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AUDIT GUIDELINES  
FOR  
THE REVIEW OF THE PRICING OF NON-  
COMPETITIVE PRIME AND SUBCONTRACTS  
OVER \$100,000

705181  
Other

For Collected copy (945-7)  
see P+W File Book.

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The objective of this review is to determine whether the subcontractor's cost estimates for each major element of cost proposed were reasonable based on the latest available cost information at the time of prime contract negotiations with the Government. / Listed below are matters which should be considered in accomplishing this objective.

1. Whether the contractor's accounting system and record-keeping procedures provide the latest available cost information to its negotiators.
2. Whether there are any apparent weaknesses in the contractor's estimating system which could affect the reliability of some of the cost estimates.
3. Whether in estimating costs for this contract recognition has been given to production changes, quantity changes and other factors which could result in costs on this contract varying from historical costs experienced on prior contracts.
4. Factors other than the type mentioned in (3) above which have influenced the contractor's estimates.
5. The extent to which the estimate is based on 1) historical information and 2) engineering judgment.

a. BACKGROUND

Public Law 87-653, the Truth-in-Negotiations Act, enacted by Congress in September 1962, requires prime contractors and subcontractors to submit, subject to certain exemptions, cost or pricing data (as defined in Armed Services Procurement Regulation ASPR 3-807.3(h) in support of proposed prices for noncompetitive contracts expected to exceed \$100,000 and at the completion of negotiations, requires the contractors and subcontractors to certify that the cost or pricing data provided is accurate, current, and complete. Refer to the Armed Services Procurement Regulation (ASPR) 3-807.3 for specific requirements for cost or pricing data. The Law also provides for contract price reduction when the negotiated contract price to the Government was increased by any significant sums because the contractor furnished cost or pricing data which was not complete, accurate, and current as certified in the contractor's certificate of current cost or Pricing Data (ASPR 7-104.29 Price Reduction for Defective Cost or Pricing Data). We want to emphasize, however, that the identification of potential defective pricing is only one part of this survey. We also want to pursue instances where we believe the price may have been overstated because of actions taken or not taken by the contracting officer or members of his team, such as DCAA or the technical evaluators.

ASPR 3-807.2 (c) provides that some form of cost analysis (financial audit and technical evaluation) of the contractor's proposal be performed whenever cost or pricing data are required (per ASPR 3-807.3) to be submitted. Financial audits and technical evaluations are reviews of a contractor's submitted cost or pricing data and of the judgmental factors

applied in projecting from the data to the estimated costs. They provide advice to the contracting officer about the degree to which proposed costs are representative of future performance, assuming reasonable economy and efficiency.

The contracting officer is responsible for negotiating a fair and reasonable price (ASPR 3-801.2). The degree to which adequate cost analyses and technical evaluations are performed and the extent to which such assessments are relied upon in negotiations by the contracting officer, significantly influence the contract price.

In the review of 28 prime and subcontracts, which resulted from previous recent surveys, we found that the negotiated prices of prime and subcontracts were \$22 million higher than indicated by available cost or pricing data. The prime contract overpricing occurred primarily because (1) contracting officers did not obtain adequate cost or pricing data along with prime contractors' proposal submissions, (2) adequate cost and technical evaluations of the proposal were not performed and/or (3) negotiations with the contractor were ineffective. Subcontracts appeared to have a propensity for over and/or defective pricing primarily because (1) subcontractors were not aware of the date that the prime contractor signed the "Certificate" and did not update the subcontract proposal through that date (ASPR 3-807.3(b)(2), (2) of claimed ignorance by the subcontractor of the requirements of ASPR 8-307.3 and (3) the prime contractor failed in his responsibility to update the prospective subcontractor's data to the "Certificate" date from the time of the original submission by the subcontractor.

b. LABOR COST ESTIMATES

Labor cost estimates are generally prepared either on the basis of historical data, or on the basis of engineering judgments where prior reliable production experience is not available as in research and development contracts or in initial production contracts. However, even in the latter situations it should not be necessary to base the entire labor estimate on engineering judgment since some aspects of the work under the contract may be similar to work produced under other contracts.

(1) Labor hours based on historical costs

For the bulk of the contracts included in our review we would expect that labor hours estimates will be based on historical costs. Where this situation prevails we should consider:

1. Currency of historical labor experience being used.
2. Whether current variances have been used to adjust any standard labor hours.
3. Whether labor cost trends have been used to develop projections e.g., learning curves.
4. How fluctuations in historical trends were considered or whether it was appropriate to consider them at all.
5. Whether unusual labor costs have been identified in historical labor costs and considered as to the relative probability of their recurrence prior to their use as a basis for estimating future costs.
6. Whether engineering change costs included in recorded costs have been properly considered in estimating costs of follow-on procurement.
7. Whether set-up time recorded for prior production is appropriate for the contract under review to avoid possible duplication or overlapping.

8. Whether the recorded cost data is applicable to the proposed contract e.g., changed production methods or a significant change in the end product.
9. Whether labor has been classified consistent with its classification on prior contracts, e.g., a shift of a class of employees from indirect labor to direct labor should be questioned.

(2) Labor Hours Based on Engineering Judgment

Even though labor hours may have been estimated based entirely or largely on engineering judgments, relevant recorded data may exist which could be used in the preaward audit to validate the estimates. Generally we should evaluate both the auditor's analysis and the negotiating team's technical review in order to form a conclusion on the reasonableness of the estimates.

The areas to be considered include:

1. Conditions affecting labor hour estimates such as (a) elimination of nonstandard methods or production lines established in past to meet emergency delivery (b) new procedures for material handling to avoid stoppages (c) newly employed training methods (d) more effective methods to shift employees as needed and (e) addition of special tooling.
2. Operation time sheets and shop methods which reflect the estimated time required to perform each production operation.
3. Operation time standards or predetermined estimates of the time required to perform each operation. Appropriate review should include the contractors' time study methods or other basis used to develop the standards.
4. Labor productivity or the increase generally in product produced per labor unit. Often this can be used to develop improvement or learning curves.

(3) Basis of Direct Labor Rates

Direct labor rates may be estimated separately for each proposal or pre-established (bid rates) for pricing many proposals over a given period

of time. Where bid rates are being used this assignment does not contemplate a review of the negotiation and support submitted in connection with such rates unless there appears to be a very great variation between such rates and actual current cost experience.

Direct labor rate estimates may either be expected individual or expected average rates.

#### Individual labor rates

Individual labor rates are used when the persons who will perform a proposed contract are known. This generally occurs because of some individuals' special knowledge or abilities or because the contract requires a significant proportion of employees whose pay is not representative of the average in their classifications. While this method is more likely to produce precise results, the more common usage is average rates within each labor classification.

#### Average labor rates

Average labor rates may include a single plant-wide average, or separate averages for different classes of labor, cost centers, departments or production processes. Single averages should have been developed by properly weighted components e.g., the number of employees in each classification. Factors to be considered in evaluating average labor rates include:

- a. reasonableness and acceptability of labor classifications.
- b. propriety of the method used in computing averages.
- c. impact of projected increases or decreases in the general level of labor cost on the average rates.
- d. significance of any deviation from past practices in developing rates and in their application.

Other factors that may have a bearing on average labor rates include:

- a. Proposed personnel policies and actions.
- b. Wage agreements and prospective changes.
- c. Multi-shift or overtime operations.

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### Audit considerations

A review of material cost estimates should be concerned with the validity of estimated prices as well as the quantitative and qualitative material requirements.

Factors that may influence the scope of review include:

- a. significance of material cost to total cost
- b. adequacy of contractor's material estimating procedures and extent to which these procedures are followed
- c. technical analyst's input re quantity and quality of material
- d. consistency of material estimates with accounting system classifications for direct vs. indirect material

### Bill of Material

A bill of material should contain a detailed listing of the types and quantities of raw materials, components and parts. Allowances may also be included for spoilage of scrap, and common supply items such as nuts and bolts. These allowances may be provided in the form of loading factors if the bill of material only identifies basic material items. If this latter method is used, consideration should be given to whether these costs are duplicated in direct and indirect material estimates.

### Material quantity evaluation

In follow-on procurement the following considerations are applicable:

- a. Whether the bill of material is current and based on the latest specifications and reflects anticipated changes in unit quantities.
- b. Whether the significant differences between the current bill of material and prior bills of material are adequately explained.

c. MATERIAL COST ESTIMATES

Material costs include raw material, purchased parts, subcontracted parts and components and other material that can be identified with the end product or engineering effort related thereto. Spoilage, obsolescence and other losses of material connected with production are normally considered loading factors and may frequently be listed as an indirect cost.

(1) Estimating Methods

Estimating methods for direct material are generally dependent on the type of accounting and statistical data maintained by the contractor. Recent experience data may be available for the entire product or for parts or components that may have been produced for a similar item.

The contractor's estimate for material may be supported by one or more of the following:

- a. Cost records for the last completed contract with appropriate adjustments.
- b. Cost records for the last lot or selected lots of the last completed contract.
- c. Experienced direct material costs plotted on an improvement curve relating to the same or similar products or components.
- d. Priced bills of material for the same product or similar products with appropriate adjustments.
- e. Direct material costs incurred on a pilot run of a prototype model.
- f. A prior cost estimate adjusted to reflect current needs.
- g. Experience factors and ratios established.

In completely new product procurement, available data may be limited to rough sketches, and prototype designs. Material quantity and quality may frequently be based on engineering judgment. The opportunity for duplication and error is substantial. Evaluation in these circumstances will require close cooperation and assistance of Government technical personnel.

#### Material Pricing Procedures

Pricing sources for parts and components include standard costs, previous purchase prices with adjustments for quantity changes, current vendor quotes and prices of orders currently placed. The contractor's proposal and supporting data should disclose which of these sources or combinations were used to estimate future costs.

#### Audit considerations

1. When standard costs are used for material, have variance factors been applied and are they realistic in relation to past, current and probable future experiences.
2. When prices are based on previous purchases, reference should be made to stock purchase records or to purchase orders to determine currency and quantities purchased previously.
3. When current vendor quotes are used the extent to which the contractor solicited competition should be ascertained and where no competition was available, the reasonableness of any noncompetitive price should have been evaluated. In the latter case we should expect to find adequate supporting data for subcontractor proposals.

4. It is not unusual for certain parts to be drawn from the contractor's existing inventory. In such instances, estimates should reflect actual costs and the contractor's method of valuing the units of inventory should be verified.
5. The contractor's purchasing procedures will have a large influence on whether he is obtaining lowest prices for maximum quantities consistent with quality and delivery requirements. These procedures should have been reviewed since they could effect proposed prices regardless of the source of the pricing data.

### (3) Make or buy decisions

Contractors decide on whether to make or buy parts or components. Factors that may be control the decision include: prior experience, future requirements, relative costs, market condition, delivery schedule, in-house capacity, finances, manpower, and subcontractors' capability and availability of materials. Because make or buy decisions may have been made where the contractor's interests were adverse to the Government's interest an evaluation should be made of the basis for any significant make or buy decisions and the extent to which make or buy plans indicated in prior estimates were followed in actual performance.

#### Audit considerations

Special problems with respect to make or buy include, intracompany procurement, changes in make or buy, simultaneous making and buying the same parts or components, and whether make or buy decisions indicated in the proposal have been implemented in situations where a long period elapsed between proposal and negotiation.

Intracompany purchases can be viewed as either make or buy items depending upon whether they are priced at cost to the division, affiliate or subsidiary,

or are priced on a "competitive" basis respectively. For items based on cost, a review should have been made by the contracting agency to determine that duplication of such costs as engineering, field service and product warranty are not included in both the manufacturing division's price and in the prime contracting division's price. Evaluation of "competitive" awards to related concerns is similar to those used for competitive unrelated vendors. In addition, if affiliates are permitted to obtain awards by merely meeting the lowest outside bid this may not represent fair pricing and may tend to discourage future competition.

A different make or buy program from that used under prior contracts, while not unusual, should be examined to determine that all costs related to any earlier decisions have been eliminated from the contractor's cost data prior to the addition of the cost of the new make or buy decision. If a change in make or buy substantially increases costs to the Government, analysis of the contractor's basis for decision appears warranted.

#### Major Subcontractor Estimates

Factors to be considered include:

1. significance of subcontract estimates in relation to total direct material
2. contractors' procurement procedures to ensure maximum competition or otherwise assure reasonableness of prices when competition does not exist
3. type of subcontracts awarded

#### (4) Other matters for special consideration.

Government-furnished material and the use of reusable containers should have been reviewed by the contracting agency to be sure they are not duplicated or overestimated respectively in the contractor's material estimates. Possible use of Government-owned reusable containers should have been considered in lieu of new containers, where appropriate.

Residual inventories in the hands of the contractor from prior contracts should be considered as to ownership and value. For example, if the preceding contract was a cost type, residual material would be Government-owned and should be included in the proposal at no cost. For some fixed-price-type contracts this may also hold true. Where the contractor has title to the residual from prior fixed-price-type contracts, cost should be based on the lower of cost or market or the value assigned in negotiating the price of the prior contract.

Scrap spoilage and rework should be analyzed to assure that the contractors accounting procedures give appropriate recognition to salvageable material and whether the estimates are consistent with the accounting treatment. Experienced data on scrap and spoilage if available, should have been used in estimating these factors in the current proposal making use of trend analysis.

d. INDIRECT COST ESTIMATES

Indirect costs include such expenses as manufacturing, engineering, tooling, material handling, selling and general and administrative. Evaluation should consider whether annual or billing rates have been approved for overhead or whether rates have been established solely for the contract under review. Unless specifically directed by the Procurement Staff, review of overhead should generally be limited to a determination that the most current negotiated billing rates were used. Generally we would review overhead costs more intensively where rates were specifically negotiated for the contract.

Audit consideration should be given to:

- a) the propriety of classification and allocation of costs,
- b) validity, currency, and applicability of underlying data in support of estimates,
- c) reasonableness of estimates as reflected by costs,
- d) acceptability of estimating procedures,
- e) the inclusion of all factors having a bearing on the validity of estimated costs, and
- f) any advance agreements between the contractor and the Government -- such advance agreements may limit recovery of certain indirect costs such as independent research and development.

Indirect labor

Labor generally represents a major portion of indirect costs. Current estimates should bear a relationship to recently experienced ratios of variable, semi-variable and nonvariable indirect labor. Indirect labor hour projections and indirect labor rate projections can be compared with manpower budgets and payroll records respectively.

### Depreciation

The contractor's forecasts for depreciation may have been evaluated using Internal Revenue guidelines as recognized by current DOD instructions. The contractor's capital replacement or acquisition policy should be reviewed for any variations affecting contract costs.

### Rent

Estimated rentals of major machinery and equipment should be comparable to prior costs incurred for rentals. The agreements should be examined, if necessary, to ascertain variations from prior costs.

### Occupancy cost

Costs such as insurance, taxes, heat, light, guard services, and maintenance should be reviewed for reasonableness and appropriate allocation bases.

### Excess Facilities

Consideration should have been given to any visible trends which might indicate the probability that excess facilities would develop during the period of the contract.

### Corporate or Home Office Assessments

Indirect cost forecasts made by an operating division will usually include the anticipated home office assessment to that division. The bases of assessment should be reviewed to determine that the division is not bearing an inequitable share.

### Miscellaneous Income and Credits

It may be found that indirect expense pools have not been reduced by the amount of income received from such sources as scrap sales, rentals, royalties,

and licensing fees. Similarly, cash discounts taken and trade discounts may have been credited to income accounts.

e. PROSPECTIVE INDIRECT COST RATES

Proper evaluation of the contractor's indirect cost rates to determine acceptability, reasonableness, and propriety will be served by:

- (a) determining appropriateness of period used to develop rate vs. period contemplated by contract;
- (b) ascertaining the reasonableness of data available to support long-range projections where estimates are subject to change;
- (c) reviewing computations of rates to determine if the computing method is consistent with historical data and, if a different method is employed, whether the result provides an equitable allocation;
- (d) determining the possibility of significant fluctuations in the rates and the existence of appropriate ceilings to prevent the acceptance of an unreasonable amount of indirect costs in the negotiation of the contract price.

f. OTHER DIRECT COSTS ESTIMATES

Certain costs, normally considered indirect costs, are sometimes treated as direct costs where they can be identified with a particular cost objective. These may include engineering, special tooling, packaging, travel and subsistence, and field service. The propriety of other direct costs should be reflected in the supporting data and any inconsistencies in methods of treatment should be noted.

Percentage and Conversion Factors

Packaging, field service, and various types of engineering and tooling costs may be estimated by applying percentage or conversion factors (number of man-hours per month) to some other basic cost or to basic estimates of required man-months of effort.

A review of the contractor's reserve accounts for "other direct costs" may help to determine the reliability of prior estimates. If significant differences are disclosed by analysis, they should be adequately justified.

## Evaluation Considerations

### Engineering

Statistical records contained in the contractor's accounting system should be reviewed to determine the reliability of the methods and supporting data used to arrive at estimates, giving consideration to the number of similar type engineering hours expended on similar previously completed projects. Improvement trends should not be overlooked.

### Special Tooling

Evaluation of the reasonableness of special tooling estimates is generally accomplished by a comparison of the estimates with actual costs or actual hours expended for similar tools in previous production, making appropriate adjustments. Tools that are of a general nature, capital equipment, etc., should be excluded from the estimate. The auditors are required to consider:

- a) charges for use of tools purchased or fabricated on prior contracts,
- b) justification of expensive tools, and,
- c) whether the tools were already paid for under prior contracts.

### Packaging

The reasonableness of the contractor's estimate for packaging cost may be ascertained by comparing it with costs incurred for similar types and kinds of packaging.

### Travel and Subsistence

As the estimate for travel and subsistence is usually based on the contemplated number of trips, length of stay, transportation costs, and estimated per diem allowance, contractors should have control procedures over:

- 1) the reasonableness of per diem rates,
- 2) the use of economical transportation where available,
- 3) proper points of departure and arrival,
- 4) actual need for mileage allowance, and
- 5) the number of trips or length of stay.

Preproduction and Start-up Costs

A review by verifying detailed documentation and proposed method of handling such estimated costs, should be made. If the total costs are not to be charged to the contract under review, it should be determined whether the contractor intends to absorb the residual costs or recover them in subsequent orders.