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**AUDITING IN THE  
CONSTRUCTION INDUSTRY**

**AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS  
270 Madison Avenue, New York 16, New York**

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**AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS  
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## **Table of Contents**

<b>General</b> .....	<b>7</b>
<b>Contract Costs</b> .....	<b>9</b>
<b>Job Sites</b> .....	<b>13</b>
<b>Raw Materials and Supplies</b> .....	<b>14</b>
<b>Accounts Receivable</b> .....	<b>15</b>
<b>Accounts Payable Relating to Subcontractors</b> .....	<b>16</b>
<b>Joint Ventures</b> .....	<b>17</b>
<b>Conclusion</b> .....	<b>19</b>

## Foreword

The examination of a contractor's statement of financial position and related statement of income presents many unique problems to the certified public accountant. This booklet has been prepared to set forth a guide to certain of the unusual auditing procedures the independent certified public accountant should consider in such an examination.

Auditing procedures are so numerous and must be varied so frequently to meet particular circumstances encountered with various contractors that it is not possible to enumerate procedures which would be applicable in every examination. Therefore, this booklet is not intended as a complete audit program but rather as a brief outline of the unusual features of an audit of a contractor's financial statements.

The committee wishes to acknowledge and express its appreciation for the assistance of Richard S. Hickok, research consultant, in the research and preparation of this booklet.

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October 1959

## **AUDITING IN THE CONSTRUCTION INDUSTRY**

**G**ENERALLY accepted auditing standards require a proper study and evaluation of existing internal controls as a basis for reliance thereon and to determine the extent of auditing tests and procedures which will be required. Prior to commencing an examination, the independent auditor should carefully review the contractor's internal controls and accounting procedures. While a review of this nature is not unusual to an examination of contractors' accounts, it is nevertheless an important consideration as the financial success of a contractor is often more dependent upon adequate internal controls, accounting records, and reliable interim financial statements than other types of business endeavors.

Internal control weaknesses and deficiencies in accounting records may frequently be noted in the following areas of a contractor's operations:

1. Failure to periodically evaluate contract profitability on a realistic basis
2. Inadequate control over estimating and bidding on new contracts
3. Inadequate contract cost records
4. Weaknesses in billing procedures
5. Inadequate control of construction equipment and lack of adequate cost records applicable to this equipment
6. Poor control of job site payrolls and other disbursements

In addition to this review of internal control, the nature of the construction industry is such that the independent auditor must have an intimate knowledge of the contractor's operation and a general under-

standing of the type of engineering and construction problems which may be encountered by the contractor. In addition, the independent auditor should be familiar with certain essential features of all major contracts currently in process or closed during the period.

To accomplish this, and before commencing the actual audit, the independent auditor should review all major contracts. Pertinent details should be extracted from the contract and the related contract files, and should be maintained in the independent auditor's permanent file for reference during the current audit (and subsequent examinations if contracts are of a long-term nature).

The independent auditor's contract file work papers should include the following information as a minimum.

- a. Type of contract (i.e., excavation, grading, erection, engineering, etc.)
- b. Contract price (i.e., fixed price, cost plus fixed-fee, guaranteed maximum price, etc.)
- c. Escalation features, if any
- d. Terms of payment
- e. Cancellation features
- f. Estimated costs by principal contract components and original estimated profit
- g. Status as to renegotiation
- h. Unusual contract features (such as penalty for failure to complete as scheduled, abnormal performance guarantees, bonus for early completion, etc.)
- i. Bonding and insurance requirements
- j. Equipment rental provisions

In the event the contractor is the prime contractor, and substantial portions of the project are to be undertaken by subcontractors, the independent auditor should also examine these contracts and prepare a similar record of their pertinent features for use in his examination.

Auditing difficulties are frequently encountered in the following areas:

1. Costs incurred on contracts in process (including field equipment), and related problems in connection with recognition of contract profits



2. Job sites
3. Raw materials and supplies
4. Accounts receivable (including retained percentages)
5. Accounts payable
6. Joint ventures

### **Contract costs**

The major problem encountered in the examination of a contractor's financial position is in the audit of contracts in process. This is true whether the contractor's accounts are maintained on the percentage-of-completion basis, or on the completed-contract basis.

Many contractors will have several contracts in progress in varying stages of completion. The independent auditor is concerned with the determination of the status of each of the contracts in process as of the date of his examination.

The independent auditor should test the cost accumulated on contracts and be alert for items such as the following:

- a. *Charges accumulated on cost-plus type contracts which are not reimbursable*—Such charges should be segregated on the contractor's cost records.
- b. *Excessive charges for contractor's equipment used on the job site*—The contractor's accounting system should provide for charging contracts in process with the costs related to the equipment used on the project. The rates charged should be designed to absorb all applicable costs, including but not in excess of actual overhead. Frequently a contract will provide fixed rental for billing purposes, and the variance between these rates and actual contract costs should be considered in the independent auditor's evaluation of contract profitability.
- c. *Charges for rented equipment, with option to buy*—Contractors often rent field equipment with option to buy, with the rental payments to apply against the purchase price. Equipment rental charges, and the related rental contracts, should be reviewed. Gross profit on contracts can be misstated by acquiring fixed assets in this manner and charging the entire cost against the contract. The independent auditor should review the circumstances relating to acquisition of construction equipment in this manner, and give due consideration to

wear and tear on the equipment at the job site, estimated future life, fair market value, etc., in determining the propriety of the contractor's accounting treatment.

- d. *The contractor's accounting policy with respect to overhead*—The overhead applied on engineering and manufacturing should not be in excess of actual overhead, and the latter should not include elements of idle plant expense, or other abnormal costs.
- e. *The allocation of general and administrative overhead*—This allocation to contracts in process is occasionally justified to avoid distortion of the income of contractors using the completed-contract basis of recognizing income. Any such allocation, however, should be carefully reviewed by the independent auditor.

A contractor's accounting system should record job costs in such a manner that actual costs may be compared with original estimates used for bid purposes. This is helpful in projecting costs on contracts in process and to provide the basis for estimating accurately on future bids. The independent auditor should test the reliability of these detail cost records in connection with the above test of contract charges.

The independent auditor's review of contracts in process should be approximately the same regardless of the contractor's method of recording income. Before reviewing the status of each contract, the independent auditor should obtain a schedule of the following for all contracts in process:

Estimated total contract price
Contract billings to date
Ratio
Estimated total contract cost (revised to date)
Estimated costs to complete contract
Costs accumulated to date
Ratio of costs accumulated to date to estimated total contract costs
Original estimated contract profit
Revised estimated contract profit

Although the above information may not be easily available from the contractor's accounting records, it is a minimum required to determine the status of contracts in process.

This schedule will indicate contracts in varying stages of completion.

The audit of contracts recently accepted should include a review of the original bid estimate and estimated profit. The internal control review by the independent auditor of the estimating and bidding phase of the contractor's operation will indicate the extent of reliance the independent auditor may place upon these records. In addition, contract files will frequently indicate the bids entered by other contractors. Significant differences should be carefully investigated by the independent auditor.

In this connection, the independent auditor should investigate any contract which indicates an abnormally low rate of gross profit because of the possibility that such a contract may actually result in a loss. Any apparent loss contracts should be carefully reviewed with the contractor's engineering personnel and management to determine the losses which should be recorded.

If the contractor records earnings on a percentage-of-completion basis, the profit recognized on contracts in the early stages must, of necessity, be based on the original job estimate. However, until such time as it is possible to project contract costs with a reasonable degree of accuracy, care should be taken not to place unduly optimistic reliance on the original estimate of profit. Because of the problems connected with projecting costs to complete contracts, especially during the early stages of work on a contract, many contractors frequently defer recognition of profits on contracts until a sufficient amount of work has been performed so that a reasonably reliable determination can be made.

In the examination of contracts under way and those nearing completion, the independent auditor should review the estimated final profit on each contract. Costs accumulated to date and costs to complete all phases of the job should be projected by the contractor, and the total compared with the contract price. In reviewing these cost projections, the independent auditor should make tests of such records as the following:

- a. Comparison of accumulated costs with original bid estimate, by individual item on original estimate
- b. Commitment file for uncompleted subcontracting work
- c. Open purchase order file
- d. Independent architect's estimate of completion (if available)
- e. Project engineer's estimate of completion

In addition to the above, contracts should be reviewed with the contractor's engineering personnel who are familiar with and responsi-

ble for the contracts in process. Engineering personnel should be informed as to the purpose of this review in order to obtain the utmost co-operation, and their comments should be given consideration in the evaluation of contract profits. However, the independent auditor should not accept client's estimates of contract profits without an independent review.

Most successful contracting companies regularly make extensive reviews of this nature in connection with the preparation of their interim financial statements. The results of these reviews as evidenced by their working papers should be utilized by the independent auditor in his examination.

In the event this review indicates that any contract will result in a loss, full provision should be made for these losses in the current period, regardless of the contractor's method of recognizing contract profits. However, if there is a close relationship between profitable and unprofitable contracts, such as in the case of contracts which are parts of the same project, the group may be treated as a unit in determining the necessity for a provision for loss.<sup>1</sup>

After the determination of estimated contracts profits, the independent auditor must further ascertain that the correct amount of contract profit is recognized in the current period. In the event the contractor recognizes profits on a completed-contract basis, the independent auditor and the contractor must agree on what determines completion and apply this principle consistently from one accounting period to the next.

Contractors who recognize profits on a percentage-of-completion basis present an additional auditing problem, namely, the amount of earned billing and gross profit to recognize in the income statement. The method used by the contractor in recognizing contract profits and allocating those profits to income should measure actual contract performance in order to obtain a meaningful periodic allocation of income. For practical reasons contractors often recognize profits on purely arbitrary bases that may not have due regard for the work actually performed. Examples follow:

- a. *Per cent billed to estimated total billings.* Due to contract terms, interim billings and cost incurred are not always comparable with each other, or with the actual percentage-of-contract completion. When contract billings run ahead of contracts costs and percentage of completion, due to "overbilling" and advance billings, the billing

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<sup>1</sup>Accounting Research Bulletin No. 45, "Long-term Construction-type Contracts."

and the profit related thereto should not be included in the income statement. Billings not earned should be deducted from contracts costs and any remaining balance shown as a liability, under a caption indicating the nature of the account, such as "advance payments." Conversely, costs incurred and the extent of contract completion may justify the recognition of greater earnings than would be recognized under the billing-ratio method, and should also be evaluated by the independent auditor.

- b. *Per cent costs incurred to estimate total costs.* In the event the contractor uses this method to measure contract performance for the purpose of determining the amount of income to allocate to the period, the independent auditor should ascertain that the results are meaningful and a true measure of actual contract completion. For example, the inclusion in costs of substantial amounts of material accumulated at the job site but not yet used would result in a larger amount of income allocable to the period than would be correct. Although the contractor may use such a basis to measure the amount of income to be recognized the independent auditor must ascertain that the results obtained from the method employed present a fair statement of actual operations in accordance with sound accounting principles.

Several of the problem areas in contract accounting arise from the practice employed by many contractors of recognizing profits on bases that do not measure actual contract completion. The independent auditor should inform management of the dangers inherent in preparing interim financial statements in this manner.

After completion of this review of the contracts, the independent auditor should also obtain a letter of representation from the company's financial and engineering management. This letter should set forth the methods employed by the company in accounting for contract profits and a résumé of the status of contracts in progress.

Other problems unique to particular fields of construction and particular types of contracts will be encountered on certain examinations, but the unique auditing problems remain constant; namely, the determination of gross profit, and the allocation of contract profits to periods for contractors using the percentage-of-completion basis.

### **Job sites**

The magnitude and location of certain construction projects frequently necessitate the establishment of a contractor's office at the

job site. A part of the contractor's accounting may often be performed at these offices. Depending upon the size and location of the project, this accounting work might include part or all of the following record-keeping and functions:

- Payrolls
- Labor distribution records
- Purchasing
- Payment of invoices
- Cash receipts and disbursement records
- Petty cash funds
- Contract cost records
- Field equipment records
- Contract billings

In view of the temporary nature of these offices, the accounting procedures and records are often unsatisfactory and internal control may be weak or nonexistent. For these reasons, it is often desirable for the independent auditor to visit these offices, preferably on a surprise basis, to examine the accounting records and review the internal control procedures.

Payroll padding and loss or pilferage of construction equipment is a problem in the construction industry. For this reason the independent auditor should consider paying off personnel and making physical inventory tests of field equipment.

Large contractors engaging in many projects simultaneously will ordinarily have internal audit staffs who are responsible for auditing accounting records and procedures at the job sites. In these instances, the independent auditor should satisfy himself as to the scope of the internal audit programs and review the reports of their examinations during the period. In addition, the independent auditor should occasionally accompany the internal audit staff during an examination to evaluate the effectiveness of these audits.

### ***Raw materials and supplies***

The inventory of raw materials and supplies maintained by a contractor should be audited by use of the usual auditing procedures. Due

to the nature of the construction industry, problems frequently arise in the following areas:

- a. *Obsolescence and inactivity.* Technological advances in certain types of construction will often render obsolete substantial stocks of raw materials. The independent auditor should review stock activity, and discuss this problem with the contractor's engineering personnel.
- b. *Excess materials on contracts.* The independent auditor should thoroughly review the contractor's procedure for accounting for the disposition of excess materials on contracts. The contractor should not accumulate an inventory of usable materials held at no value, and conversely unusable materials left over the completed contracts should not be included in the inventory. In addition to the problem of over- or understatement of raw material inventory, gross profit on completed contracts may be substantially misstated by the failure to establish an adequate procedure for accounting for this material.
- c. *Usage of raw materials.* The charges to contract costs for raw materials will often represent both material purchased specifically for contracts in process and usage of materials carried by the contractor as raw materials and supplies. It is customary to charge contract costs with the value of materials purchased for a specific contract. However, with respect to charges to contract costs for the contractor's raw materials and supplies, the independent auditor should ascertain that these charges to contract costs represent materials actually placed in process (or physically segregated).

### **Accounts receivable**

A contractor's receivables include amounts currently receivable on completed and uncompleted contracts, and retained percentages. The latter represent amounts withheld from payment by the paying agency and these amounts may be withheld until the job is completed or even longer in the event certain contract guarantees must be fulfilled prior to final acceptance.

The contractor's accounting records should provide for separate control accounts for these two types of receivables, inasmuch as retained percentages are subject to restrictive conditions. This is desirable for management, internal statements, and auditing purposes.

Trade receivables should be aged as of statement date. Similarly,

retained percentages should be classified as due or not due. Delinquent balances should be very carefully investigated by the independent auditor through discussions with appropriate engineering personnel as well as financial management in order to ascertain whether any of the following problems exist:

- a. Disputed costs billed on cost-plus type contracts
- b. Certain types of billings to be revised to retain customer goodwill
- c. Equipment is not meeting contract guarantees and "make-good" costs are anticipated
- d. Amounts are not being billed in accordance with the contract
- e. Contract cancellation, or postponement
- f. Credit difficulties

The independent auditor should ascertain that adequate valuation reserves have been established for possible future adjustments such as set forth above.

The usual procedure of direct confirmation should be followed with respect to both amounts currently receivable and retained percentages.

The independent auditor must also make sufficient tests to ascertain that billings are being made in accordance with contract terms. In addition, he should ascertain by a test of billings that retained percentages are being billed and recorded as receivable, even though these amounts may not be currently due.

As previously mentioned, retained percentages are often not collected until the expiration of a guarantee period, or acceptance by the purchaser. The examiner should ascertain that adequate provision is made for fulfillment of related contract guarantees. The accrual for such expenditures may be deducted from retained percentages receivable (rather than being shown as a current liability) in the event they are not definite liabilities payable to a specific supplier or subcontractor.

### ***Accounts payable relating to subcontractors***

In the audit of accounts payable, the independent auditor should ascertain that this liability account includes both amounts currently due and retained percentages due to subcontractors. This would apply also to other principal suppliers who bill the contractor in this manner.



On a test basis, the independent auditor should reconcile statements received from major suppliers and subcontractors, if available, with the accounts payable records. Again, on a test basis, the independent auditor should request direct confirmation of balances due to some of the major creditors. The confirmation procedure is particularly desirable with respect to subcontractors. In addition to requesting confirmation of the liability due to the subcontractor as of the statement date, pertinent portions of the contract would ordinarily be confirmed.

The independent auditor should also determine that the voucher register has been held open for a sufficient period of time in order that billings from subcontractors for the final month of the period under examination may be recorded. This may be accomplished fairly simply if the independent auditor prepares a check-off list for subcontractors, and ascertains that the billing for the final period has been received and recorded.

Contracts with certain subcontractors may provide for billings based on percentages of completion rather than on a monthly basis. Due to the status of the work as of the statement date, no billing as of that date may be submitted by the subcontractor; the liability to such subcontractors should be recorded nevertheless. Contract status reports indicating the progress on each phase of the construction will be helpful to the independent auditor in determining the reasonableness of such accruals.

The detail trial balance of accounts payable should be thoroughly reviewed and older items investigated. These older balances may indicate that the contractor has offsetting claims against subcontractors for defective work, failure on performance guarantees, etc., which have not been recorded.

### **Joint ventures**

Quite frequently two or more contractors undertake a construction project as a joint venture. In the event the contractor under examination is participating in such a venture, the independent auditor should review the joint venture agreement (similar in many respects to a partnership agreement). The joint venture agreement will supply the independent auditor with information with respect to the work to be undertaken by each party to the agreement, the method to be employed by each participant in charging contract costs to the joint venture, method of accounting for contract profit and losses, division of profit and losses between the participants, etc.

In addition, the related prime contract should also be reviewed and pertinent extracts noted, as discussed previously.

The contractor's investment in a joint venture is comparable to an investment in a subsidiary and, therefore, the auditing procedures to be employed for a joint venture are somewhat similar. The accounts of the joint venture should be examined, and most joint venture agreements provide for an annual audit and a final audit upon completion of the project. In the event the accounts of the joint venture are examined by other independent auditors, the independent auditor for the contractor should review the audited financial statements of the venture and should satisfy himself that the examination of the joint venture was made in accordance with generally accepted auditing standards.

An additional problem is present in those instances where the accounts and records of a joint venture are maintained by one of the other participating organizations and where these accounts and records are not subject to examination by an independent certified public accountant. The independent auditor must carefully consider the circumstances where these, or similar, conditions exist inasmuch as he may be precluded from expressing an unqualified opinion with respect to the financial statements, or may even find it necessary to disclaim an opinion.

In many respects the audit of a joint venture is comparable to the audit of the accounts of a contractor (see preceding sections); however, there is usually only one prime contract involved. However, as various phases of the project are usually separately handled by each of the participating contractors, they would invoice the joint venture with their portion of the work in accordance with the terms of the joint venture agreement.

In some instances the joint venture partnership may be merely a shell of an organization, with the major portion of contract costs arising from charges from the participating contractors. The independent auditor of the joint venture should ascertain that all billings are in accordance with the joint venture agreement. In order to do this, it may be necessary for him to examine supporting invoices, payrolls, and other records maintained by the various participants.

Generally accepted accounting principles for contractors recommend that there be adequate disclosure in the financial statements and related notes thereto with respect to a contractor's investment in joint ventures. The independent auditor should include this information in his report.

## **Conclusion**

Upon completing the audit, and determining that the contractor's balance sheet and income statement fairly present the financial position and results of operations for the period, the independent certified public accountant has one further responsibility. That responsibility is to see that the statements, and related notes, set forth the contractor's financial position, and accounting policy, in accordance with generally accepted accounting standards, and in a manner comprehensible to the reader.

The form of the financial statements and the amount of detail shown will vary considerably according to the requirements of those who will receive them. It is important, therefore, for the certified public accountant to establish early in his examination how much detail will be required in the report by the various interested parties and to establish his audit program accordingly.