6,925,000.) The specification is a performance type specification calling for numerous requirements including maximum weight of the pedestal, a low natural frequency and strict accuracy requirements. These requirements were discussed with all of the companies at a pre-contract bidders conference at which time the FAA engineering group exhibited their concept of the proper design technique and agreed to furnish this concept to the successful contractor for whatever assistance it might be. This FAA concept is not mentioned in the contract.

After several months on the job, Acme reports that they have made every attempt to use the FAA concept but that while it will allow satisfactory achievement of the requirements on natural frequency and accuracy, it will not allow the construction of a pedestal within the specified weight (conversely, the weight requirement could be met at the expense of the others). Acme attaches several copies of studies they have made and of preliminary design work which you furnish to your engineering group. After study of these documents and substantial discussion with Acme engineering personnel, your technical group informs you that they agree — the specification as written is impossible to perform within the contract schedule. To meet the specification would require a major effort in materials research and development which would consume at least eight months time and $350,000 in funds. They suggest several changes to the specification which will correct the difficulties.

When you submit these suggested changes to Acme for comment, they agree that they will solve the problem. However, they point out that over $200,000 has been expended in the effort to meet the impossible performance specification and that they would like to be compensated for this expenditure before they continue the work.

QUESTIONS:

1. ***What course of action would you undertake in these circumstances — issue the proposed change? — insist that Acme perform the contract? — terminate the contract and reprocure the pedestal? Explain and justify your position.***

2. ***If you decide to issue the change, what equitable adjustment would you make?***

WESTERN AIRFRAME CORPORATION

Review this case carefully and answer the questions at the end of the case in detail.

Soon after award of a CPFF contract to the Western Airframe Corporation for development of a reentry cone for high-altitude weather research, Dan Wilson was named the NASA resident project engineer for technical administration of the contract. His scope of authority was outlined in the following contractual provisions:

ARTICLE VII – DUTIES AND AUTHORITY OF RESIDENT PROJECT ENGINEER

(1) The Resident Project Engineer may issue directions (which include, but are not limited to, redirecting Contractor's effort, shifting of emphasis on work areas and suspending work of a research and development type) to the Contractor without the necessity of submitting these directions through the Contracting Officer if such directions are within the overall scope of work and rate of effort and within the funds provided for in the contract.

(2) Assist the Contractor in interpreting technical phases of contract drawings, specifications, or other purchase description.

(3) Assist the Contractor in obtaining such technical data as may be needed by the Contractor and which may be made available to the Contractor by or through the Contracting Officer or the Stage Engine Contractor.

(4) Review the technical reports submitted by the Contractor in accordance with contract terms and notify the Contracting Officer of acceptance or nonacceptance when approval is required.

(5) Perform technical acceptance of all specifications, and modifications to specifications, including top assembly drawings, as prepared by the Contractor pursuant to contract terms.

(6) Initiate requests for preliminary engineering data necessary to keep the Government and/or the associated contractors currently informed of the development status and problem areas, prior to the issuance by the Contractor of formal information.

(7) Direct the Contractor to deliver any prototype and/or research and development hardware items in the state of completion existing at the time delivery is specified in the directions.

ARTICLE VIII – TECHNICAL SUPERVISION

The parties hereto agree that the maximum benefits obtainable from the work to be performed hereunder will be realized only by the Contractor's pursuing a program which is flexible and capable of adaption to changing conditions, and by providing for an extensive exchange of information between the Contractor and the Government as a basis for periodic revisions of the program through changes in approach to the problem. The work to be conducted under this contract shall be under the technical direction of the Resident Project Engineer assigned by the National Aeronautics and Space Administration, whose duties and authority are delineated in ARTICLE VII. The Contractor shall permit representatives of the Resident Project Engineer and Contracting Officer to inspect the work at any time and place during working hours. The Contractor may communicate directly with the Resident Project Engineer on technical aspects of the work being performed. Projects, and project approach aspects within the scope of this contract, will be authorized directly by the Resident Project Engineer to the Contractor in accordance with ARTICLE VII. The Resident Project Engineer does not have the authority to authorize projects or project approaches which would entail additional funds or any changes in the scope of work under this contract. Resident Project Engineer's Instructions hereunder may be either written or ratified by him in writing.

Several months after the contract started, it was discovered that the necessary heat-resistant properties specified for the material to be used were beyond the capacity of anything yet developed. Mr. Wilson held a conference with Western engineers to discuss the problem, and, after several hours, they reached a decision to conduct additional research in the area of heat resistance to determine whether or not the specification could be met. Since the decision was purely a technical one, Mr. Wilson authorized Western to proceed.

The company's engineers ran into difficulties almost immediately, but, after several attempts, were able to develop an alloyed material that would withstand the specified temperature. A few weeks later, Western submitted a $138,000 voucher for the work, most of which was attributable to the highly skilled labor that had been used in developing the new, more heat-resistant material. When compared to the overall work completed on the contract, this voucher made a cost overrun of some $125,000 imminent.

After reviewing the history of the contract with Western, the NASA contracting officer said he believed that Mr. Wilson had overstepped his authority when he told the company to conduct original research. He stated that he did not feel that the NASA was obligated to pay for the research.

QUESTIONS:

1. ***Comment on this procurement. Did Mr. Wilson have the authority to make the decision he did?***

2. ***Is the contractor entitled to an equitable adjustment? Why or why not?***

CHANGE ORDER PRICING

Review this case carefully and answer the questions that are listed throughout the case in detail.

In January 20X1, the ABC Company received a contract from the Air Force for 175 electronic devices. The contract was a firm fixed price contract at a unit price of $115,000, and a total price of $20,125,000. The price included a 12% profit. The delivery schedule called for 25 a month commencing in May 20X1, with delivery to be completed by December 20X1.

In July, a change was made by the Air Force in several of the components. At the time of the change the contractor had completed 75 but had not shipped any of the items. Another 50 units were partially completed. The components affected by the change were completed on 40 of the 50 items. Ten of the work-in-process items were not affected by the change. The contractor submitted the following cost proposal.

I. COMPLETED UNITS AFFECTED BY THE CHANGE

Labor		
Removing changed work	90 hours	
New work	140 hours	
	230 hours @ $30.00*	$ 6,900.00
**Overhead @ 180%		12,420.00
Material		3,250.00
Manufacturing Cost		$ 22,570.00
***G&A @ 15%		3,385.50
		$ 25,955.50
Profit @ 12%		3,114.60
Total cost of change per unit		$ 29,070.10
Number of units affected by the change (75 + 40)		× 115
		$3,343,061.50

*Labor estimated in the original contract @ $27.50 per hr.
**Overhead estimated in the original contract @ 110%
***G&A estimated in the original contract @ 6%

II. UNITS ON WHICH CHANGED WORK HAD NOT BEEN PERFORMED

Labor		
New work	140 hours	
Less estimated cost of old work	*40 hours	
	100 hours @ $30.00	$ 3,000.00
Overhead @ 180%		5,400.00
Material	$3,250.00	
Less old material	2,650.00	600.00
Manufacturing Cost		$ 9,000.00
G&A @ 15%		1,350.00
Total Cost		$ 10,350.00
Profit @ 12%		1,242.00
Unit Cost of Change		$ 11,592.00
× 60 units on which none of the work affected by the change had been performed		× 60
		$695,520.00

Total cost of change ($3,343,061.50 + $695,520.00) $4,038,581.50

*This portion of the work had originally been estimated to take 70 hours

Mr. Roger Stinson, who was assigned the responsibility of negotiating the change, requested that an analysis be made of the contractor's proposal. Mr. Richard Foster was assigned to the case by the Cost Analysis Section. His report to Mr. Stinson disclosed the following points of difference.

1. REMOVING CHANGED WORK

Contractor's Proposal	Air Force
90 hrs @ $30.00	60 hrs @ $27.50

Mr. Stinson was of the opinion that the company had overestimated the amount of time required to remove the work affected by the change which had already been performed. His opinion was strengthened by the fact that the contractor estimated the time required to install the work at only 40 hours elsewhere in his proposal. The contractor informed him that there was no relation between the time required to install new work and the cost of removing the old work; that in this case a considerable amount of the changed work involved terminal block locations and wiring which was inaccessible without removing other work already installed.

QUESTIONS:

1. ***Is the contractor's argument a reasonable one?***

2. ***What should the buyer do?***

Mr. Foster also suggested that since the contractor had estimated labor at $27.50 per hour in the original contract, the same figure should be applied to the labor for removing the changed work.

QUESTIONS:

3. ***Do you agree with Mr. Foster's approach, viz.; using the labor rate used in the original proposal to price out the work associated with the change ($27.50 versus $30.00)?***

4. ***Would you advocate using the same approach if the work required by the change was to be performed by a lower paid class of workers than originally estimated ($27.50 versus $22.50)?***

5. ***If a composite labor rate, developed on the basis of the overall mix of work on the entire contract, was used in the original estimate, should the same composite rate be used in pricing the work associated with the change?***

2. NEW WORK REQUIRED BY THE CHANGE

Contractor	Air Force
140 hrs @ $30.00	95 hrs @ $27.50

Mr. Foster was of the opinion that 95 hours is a liberal amount for this part of the estimate as the terminal block locations and wiring schematic of leads in the respective consoles were changed only slightly due to the change order and the balance of the assembly time was directly applicable to attaching subcontracted harnesses following almost the same routine as the original system.

The contractor stated that Mr. Foster was not considering all of the costs of the change since he had included in the 140 hours for new work the labor costs associated with the three days during which his assemblers had to sit around with nothing to do while waiting for new wiring diagrams to be prepared and the materials required by the change secured. Mr. Foster replied that the contractor should have been able to use the personnel on other work. The contractor replied that the production of this item had been shut down for a total of 11 days and that he had been able to economically use the personnel affected on other work for 8 days, but could find nothing for them to do for the remaining 3 days.

QUESTIONS:

6. ***Is the contractor entitled to charge the 3 days unused downtime to the cost of the change?***

7. ***Assume that he paid the workers affected $30.00 per hour and used them on work for which he normally paid only $20.00 per hour. Could he charge the difference to the cost of the change?***

The contractor further stated that Mr. Foster ignored the affect of the change on the learning of his employees. That, in calculating the cost of the new work, he had applied an appropriate learning curve and that he had also calculated the affect of the change on the rate of improvement on the 60 units on which none of the work affected by the change had been performed, plus an allowance for the affect of the change on the improvement rate of the unchanged portion of the work.

QUESTIONS:

8. ***Should a learning curve be applied to work affected by the change?***

9. ***Is the contractor entitled to claim the costs associated with the affect of the change on the rate of improvement for the changed work for the units on which none of the changed work has been performed?***

10. ***Is the contractor entitled to recover costs associated with the affect of the change on the rate of improvement of the work not directly affected by the change?***

3. CREDIT FOR OLD WORK ON THOSE UNITS ON WHICH NONE OF THE WORK AFFECTED BY THE CHANGE HAD BEEN PERFORMED

Contractor's Estimate	Air Force
40 hrs	70 hrs

In attempting to determine what credit should be given for the old work on those units on which it had not been performed, Mr. Foster ran into considerable difficulty. He reviewed a copy of the contractor's original estimate but the cost of the work affected by the change had not been separated from the overall estimate.

Relating the ratio of the changed work to the total number of hours in the original estimate, Mr. Foster determined that a credit of 70 hours should be used.

To this the contractor replied that while Mr. Foster's estimate of 70 hours for the changed work in the original estimate was reasonable, he had again failed to take into account the improvement curve. The contractor contended that the 70 hours was the average for the entire quantity of 175 required by the contract while the credit should be based on the average for the last 60 units which would be considerably below the average for the entire 175 units.

QUESTIONS:

11. Is the contractor's approach a reasonable one?

12. Assuming the buyer accepts the contractor's contention, should he require that the contractor furnish an improvement curve to substantiate his claim?

4. MANUFACTURING BURDEN

Contractor	Air Force
180%	110%

The contractor had used a manufacturing burden rate of 180% in the change proposal. Mr. Foster agreed that the increased rate would probably prevail during the period of performance for the changed work. He felt, however, that since the contractor has used a rate of 110% in his original proposal, that this rate should be used in pricing the change to prevent the contractor from repricing what otherwise might be a loss contract.

QUESTIONS:

13. Do you agree with this approach of the cost analyst?

14. Assume that the situation was reversed, viz.; that the contractor had used a rate of 180% in his original proposal and his rate for the period of performance of the change was 110%, would you approach the matter any differently?

5. MATERIAL

Mr. Foster reviewed the estimated quantities and associated costs for both old and new material. Since he found no major discrepancies, he accepted the material costs without further question.

6. GENERAL AND ADMINISTRATIVE EXPENSE

Contractor	Air Force
15%	6%

Mr. Foster used the same approach in computing G & A as he had for the manufacturing burden. The contractor had used 6% in his original estimate and Mr. Foster thought that the same rate should be used in pricing the change.

QUESTIONS:

15. Do you agree with this approach?

16. If the situation was reversed, viz.; the contractor had used a G&A rate of 15% in his original proposal, and his anticipated G&A rate during the period of performance of the changed work was 6%, would you approach the matter any differently?

7. PROFIT

Acknowledging that the profit, if any, to be allowed on the change was for the buyer to decide, Mr. Foster questioned whether the contractor was entitled to the same rate of profit on the change as on the original contract.

QUESTIONS:

17. Do you think a contractor should receive the same rate of profit on costs associated with a change as on the original proposal?

18. Under what circumstances might he get less?

19. Under what circumstances might he get more?

Based on the foregoing analysis, Mr. Foster prepared the following estimate for the use of Mr. Stinson, the buyer.

AIR FORCE ESTIMATE

I. Completed Units Affected By The Change

Labor		
Removing changed work	60 hours	
New work	95 hours	
	155 hours @ $27.50	$ 4,262.50
Overhead @ 110%		4,688.70
Material		3,250.00
Manufacturing Cost		$ 12,201.20
G&A @ 6%		732.00
		$ 12,933.20
Profit @ 12%		1,551.90
Total cost of change per unit		$ 14,485.10
Number of units affected by the change (75 + 40)		× 115
		$1,665,786.50

II. Units On Which Changed Work Had Not Been Performed

Labor		
New work	95 hours	
Less estimated cost of old work	70 hours	
	25 hours @ $27.50	$ 687.50
Overhead @ 110%		756.20
Material	$3,250.00	
Less old material	2,650.00	600.00
Manufacturing Cost		$ 2,043.70
G&A @ 6%		122.60
Total Cost		$ 2,166.30
Profit @ 12%		259.90
Unit Cost of Change		$ 2,426.20
× 60 units on which none of the work affected by the change had been performed		× 60
		$145,572.00

TOTAL COST OF CHANGE

Item I

Contractor	Air Force
$3,343,061.50	$1,665,786.50

Item II

$ 695,520.00	$ 145,572.00
$4,038,581.50	$1,811,358.50

BOTTOM LINE NEGOTIATION

Review this case carefully and answer the questions at the end of the case in detail.

In June 19X8 Harry Forbes, a negotiator in the Electronics Systems Division, Air Force Systems Command, was negotiating a firm fixed price contract with Arnold Jones, vice president of the Jackson Electronics Company, for 1,500 units of an electronic equipment. These units, which were components of a missile system, were to be provided as government-furnished material to two Air Force prime contractors. The Jackson Company, a sole source for the proposed procurement, had originally developed the equipment under a cost-plus-fixed-fee R&D contract with the Electronics Systems Division and had subsequently manufactured an initial production quantity of 350 units under a redeterminable contract (prospective pricing at stated intervals). The final redetermined price for these units had been $33,250 each, not including special tooling and an expanded bill of materials. The company had proposed a per-unit price of $26,107.50 for the current procurement.

While preparing for negotiations, Forbes had received analyses of the company's proposed cost breakdown from both the cognizant DCAA auditor and the DCAS field representative. He had also performed an independent analysis of Jackson's proposal after discussion with Air Force technical personnel. On the basis of his prenegotiation investigations, Forbes established a range of $21,000 to $23,750 per unit as a fair and reasonable price for the proposed contract. As he stated in a prenegotiation discussion with his superior, Dan Higgins, he hoped to negotiate a final unit price of approximately $22,500. The main differences between his proposed price and Jackson's quoted estimate lay in the areas of engineering and direct labor man-hours.

At the negotiation session itself, which was held at the ESD office at 9 o'clock one Friday morning, Forbes opened the meeting with some general comments on the proposed contract and the excellent work that Jackson Electronics had already performed for the Air Force. After some twenty minutes of small talk, Forbes led Jones into a detailed explanation and justification of each item cost in the company's proposal. Attention was first directed to the less controversial cost areas – direct materials, engineering overhead, factory overhead, and G&A expense. Jones willingly supplied a detailed explanation of the company's estimate in each area. When Forbes was fully satisfied with Jones's explanation in a given area, he would proceed to the next area with some statement such as: "That looks pretty good to me; let's go on to your estimate for . . . " By noontime, when Forbes suggested that they recess for lunch, all item costs except engineering and direct labor costs and profit had been discussed to his satisfaction.

After lunch, the negotiations centered on the company's estimates for engineering labor and direct labor. In each case, Jones, after explaining how these figures had been developed, argued strenuously that his estimates were realistic. Little by little, however, Forbes was able to win concessions on various aspects of these two cost categories. By 3 o'clock, the negotiator expressed tentative satisfaction with the reduced figure for engineering; by 4:15, tentative agreement had been reached on direct labor. (At this point, with the reductions he had gained, and presuming a 10 percent profit as originally proposed by the company, the per-unit price for the equipment was down to $22,409.) The negotiator then exclaimed: "Well, Mr. Jones, we've spent all day looking at item costs – the only thing we haven't talked about is profit. I'd like to bypass that, however, and talk total price. It's getting pretty late, and I know you've got a long trip home ahead of you. Let's see if we can't wrap the whole thing up. I've been impressed with the way things have gone so far – although I'm sure that we're not yet down as low as we should be. I've done some figuring, and I believe a price of $19,000 each would be a good one for both of us. How about it – can we close the deal at that figure?"

QUESTIONS:

1. ***Evaluate and discuss Mr. Forbes' counteroffer to Mr. Jones.***

2. ***What should Mr. Jones do? Why?***

WAGE RATE ANALYSIS

Review Exercises 1 through 3 below carefully and answer the questions at the end of each exercise in detail.

Exercise 1

Engineering Category	Wage Rate	Hours Projected for Contract
I	$ 6.50	70
II	$ 7.50	110
III	$ 9.00	130
IV	$11.00	30
V	$15.00	10

QUESTIONS:

1. ***Contractor requests the Government accept $9.80/hr. Do you agree?***

2. ***With respect to the wage rates, what specific information would you like the wage rate to be broken down into?***

* * * * * * * * * *

Exercise 2

Given the following data, develop a pre-negotiation objective of a weighted average wage rate for 8,000 hours of labor.

Category	Wage Rate/Hr.	% of Contractual Effort
Scientist	$25.00	10%
Senior Engineer	$23.00	15%
Engineer Assistant	$14.00	5%
Trainee	$ 7.00	70%

QUESTION:

1. ***Is the use of a weighted average rate appropriate in this case?***

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Exercise 3

Looking at labor scheduling, a firm proposes the following:

Work Plan	Hr.	Wage Rate
May	2000	$21
June	3000	$22
July	4000	$23
August	5000	$24
September	4000	$25
October	3000	$26
November	2000	$27

QUESTION:

1. ***Is $24/hr. acceptable to you?***

A new plan is negotiated as follows:

Work Plan	Hr.
May	2000
June	7000
July	5000
August	5000
September	2000
October	1000
November	1000

QUESTION:

2. ***Is $24/hr. acceptable to you now?***

The firm's overhead rate is 150% of direct labor cost and G&A is 8% of total cost. The firm proposes a profit of 12%.

QUESTION:

3. ***Is there a pricing impact for accepting $24/hr.?***

* * * * * * * * * *

INTERPRETATION OF REQUIREMENTS

Review this case carefully and answer the questions at the end of the case in detail.

Several weeks after award of a fixed price contract for forty items of an electrical equipment to the Lenox Company, Paul Covington, the cognizant engineer in the initiating technical section, received a letter from the contractor requesting clarification of a requirement in the contract specifications. Lenox asked whether testing of a power supply at "125 percent overload" (as required by the specification) meant testing at "25 percent in excess of the normal load."

A week later, after conferring with other cognizant technical personnel, Mr. Covington decided that the correct interpretation of the requirement was 125 percent in excess of normal load. It had been the consensus that a test at 25 percent in excess of normal load would be inadequate for the extreme operating conditions to which the electrical units might be subjected. Although testing at 60 to 80 percent in excess of normal load would probably ensure prerequisite performance of the equipments, tests at 125 percent were considered more desirable. Mr. Covington forwarded his determination to Lenox, explaining that cognizant NASA technical people agreed completely that the intention of the specification was "testing of the power supply at 125 percent in excess of normal load."

Four months later, after the field center had accepted eight equipments under the contract, Lenox submitted a formal request to the cognizant negotiator for a $50,000 increase in the contract price as compensation for having to manufacture a power supply that would perform satisfactorily at a capacity of 125 percent in excess of normal load. The request, which cited Mr. Covington's letter, stated that (i) the directive that necessitated manufacture of a power unit testing at 125 percent in excess of normal load was an addition to the contractual requirements; and (ii) the directive would increase the company's costs of production by the $50,000 claimed as a price adjustment. A cost breakdown was included to substantiate the request for the increase.

QUESTIONS:

1. ***Assuming that the increased costs will be incurred as alleged, do you feel that there is any contractual merit to Lenox's claim?***

2. ***If NASA refuses to consider the claim, has Lenox a further course of action?***

3. ***What actions, if any, might Mr. Covington have taken in this case to forestall a claim by the contractor?***

MARKET RESEARCH FOR PRICE ANALYSIS

Review this case carefully and answer the questions at the end of the case in detail.

You have just received a purchase request for the purchase of 5,000 roller bearings. The purchase request estimate is $80.00 per unit for a total of $400,000. The Government estimate is based on a recent estimate prepared by your local engineering staff as part of a routine review of items whose annual total purchase price exceeds $100,000. The estimate was prepared independently using manufacturing principles and factors commonly used in the bearing industry.

The procurement history indicates that the last purchase of the item was three months ago. At that time, 2,000 units were purchased at a price of $120.00 each.

Brittle Bearings has been the sole source for these bearings since they purchased them from their only competitor about five years ago. The price for the last competitive purchase was $57.50 five years ago, just before the purchase of their competitor.

Review of the Producer Price Index (PPI) shows that average bearing prices have increased 40 percent of the past five years.

QUESTIONS:

1. ***Based on the above information, what is your best estimate of a reasonable price for the roller bearings?***

2. ***What additional information would be useful in your analysis and where might you go to obtain it?***

(18)

PRICE ANALYSIS – ACCOUNTING FOR DIFFERENCES

Review this case carefully and answer the questions at the end of the case in detail.

Your agency is contracting for training services to present a course entitled Total Quality for Managers.

Offerors are required to submit firm fixed-prices for 40 offerings of the 5-day course, at various locations. Prices must include instructor compensation, travel, and lodging required to present the offerings. Offerings will be presented as outlined below:

Location	Offerings
Pittsburgh, PA	6
Little Rock, AR	5
Dayton, OH	7
Washington, D.C.	11
Detroit, MI	4
New York, NY	5
Los Angeles, CA	2
	40

Each offer must include a management plan that demonstrates the location and availability of at least 10 qualified instructors. Each instructor must have a masters degree in engineering, 10 years of successful quality assurance related experience, and four years successful teaching experience.

Award criteria state in part:

> Award will be made to the technically acceptable offeror with the lowest aggregate total price.

Four offers were received.

The following table summarizes the results of the initial technical evaluation:

Criteria	Los Angeles Quality	Washington Independents	Washington Central	Dayton/DC Associates
Number of Instructors	11	10	10	10
Engineering Education	All have masters degrees	8 with masters degrees 2 with Ph.D.	2 with bachelors* 8 with masters degrees	10 with masters degrees
QA Experience	All have 10 yrs Average 15 yrs	All have 10 yrs Average 14 yrs	All have 10 yrs* Average 15 yrs	All have 10 yrs Average 16 yrs
Teaching Experience	All at least 4 yrs Average 6 yrs	All at least 4 yrs Average 7 yrs	All at least 4 yrs* Average 6 yrs	All at least 4 yrs Average 5 yrs
Location & Availability	All in LA Headquarters All permanent employees	At least 1 within 15 miles of each training location Consultants currently under contract	All in DC Headquarters All permanent employees	5 in Dayton 5 in DC Consultants currently under contract

* The two instructors with bachelors degrees both have over 20 years of excellent quality assurance experience including extensive consulting. One has 7 years teaching experience, the other 6 years.

The following table summarizes the proposed prices for all offerings at each location:

Offerings		Government Estimate	Los Angeles Quality	Washington Independents	Washington Central	Dayton/DC Associates
Pittsburgh, PA	6	$28,668	$30,468	$20,550	$20,868	$28,782
Little Rock, AR	5	$23,970	$23,970	$17,125	$17,470	$22,565
Dayton, OH	7	$33,404	$35,504	$23,975	$24,304	$24,283
Washington, DC	11	$41,250	$52,382	$41,250	$37,675	$38,159
Detroit, MI	4	$19,744	$20,544	$13,700	$14,544	$19,420
New York, NY	5	$25,660	$25,660	$18,750	$19,160	$24,255
Los Angeles, CA	2	$9,440	$7,500	$7,500	$6,840	$8,878
Total Proposed	40	$182,136	$196,028	$142,850	$140,861	$166,342

QUESTIONS:

1. ***If you were to award without negotiations, given the award criteria and the information provided, which offeror would you select for award? Why?***

2. ***The Government estimate was developed assuming that the work would be performed by a contractor located in the Washington, D.C. area, with instructors traveling from Washington to the offering sites. Washington Central proposes to operate in that manner yet the firm's proposed price is $41,275 less than the Government estimate. What factors do you think affect this difference?***

3. ***The proposal of Washington Independents is $39,286 less than the Government estimate. What factors do you think affect this difference?***

4. ***Los Angeles Quality has the highest proposed price. What factors do you think affect this difference?***

PATENTS

Review this case carefully and answer the question at the end of the case in detail.

Boeing received a contract from the Air Force to build 10 C-17 Cargo airplanes. The Government issued a change order to the contract to add an upward extension of the wings known as "winglets." These features provided a 10% increase in range with no other changes to the aircraft. The contract for the C-17 contained the Authorization and Consent clause, and the Patent Indemnity clause. The aircraft was on display at the Paris Air Show. Gulfstream Aircraft, who attended the show had developed the "winglets" for use on their aircraft, Gulfstream IV, and had a patent on the design. Gulfstream sent a letter to Boeing, declaring patent infringement, and demanded reimbursement for "winglets" used on the C-17. Boeing replied that Gulfstream should take up the matter with the Air Force since the contract gave them the authorization and consent to use any patented invention.

QUESTION:

1. ***Is Boeing's response valid?***

SEALED BIDDING

Review this case carefully and answer the question at the end of the case in detail.

An IFB was issued by Oak Ridge Operations on August 19, 1989, soliciting bids for delivery of hazardous waste containers. Three bids were received by the time set for bid opening (10:20 a.m., October 31, 1989). On November 1, 1989, a bid by Smith Hydraulics, Inc. arrived at the Oak Ridge opening room.

The record indicates that Smith chose to have its bid delivered by commercial carrier. While the subject IFB allowed for delivery other than by mail, the IFB was clear that both mailed and hand delivered bids were to be addressed and delivered to the depository in Building 12-1B. In this connection, the IFB was specific in its instructions to bidders who wished to have their bids "hand delivered". In part, the instructions noted that if bidders chose to have their bids delivered, such bids would be received "...in the depository located in Building 12-1B, Oak Ridge Operations, Oak Ridge, TN, until 10:30 a.m., local time at the place of opening, 1989, October 31."

Smith's bid, although addressed to Building 12-1B, was delivered by the commercial carrier on October 30, 1989, to building 42-1. This building is approximately 3/4 of a mile from the bid opening room. When mail for other portions of the complex is received at Building 42-1, the normal procedure "...is to place the mail in a special mail tub for delivery by truck to the central mailroom. The central mailroom then picks up this mail and routes it to the correct location."

When the CO determined that Smith's bid could not be considered, Smith protested.

QUESTION:

1. ***Do you feel that Smith's bid should be considered?***

(9.1)

PAST PERFORMANCE PROBLEM

Review this case carefully and answer the question at the end of the case in detail.

Prospective offerors were advised by the RFP that past performance would be assessed by reviewing information in proposals, information available from past and current customers, and from other agencies, and that "offerors would be given an opportunity to address especially unfavorable reports of past performance, and the offeror's response, or lack thereof, would be taken into consideration."

R-D Corp. was rated acceptable in all categories and received the contract award. WG Co. submitted a lower cost proposal but was only rated marginally acceptable on past performance. WG Co. protested. Pending resolution of the protest, the contracting agency discovered that R-D should have been downgraded on past performance because, in the agency's view, it was delinquent in making deliveries under seven of nine prior contracts, and these delays were inexcusable. It therefore decided that award to R-D resulted in greater risk to the Government, terminated R-D's contract, and awarded it to WG Co.

QUESTION:

1. ***Discuss R-D's recourse.***