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[Forward Pricing Rate Agreements in Initial Contract Pricing]. PSAD-78-127; B-168450. July 20, 1978. 4 pp. + enclosure (10 pp.).

Report to Secretary, Department of Defense; by Jerome H. Stolarow, Director, Procurement and Systems Acquisition Div.

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Organization Concerned: Department of the Army; Department of the Navy; Department of the Air Force.
Congressional Relevance: House Committee on Armed Services; Senate Committee on Armed Services.
Authority: P.L. 87-653. Defense Acquisition Regulation 3-807.12.

To determine whether Department of Defense (DOD) contracting officials were obtaining adequate data in support of forward-pricing rate proposals from Defense contractors and whether contract administration and audit personnel were adequately evaluating business volume forecasts in support of indirect expense rate negotiations, a review was conducted of Defense contractors' forecasts developed in connection with the process of negotiating forward-pricing rate agreements for allocating indirect expenses in the initial pricing of contracts. In recent years, DOD's prime contract awards have exceeded $40 billion annually, and indirect expenses are estimated to account for at least two-thirds of contractors' inplant costs and about one-third of total contract costs. Contractors' proposals were often incomplete and did not identify information sources and methodologies used in business volume forecasts; some contractors refused to furnish supporting data when requested to do so. Evaluations of business volume forecasts did not focus on the accuracy of supporting data or on the rationale of contractors' assumptions and judgments. Government personnel, however, adequately monitored the approved or recommended rates after negotiations, and when appropriate, the rate agreements were withdrawn. Cost savings clauses were included in contracts, permitting retroactive indirect expense rate adjustments. The Secretary of Defense should reemphasize the need for contracting officers to obtain adequate forward-pricing rate proposals which identify the bases for business volume forecasts and for contract administration and audit personnel to conduct thorough evaluations of forward-pricing rate proposals. (RRS)

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

PROCUREMENT AND SYSTEMS
ACQUISITION DIVISION

B-168450 JULY 20, 1978

The Honorable
The Secretary of Defense

Dear Mr. Secretary:

We have completed a limited review of Defense contractors' business volume forecasts developed in connection with the process of negotiating forward-pricing (prospective-pricing) rate agreements for allocating indirect expenses in initial pricing of contracts. Our objective was to determine whether (1) Department of Defense (DOD) contracting officials were obtaining adequate data in support of forward-pricing rate proposals from major Defense contractors and (2) contract administration and audit personnel were adequately evaluating business volume forecasts in support of indirect expense rate negotiations. This review represents part of our continuing program to monitor DOD's procedures for negotiating noncompetitive contract prices.

Our review was performed at seven major Defense contractors and included forward-pricing rate activity for the period 1974-76. DOD agencies responsible for administering contracts at those locations included the Air Force (4), Navy (2), and Defense Logistics Agency (1). We evaluated a rate proposal at one of the contractors to determine whether the business volume forecast was based on current, complete, and accurate information at the time the rate agreement was negotiated. In addition, questionnaires were sent to contract administration representatives at 62 major Defense contractors to obtain information on negotiated, recommended, and actual business volume; indirect expenses; and rates. We also obtained informal comments from DOD officials on the results of our review. Their comments were considered in the preparation of this letter and are summarized on pages 3 and 4.

In recent years DOD's prime contract awards have exceeded $40 billion annually. Indirect expenses are estimated to account for at least two-thirds of contractors' in-plant costs and about one-third of total contract cost.

PSAD-78-127
(950421)

Our review disclosed a need for improvement in contractors' forward-pricing rate proposal submissions and related Government evaluations. Specifically, we found that:

--Contractors' proposals were often incomplete and did not identify the information sources and methodologies used in the business volume forecast. Also, some contractors refused to furnish certain supporting data when requested.

--Evaluations of business volume forecasts did not focus on accuracy of supporting data and rationale of contractors' assumptions and judgments. Our evaluation of one contractor's business volume forecast disclosed significant weaknesses which had not been identified in the earlier Government evaluation. The most recent Government evaluation, however, showed improvement.

We also noted that:

--Government personnel adequately monitored the approved or recommended rates after negotiations. When appropriate, the rate agreements were withdrawn.

--Cost savings clauses were included in contracts, permitting retroactive indirect expense rate adjustments in the event specified major potential programs, which had been excluded from the business volume forecast, materialized.

Questionnaire data showed that a number of Defense contractors consistently experienced higher business volume and, consequently, lower indirect expense rates than were anticipated. We did not try to identify the reasons for the variations.

RECOMMENDATIONS

We recommend that you reemphasize the need for:

--Contracting officers to obtain adequate forward-pricing rate proposals which identify in writing the bases for the business volume forecasts, including that portion covered by the certificate of current cost or pricing data, and the management judgments, assumptions, and rationale supporting the estimates of potential business prospects.

--Contract administration and audit personnel to conduct thorough evaluations of forward-pricing rate proposals with particular emphasis on the use of analytical techniques to assess the accuracy of supporting data and the credibility of management judgments and assumptions affecting the forecasts.

We also recommend that you establish, within existing resources, a pilot program for postaward evaluations of forward-pricing rate proposals in cases where contractors consistently incur more business volume than negotiated in forward-pricing rate agreements. Such action would provide added assurances of compliance with Public Law 87-653 and Defense Acquisition Regulation 3-807.12 relative to the currency, completeness, and accuracy of forward-pricing rate proposals. Insights gained from postaward evaluations would also enhance evaluation techniques on reviews of future forward-pricing rate proposals.

In response to our recommendations, DOD officials stated that adequate guidance already exists on obtaining rate proposals, conducting evaluations, and monitoring indirect expense levels. Contract administration and audit officials also stated that the proposal evaluation techniques were adequate to insure negotiation of fair and reasonable forward-pricing rates.

We agree that adequate guidance exists; however, implementation by contract administration and audit personnel needs to be improved. Contracting officers generally are not obtaining adequate forward-pricing rate proposals that identify the bases for business volume forecasts. Also, while some of the proposal evaluation techniques have merit, they do not substitute for an analysis of estimating data used by contractors to support business volume forecasts.

Audit agency officials questioned the need for a pilot program of postaward evaluations. They stated that the agency's ongoing defective pricing program provides some tracking of indirect expense performance.

Since the agency's defective pricing program is limited to selection of individual contracts for postaward review, there is no provision for the selection or postaward review of forward-pricing rate negotiations. Implementation of the recommended pilot program by contract administration and audit officials should improve future evaluations of forward-pricing rate proposals.

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We are sending copies of this letter to the Secretaries of the Army, Navy, and Air Force; and the Directors of the Defense Logistics Agency, Defense Contract Audit Agency, and the Office of Management and Budget. We are also sending copies to the Chairmen of the House and Senate Committees on Appropriations and Armed Services, the House Committee on Government Operations, and the Senate Committee on Governmental Affairs.

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

We would appreciate receiving your comments on these matters and would be pleased to discuss any questions that you may have.

Sincerely yours,

J. H. Stolarow

J. H. Stolarow
Director

Enclosure

REVIEW OF DEFENSE CONTRACTORS' BUSINESS VOLUME FORECASTS USED IN CONNECTION WITH THE NEGOTIATION OF FORWARD-PRICING RATE AGREEMENTS FOR INDIRECT EXPENSES

BACKGROUND

Indirect or overhead expenses represent contractors' costs that cannot be directly identified to a final cost objective such as an individual project or contract. Indirect costs are allocated to final cost objectives by applying indirect expense rates to direct costs. The rates are expressions of indirect costs required to perform functions at a given level of business volume.

Defense Acquisition Regulation 3-807.12 provides for the use of forward-pricing rate agreements in which indirect expense rates are established for specified periods for pricing contracts. Most major Defense contractors voluntarily enter into rate agreements with the administrative contracting agency where the volume of negotiated contract pricing proposals is significant. Rate agreements eliminate the need to negotiate separate indirect expense rates for each contract awarded during the period. Events leading to a rate agreement include (1) submission of a proposal to the cognizant administrative contracting agency, (2) proposal evaluation, and (3) rate negotiations. At major contractors where agreements do not exist, indirect expense rate proposals are submitted and evaluated and rate recommendations are made to procurement activities for negotiating individual contract prices.

It is most important that rate agreements and recommendations be based on valid estimates, since fixed prices of multiyear contracts are not subject to adjustments due to fluctuations in the indirect expense rates during contract performance. The most difficult aspect of rate negotiations involves business volume forecast credibility, primarily because predicting future business events is so uncertain.

This review represents an extension of our audits of individual contract pricing to determine the reasonableness of noncompetitive prices negotiated in accordance with the requirements of Public Law 87-653. We have noted during such reviews understatements in contractors' business volume forecasts with corresponding overstatements of indirect expense rates negotiated into contract prices. For example:

--The price of a Navy prime contract was overstated by about $83,000 because of understatements of direct costs for various projects and interdivisional work orders in the forward-pricing rate proposal. Later the Navy negotiated a contract price reduction of about 50 percent of the overstated indirect expenses.

--The target price of an Air Force prime contract was overstated by about $2.1 million because a major subcontractor proposed an overhead expense rate which did not consider the major subcontract effort's impact on future overhead rates. Inclusion of the anticipated subcontract volume in the indirect expense forecast would have reduced the overhead rate significantly. Government evaluations of the subcontract price proposal did not identify the understatement.

--The target price of a Navy prime contract was overstated by about $307,000 because the contractor failed to disclose a forecast of business volume that was higher than the one used to establish overhead rates for contract pricing. Government evaluation did not identify the higher business volume because access to budgetary forecasts was denied.

--The target price of an Air Force prime contract was overstated by about $1.8 million because the contractor failed to disclose known business volume that would have reduced the overhead rates negotiated into the prime contract price. Government evaluations of the forward-pricing rate proposal did not identify the additional business volume. The Air Force subsequently negotiated a target price reduction of $684,000 relating to the nondisclosure.

PROPOSALS SUBMITTED BY CONTRACTORS

Defense Acquisition Regulation 3-807.12 provides that before entering into a forward-pricing rate agreement the contracting officer must obtain a proposal from the contractor which contains cost or pricing data that is accurate, complete, and current as of the date of submission.

Forward-pricing rate proposals consist of estimates of future years' indirect expenses and base costs. The business volume forecast, an integral part of the proposal, must also be based on data that is accurate, complete, and current. Such data submitted in connection with a rate agreement forms a part of the total data that the contractor certifies to at the time of agreement on individual contract prices. Since the forecast is a combination of factual information and management judgments, an adequate rate proposal should contain or make reference to:

--Cost or pricing data considered in developing the forecast.

--Sales, production, engineering, material, and program delivery assumptions underlying the forecast.

--Methodologies used to (1) derive the business volume forecast from cost or pricing data and assumptions and (2) convert the business volume forecast into the various indirect expense bases.

Without adequate identification of the facts and judgments, it is difficult to verify accuracy of the certified data or credibility of management judgments.

Our review disclosed that three of seven contractors adequately identified, in the forward-pricing rate proposals, the facts and judgments used to develop the business volume forecasts. For example, one of the adequate proposals identified assumptions applicable to each major program, including business volume for programs currently under contract, total quantity of deliverable items on contract and anticipated in future years, and prospective foreign military sales. The business assumptions were converted into direct labor dollars, from which the indirect expense rates were developed. The proposal identified the factual information, management judgments, and assumptions underlying the forecast.

The proposals we considered inadequate clearly failed to identify in writing the estimating rationale and methodologies used to develop the business volume forecasts. One contractor's proposal included estimated direct labor hours by program and a summary of total employee headcount. The facts and assumptions underlying the labor hour estimates were not disclosed. The cognizant contract administration official considered the proposal to be inadequate and advised us that requests for supporting data were either refused or resulted in incomplete or nonresponsive submissions.

Another contractor submitted five forward-pricing rate proposals during the period 1974-76. Each submission was a result of a major contract price proposal involving effort not already included in the applicable forward-pricing rate agreement. The rate proposals included forecasts of firm and programed business by indirect expense pool and program as well as miscellaneous and potential business not identified by program. The proposals did not, however, adequately identify the methodologies, judgments, or information sources used in developing the business volume forecasts. Cognizant contract administration personnel requested the contractor to provide further information, such as possible additional business volume for a planned production program, sales backlog by program, anticipated new procurements by program, and the logic and methodology used to estimate the volume forecast. Much of the requested data was not furnished.

EVALUATIONS OF BUSINESS VOLUME FORECASTS

Defense Acquisition Regulation 3-807.12 provides that the cognizant contracting officer conduct a review and analysis of the contractor's rate proposal before entering into negotiations.

Analytical techniques employed

Our review at the seven contractor locations disclosed a need for improvement in the evaluations of business volume forecasts by cognizant contract administration and audit personnel as a basis for forward-pricing rate negotiations. With exception of two contractors, the proposal evaluations did not include sufficient scope and depth of analysis to establish accuracy of the factual data and credibility of the management judgments and assumptions. A variety of analytical techniques were used to establish a negotiation position. At some locations the DOD contract administration office provided the basic analysis of business volume forecasts, while at other locations DOD contract auditors assumed the predominate evaluation role for rate negotiations.

Following are the typical evaluation techniques we noted. Most evaluations involved historical comparisons and ratio analyses, such as:

--Prior years' proposed business volume forecasts were compared to actuals for the same period. The percentage differences were applied to current business volume forecasts under review.

--Actual business volume and employee headcounts for a portion of the year under review were compared to business volume forecasts for the same period.

--Prior years' sales, indirect expense base labor, and employee headcount ratios were compared with data in forward-pricing rate proposals under review.

Such evaluations were useful as a starting point in sizing up the accuracy of contractors' prior year forecasts; however, the results did not necessarily indicate that current forecasts were accurate.

To a lesser extent analysis of business volume forecasts involved the following techniques:

--Estimated costs to complete major contracts and programs were determined from contractor budgeting and cost reports and compared with program estimates included in the business volume forecasts.

--Estimates of business volume and employee headcounts in major contract price proposals were compared to program cost estimates in the business volume forecasts.

--Experienced production costs for major programs were determined and compared to amounts estimated in the business volume forecasts for the same programs.

--Procurement office estimates of future contract awards were solicited and data was compared to contractors' estimates of prospective contract awards.

In a number of cases these techniques did identify additional business volume not previously disclosed in the proposals and were useful in establishing negotiation objectives for rate agreements. However, for the most part, the evaluations did not focus on the accuracy of supporting data or the credibility of contractors' judgments and assumptions. In a number of cases Government evaluations were hampered because the forward-pricing rate proposals did not adequately identify the facts and judgments supporting the business volume forecasts. Also, some contractors refused to provide certain supporting data when requested. Under the circumstances, these evaluations were tantamount to "auditing around the system," with the principal objective of identifying business volume not disclosed by contractors. For example, at two contractors proposed business volume forecasts were recommended for acceptance in negotiation after the Government evaluations produced lower estimates than proposed. No attempts, however, were made to reconcile the lower Government estimates with the contractors' forecasts. In another case the second and third years of a contractor's 3-year business volume forecast were accepted as proposed without any of the above-mentioned comparisons or validations.

Results of our evaluation of a business volume forecast

At one of the seven contractors, we reviewed a forward-pricing rate proposal to determine whether the business volume forecast used for the 1975 rate agreement was based on current, complete, and accurate information at the time of negotiation. Our review disclosed the following weaknesses:

- Manpower forecasts for firm business did not include an allocation of management reserves identified in the contractor's internal financial reports. Accordingly, the forecast was understated by the direct labor portion of the reserves.

- Manpower forecasts for potential business on several major programs did not follow established ground rules in the sales forecast, thereby resulting in over and understatements of the manpower forecasts. Labor/overhead values specified in the ground rules were often not used in the forecasts.

- The contractor's methodology of converting labor/overhead values to man-years resulted in an understatement of potential business in the volume forecast. This was caused by the use of higher labor/overhead rates in the conversion process than those used in the sales forecast ground rules.

--No written procedures or guidelines existed that identified the rationale, criteria, or basis for determining whether known potential business should be included or excluded from the manpower forecast.

--Supporting documentation for the manpower forecast on firm and potential business was not retained. Accordingly, postaward audits of the forward-pricing rate proposal and evaluations of the forecasting system would have been difficult to perform.

The following table shows the percentage of understatement in the indirect expense bases resulting from the forecasting weaknesses we identified.

Indirect expense pools	1975	1976	1977
Engineering	5.6	7.6	10.7
Manufacturing	7.7	9.1	10.7
General and administrative	7.3	8.7	10.3

Contractor officials agreed with the stated conditions identified during our review but did not believe that the forecast was understated. The contractor stated that forecasting potential business involves uncertainty with respect to realization and volume; accordingly, the forecasting system does not have the degree of precision to permit an assessment of whether the forecast of potential business is understated. In addition, the inclusion or exclusion of specific potential programs from the forecast is not as relevant to the validity of the forecast as the inclusion of a number of typical programs representative of a reasonable level of anticipated business.

We recognize the lack of precision in forecasting potential business volume; however, this should not prevent the Government from evaluating the judgments and assumptions supporting the forecast and estimating the monetary impact of the contractor's failure to follow established forecasting procedures.

In addition to reviewing the contractor's 1975 business volume forecast, we compared the evaluation techniques used by DOD contract auditors in the 1977 and 1975 forward-pricing rate reviews. We noted considerable improvements. The auditors were able to gain access to supporting documents such as project budget reports and forecast ground rules, which were denied in earlier evaluations. As a result a more thorough evaluation of the 1977 business volume forecast was made, and the administrative contracting officer was able to sustain a sizable increase in the business volume forecast during forward-pricing rate agreement negotiations, with a corresponding reduction in the proposed rates. Some of the evaluation techniques we used were similar to those employed by the contract auditors in 1977.

INDIRECT EXPENSE RATE MONITORING

Approved forward-pricing rates can be withdrawn by either the cognizant contract administration office or the contractor. Increases or decreases in business volume or indirect expenses that significantly affect bid rates could cause either contracting party to unilaterally withdraw the rate agreement.

Our review at the seven contractor locations disclosed that contract administration and audit personnel were adequately monitoring the indirect expense rates on a monthly basis. We noted that on three occasions during the period 1974-76, contracting officers withdrew the approved rate agreements because actual indirect expense rates were significantly lower than the approved rates.

USE OF COST SAVINGS CLAUSES

A major difficulty in evaluating business volume forecasts involves contractors' judgments of the probability that business will materialize during periods covered by a multiyear, forward-pricing rate agreement. The decision to exclude a major potential program from the forecast may be based entirely on the contractor's subjective judgment of the degree of competition or program funding uncertainties. Such judgments are not easily evaluated, yet the impact of the potential business on indirect expense bases and rates may be quite significant.

We noted the inclusion of cost savings clauses in contracts where the price negotiations involved approved bidding rates which excluded major potential programs from the business volume forecasts. Use of the clauses was recommended by DOD contract administration and audit personnel. The savings clause provides retroactive adjustment of indirect expense rates in the event specified potential programs materialize.

Cost savings clauses are no substitute for a thorough evaluation of business volume forecasts and require additional administrative effort to monitor the clause, negotiate rate changes, and reprice contracts containing the clause. However, selective use should be encouraged where potential major programs have a significant impact on rate negotiations.

QUESTIONNAIRE ON FORWARD-PRICING RATES

The seven contractors generally incurred more business volume and achieved lower indirect expense rates than were negotiated as part of the forward-pricing rate agreements. Specifically, 76 percent of the indirect expense pools achieved more business volume than was negotiated, and 56 percent achieved lower rates. To determine whether these results were representative of other contractors' operations, we asked DOD representatives at major Defense contractors to furnish us data on indirect expense rates, applicable expense pools, and allocation bases for fiscal years 1974-76. Sixty-two DOD representatives responded to the questionnaire and provided the requested data.

As summarized below, the questionnaire data showed that actual business volume exceeded the negotiated or recommended bases for 58 percent of the indirect expense pools.

Contract administration service	Number of contractors	Number of indirect expense pools (note a)	Actual base greater than negotiated or or recommended		Actual base less than negotiated or recommended	
			No. of pools	Percent of total	No. of pools	Percent of total
Air Force	20	617	372	60.3	245	39.7
Defense Logistics Agency	20	555	269	48.5	286	51.5
Army	3	60	40	66.7	20	33.3
Navy	19	421	278	66.0	143	34.0
Total	62	1,653	959	58.0	694	42.0

a/At some contractors, more than one rate negotiation was held each year; therefore, the number of pools correspond to the number of negotiations or rate changes during the 3-year period.

The data also showed that in 53 percent of the expense pools, higher indirect expense rates were experienced than negotiated or recommended, indicating that indirect expenses generally increased at a faster rate than growth in the business volume.

It does not appear that the results identified at the seven contractors in our review were indicative of nationwide performance. However, the questionnaire results suggest that some contractors were consistently incurring more business volume than negotiated or recommended in the forward-pricing rates. Sixteen of the contractors generally captured more business volume and experienced lower rates than anticipated. These contractors accounted for over one-third of the indirect expense pools reported in the questionnaires. The reasons these contractors incurred additional business volume and experienced lower indirect expense rates were not addressed in the questionnaire.