

DEFENSE CONTRACTS

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Many graduates of the Institute already are acquainted with some of the procedures required by the Federal government in fulfilling contracts, but much of this experience has been with engineering and production, and little with the financial and accounting aspects. This article was written with the hope that a general discussion of defense contracts, with emphasis particularly upon financing and accounting would be beneficial to all.

METHODS OF PURCHASING

There is a distinction between the purchasing systems of the War and Navy Departments; purchasing by the Army is decentralized while that of the Navy is centralized. The Army purchasing agencies are the Air Corps, Chemical Warfare Service, Coast Artillery Corps, Corps of Engineers, Medical Corps, Ordnance Department, Quartermaster Corps, and the Signal Corps. The Navy generally purchases its supplies through the Bureau of Supplies and Accounts, but local offices may purchase emergency requirements and perishable products, while certain branches make their own purchases.

With a few exceptions, contracts in excess of \$500 must be in writing. There are two principal types of contracts, the fixed-price contract and the cost-plus-fixed-fee contract, commonly referred to as cost-plus. The latter type is negotiated, while the former generally is used in open competition, although it also may be negotiated. The cost-plus-percentage-of-cost contract used during World War I is now rare, evidently being against the policy of the government and in some instances prohibited by law.

Fixed-price contracts usually are awarded to the lowest responsible bidder, but when such contracts are negotiated an "escalator clause" sometimes is inserted. This clause states that if a substantial rise in costs occurs after execution of the contract, the contractor will be reimbursed for the additional cost of labor and material, the amounts of reimbursement being determined by applying percentages of rise to the estimated costs. There is no standard escalator clause, but a clause suggested by the National Defense Advisory Commission bases the percentages on various indexes of the Bureau of Labor Statistics. The clause does not apply to materials furnished by the government or for which the contractor had firm quotations prior to signing the contract.

Cost-plus contracts are signed on the basis of estimated cost and fixed fee, the contractor eventually receiving actual cost plus his fixed fee. The contract may provide additional remuneration, as in the case of the Air Corps standard supply contract, where any decrease in actual cost from estimated cost is split 50-50 with the contractor, up to a total remuneration of 7 percent of the estimated cost. The fees on cost-plus contracts have averaged about 6 or 7 percent of the cost.

Both the War and Navy Departments ordinarily purchase all supplies and construction by the method of bid and award, but the secretaries of both departments are authorized to

negotiate contracts without competition if the need is urgent, or if competitive bidding is not feasible, although the authority of the Secretary of the Navy to negotiate contracts extends only to the acquisition, repair or conversion of complete naval vessels or aircraft. Negotiations of contracts is desirable in many instances because it is speedy and flexible, and work on the supplies may be started before all details of the contract are finally determined.

During World War I there were many different forms of contracts and by 1918 several hundred varieties had made their appearance. The ensuing confusion resulted in the War and Navy Departments establishing a few standard forms, so that now there is a reasonable number of forms covering the purchasing of supplies. However, contracts for erection of defense plants and facilities are appearing in a large number of varieties.

EFFECT OF POSSIBLE PRIORITIES UNEMPLOYMENT UPON PURCHASING

The OPM recently took steps to forestall possible unemployment because of the effect of priorities upon factories not working on defense orders. The new plan, approved by the Army and Navy, contemplates:

1. Special treatment designed to spread defense work wherever practicable into communities or industries faced with unemployment because of lack of materials for non-defense production.
2. Changes in general purchasing policies, including a requirement that a statement as to the percentage of work to be "farmed out" be placed in every contract over \$50,000.
3. A requirement that a detailed statement as to subcontracting intentions be submitted with contract proposals of \$250,000 or more.

The statement of the bidder as to the minimum percentage, on a dollar value basis, which he will guarantee to subcontract is to be weighted favorably in valuing bids, and the percentage is to become a part of the final contract. More exhibits of specific items, broken down into components labeled with a description of machine tools, equipment and operations required for production, are to be provided and placed in a larger number of centers readily available to manufacturers. Calls for bids for large quantities are to be broken down into optional units to permit smaller concerns to bid for appropriate quantities. The contracting office may divide awards so that part will go to others than the low bidder. This feature of split bidding and multiple award was adopted by the Quartermaster Corps as early as August, 1940. At that time the Quartermaster Corps adopted another speed-up policy, that of calling for bids f.o.b. point of origin in preference to f.o.b. point of destination, with material furnished by the government being delivered to the plant without cost to the contractor.

In furtherance of the plan to forestall priorities unemployment, the Defense Contract Service, initially a unit of the

Production Division of the OPM and with offices at all Federal Reserve Banks and branches, was given the status of an independent bureau in the OPM on August 19, 1941. The Defense Contract Service, in addition to its previous duties of advising on contracting and financial problems, and assisting on engineering problems, is to give special attention to communities threatened with priority unemployment by investigating production possibilities. Where practicable the OPM will recommend to the Secretaries of War and the Navy a remedial program that may include any or all of the following:

1. Negotiated fixed-price contracts up to 15 percent above current quotations (presumably to take care of any local higher operating costs which may be encountered).
2. Organization of a responsible local defense association or corporation, so that manufacturers may jointly handle defense work they could not perform individually.
3. Elimination of bonds for bids or performance.
4. Inspection at the plants of the products involved to facilitate prompt payment.
5. Reimbursement of prime contractors for additional costs resulting from extension of such policies to their subcontractors.

FINANCING SUPPLY CONTRACTS

Both the War and Navy Departments will advance payments to contractors before commencement of performance in amounts not exceeding 30 percent of the contract price, and both will make progress payments during the performance of the work. However, the government prefers the use of private financing and dislikes to make advance payments except on a showing that private financing is unavailable. Late in 1940 Congress passed an act permitting the assignment of claims for money due or to become due under government contracts. A contractor is thus able to secure private financing in advance of the time he could obtain payment from the government. Contracts themselves cannot be assigned.

FINANCING DEFENSE PLANTS

Four plans are available for the financing of complete plants, additional capacity or equipment for the performance of supply contracts. Lease or erection of such a facility is made the subject of a separate contract and not incorporated in supply contracts.

Plan I. Government Owned

This plan is used when the government desires a permanent interest, such as in plants whose products are useful only for war and which might be maintained as standby capacity upon termination of the emergency. Under the plan the government erects the plant, holds title and operates itself or under a management contract, or leases to a private manufacturer.

Plan II. Emergency Plant Facility (EPF)

A contractor may preserve a future interest in a proposed facility by negotiating a contract with the Army or Navy whereby the contractor erects the facility and is reimbursed for the full cost, including land, in 60 equal monthly installments, the payments to be accelerated if supply contracts run out before the expiration of the 60 month period. By assigning the claim for reimbursement to a bank or the RFC, the con-

tractor can borrow the necessary funds to erect the facility and hold title until the end of the 60 month period, when the facility is to be transferred to the government. If the supply contracts are terminated the government pays the balance of the costs, takes title and assumes any construction obligations if the facility is not completed. On such termination, or at the end of the 60 month period, the facility may be permanently acquired from the government upon payment of the original cost less an agreed depreciation, or at a negotiated price. Reimbursement to the contractor does not contain any element of profit; for this the contractor must look to his supply contracts.

The EPF contract was developed to encourage private financing and recognizes that the cost of excess facilities should be borne by the government, with the government entitled to any value remaining in the facility after the emergency.

The reimbursing payments may be included in income for tax purposes, but if so included they can be offset by the amortization deductions described under Plan III.

Plan III. Privately Owned

Here the contractor supplies his own funds, holds title and privately operates the facility. No reimbursement of the cost of the facility is made other than for normal depreciation included in the product price. However, for tax purposes the contractor may substitute for the normal depreciation ordinarily deducted from gross income in determining taxable income, an amount each year sufficient to amortize the cost of the facility, including land, over a 60 month period. To avail himself of this election the contractor must obtain a Certificate of Necessity from the OPM and either the Secretary of War or the Secretary of the Navy. A Necessity Certificate states the facility is "necessary in the interest of national defense".

If the emergency is terminated before the expiration of the 60 month period, or the facility has ceased to be necessary, the contractor may elect to amortize over the shorter term, or if he has been depreciating the facility on a normal basis, he may elect to amortize over the emergency period. In such cases taxes previously paid on income are to be recomputed to reflect the increased amortization. A contractor is also able to discontinue the amortization over a 60 month period at any time he desires and thereafter change to normal depreciation.

To qualify as an emergency facility, construction or acquisition must have been completed after June 10, 1940, and only so much of a plant then in construction which has been erected after that date will be included in the Necessity Certificate. To obtain a Necessity Certificate application must be made within 60 days of the beginning of construction or date of acquisition (the time limit was originally extended to February 6, 1941).

The rapid amortization described was enacted into law to permit contractors to recover costs of defense facilities before payment of taxes, as in many instances the expanded capacity will be excessive after termination of the emergency and in such cases the facilities will no longer be productive. Nevertheless, manufacturers who completed defense plants prior to June 10, 1940 in anticipation of supply contracts, or to accel-

erate deliveries under then existing contracts, are denied the tax advantages.

Under Plans II and III a Necessity Certificate is required in all cases, and one of two other certificates sometimes must be acquired to obtain amortization. A taxpayer being reimbursed for the cost of an emergency facility must obtain a Certificate of Government Protection, indicating that the United States is adequately protected as to the disposition of the facility. A contractor not being reimbursed should obtain a Certificate of Non-Reimbursement, thus establishing for tax purposes that a Certificate of Government Protection is not required. These two latter certificates are obtained in a manner similar to that for a Necessity Certificate, and all three are issued to the Commissioner of Internal Revenue. A subcontractor need obtain only a Necessity Certificate.

Plan IV. Defense Plant Corporation

When a manufacturer wishes to preserve a future interest in a plant, but does not desire to finance under Plan II, he may enter into a contract whereby the Defense Plant Corporation, a subsidiary of the RFC, pays for the plant, holds title and leases to the manufacturer. Upon the termination of the lease, and in some cases during the term of the lease, the contractor may obtain title by paying the original cost less agreed depreciation, or a negotiated price.

The annual rental may be \$1, in which case the lessee will not include as a cost a charge for rent, or the rental may be large enough to amortize the cost of the plant over its useful life. The latter type of lease is used when the entire output of the plant is not to be sold to the government, and the rental charge will be apportioned over the total production.

ALLOWABLE COSTS

The Act of March 27, 1934 (Vinson Act) limited the profit on naval vessels and Army and Navy aircraft to 10 per cent of the cost on awards over \$10,000. Subsequently, this act was modified to allow a 12 per cent profit on aircraft and then again modified, permitting only 8 per cent on any naval construction under the act and limiting the contracts covered to those where the award exceeds \$25,000. However, under the Excess Profits Tax Act (the Second Revenue Act of 1940) the profit limiting provisions of the Vinson Act were suspended so long as the excess profits tax remains in effect. Prior to the suspension of the profit limiting provisions of the Vinson Act, Treasury Decision 5000 was issued to regulate the determination of excess profits under the act. Part of this regulation was concerned with definition of the allowable elements of cost, and this portion has continued to be utilized as a definition of costs in Air Corps cost-plus standard supply contracts.

T.D. 5000 describes the usual elements of direct cost and goes into the subject of indirect costs at some length. Unallowable items include entertainment expenses; dues and memberships other than those of regular trade associations; donations in excess of those to local charitable organizations which constitute ordinary and necessary business expense; losses on other contracts; profits or losses from sales or exchanges of capital assets; extraordinary expenses due to strikes or lockouts; fines and penalties; amortization of unrealized appreciation of assets; expenses, maintenance and depreciation of excess facil-

ities vacated or abandoned, or not adaptable for future use in performing contracts; increase in reserve accounts for contingencies, repairs, compensation insurance (except as provided with respect to self insurance) and guarantee work; Federal and State income and excess profits taxes and surtaxes; cash discounts earned up to 1 percent of the amount of the purchase, except that all discounts on subcontracts subject to the act will be considered; interest incurred or earned (except up to 4 percent interest paid for financing facilities or working capital where indebtedness was incurred to perform supply contracts); bond discount or finance charges; premiums for life insurance on lives of officers; legal and accounting fees in connection with reorganizations, security issues, capital stock issues and the prosecution of claims against the United States; taxes and expenses on issues and transfers of capital stock; losses on investments; bad debts; expenses of collection and exchange.

T. D. 5000 is not a guide to be followed in all instances, as the regulation expresses that "no definitions of the elements of cost may be stated which are of invariable application to all contractors or subcontractors". The above unallowable items indicate the type of costs which generally cannot be recovered under cost-plus contracts, except out of profit margins.

ACCOUNTING REQUIREMENTS

Under cost-plus contracts contractors are required to keep adequate records. The following, taken from a War Department standard construction contract, is typical of such requirements: "The Contractor agrees to keep records and books of account, on a recognized cost accounting basis, showing the actual cost to him of all items of labor, materials, equipment, supplies, services, and other expenditures of whatever nature for which reimbursement is authorized under the provisions of this contract. The system of accounting to be employed by the Contractor shall be such as is satisfactory to the Contracting Officer". As far as construction contracts are concerned, little difficulty is experienced in collecting costs.

Difficulties may be experienced in cost accumulation when a contractor has a number of supply contracts in progress, or has commercial work in progress along with government contracts. According to T.D. 5000 the following are essentials in contract accounting:

1. "The profit and loss upon a particular contract or subcontracts shall be accounted for and fully explained in the books of account separately on each contract or subcontract.
2. "Any cost accounting methods, however standard they may be and regardless of long continued practice, shall be controlled by, and be in accord with, the objectives and purposes of the Act and the Act of March 27, 1934, as amended, and of any regulations prescribed thereunder.
3. "The accounts shall clearly disclose the nature and amount of the different items of cost of performing a contract or subcontract."

The regulation specifies the method of apportioning indirect expenses, subject to the requirement that all items which have no relation to the performance of the contract shall be elimi-

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GRADUATE SCHOOL OF DESIGN MERGED WITH INSTITUTE

Final arrangements have been made for merging the activities of the California Graduate School of Design with those of the California Institute of Technology. Officials of both institutions at recent meetings completed details of the consolidation and announced that beginning with the Fall term, 1941, work in industrial design would be offered as a part of the regular graduate work in engineering at the California Institute.

When the California Graduate School of Design was established in Pasadena in 1937, under the sponsorship of a group of public-spirited citizens of Southern California, it provided the first opportunity on the west coast for graduate instruction in industrial design. During the past decade, industrial design has been one of the most rapidly expanding and attractive fields in the United States. The combination of sound engineering practice with intelligent functional design, utilizing new materials and new methods, has attracted increasing numbers of specialists, and the possibilities of future extension seem almost indefinite.

During the four years that the California Graduate School of Design has been in operation, it has done invaluable pioneering work in the west in this new field, under the guidance of its Director, Dr. Walter Baermann. At the present time, however, with the world situation so unsettled and with industry increasingly occupied with national defense, it has become clear that the work begun so well by the School of Design can be more effectively carried on by adding it to the program of an older institution which has wide connections already established with the technical side of industry.

For that reason it has been decided that the wisest course is to bring the essential work of the California Graduate School of Design into the graduate engineering curriculum of the California Institute. Such a combination has the advantage of offering to engineering graduates of the Institute the opportunity to qualify themselves for work in a field closely allied to engineering. At the same time, it is believed both that the reaction of the course in design upon the regular curricula of the Institute will be wholesome, and also that the standing of the Institute will be an important factor in attracting graduates of other engineering schools who wish to prepare themselves for careers in the expanding field of industrial design.

In general, the essential program of the California Graduate School of Design will be followed, and under substantially the same faculty personnel, with the exception of Dr. Walter Baermann, who has resigned.

Mr. Albert B. Ruddock of Pasadena, Chairman of the Board of Trustees of the California Graduate School of Design, paid high tribute to Dr. Baermann's leadership as the School's Director and expressed very keen regret at his resignation. The Trustees of the School, Mr. Ruddock declared, deeply appreciate the professional ability and personal devotion which Dr. Baermann brought to his work, and they recognize his understanding of the economic and social meaning of "design" and

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nated from the amounts to be allocated. Indirect factory expenses are to be distributed on the basis of direct labor; indirect engineering expenses on the basis of direct engineering labor; administrative and general expenses on the basis of costs of manufacturing and installation. Bidding, general selling and general servicing expenses allocated to a particular contract are to be distributed to that contract either in the proportion which the contract price bears to the total sales (including contracts completed) during the period of contract performance, or in the proportion which the sum of the manufacturing and installation costs attributable to the contract bears to the total of such costs during the period of performance. However, if standard cost accounting is employed by the manufacturer, no objection will be made to the use of such standards if entries converting standard costs to actual costs are used and fully explained, and the final result clearly reflects the actual profit.

AUDITING BY GOVERNMENT

In cost-plus contracts the government reserves to its representatives the right to inspect all books, records, vouchers and memoranda of every description concerning the work performed. This reservation is sometimes inserted in fixed-price contracts.

Examinations made under this authority are complete and thorough. For many construction projects the field auditor actually conducts an audit of some items coincidentally with performance. Labor is checked on the job and the field auditor's check is reconciled with the foremen's time cards. Differences then are straightened out before the payroll is made up. Material receipts likewise are audited concurrently with their receipt by the contractor. In some instances arrangements are made with the prime contractor so that the War Department verifies the labor and material of the subcontractor, thus eliminating duplication of work. The field auditor's work also extends to the auditing of tools and equipment, freight and other expenses, and on at least one large construction job, to purchases before the contractor's purchase orders are placed. By these means the audit of construction contracts is substantially finished when the project is completed. In the case of larger supply contractors verification of costs proceeds in a manner similar to that for construction jobs, and auditors are permanently stationed at the contractor's plant. In the words of the Treasurer of one large aircraft company, "We do all our work with government auditors looking over our shoulder".

his success in transmitting that meaning in the training of students.