CONSTRUCTION CONTRACTS

Contract Definitions

A. <u>From a Legal Point of View</u>

A mutual agreement between two or more parties that something shall be done, an agreement enforceable at law.

B. <u>According to FIDIC</u>

Contract means the General Conditions, the Supplementary Conditions, the Specifications, the Drawings, the Bill of Quantities, the Tender, the Letter of Acceptance, the Contract Agreement, and such further documents as may be expressly incorporated in the Letter of Acceptance or Contract Agreement.

هو الوثيقة التي تنص على الشروط العامة والشروط المكملة والمواصفات والرسومات وجداول الكميات المسعرة وعرض المناقصة وقرار التكليف واتفاقية العقد و أي وثائق أخرى نص عليها تحديداً في قرار التكليف أو اتفاقية العقد.

C. <u>According to Method of Payment</u>

The agreement of how the owner will pay the contractor for work performed such as a lump-sum or cost-plus payment.

TYPES OF CONSTRUCTION CONTRACTS

Two broad categories:

- Price Given in Advance Contracts (Priced-based Contracts)
- Cost Reimbursement Contracts (Cost-based Contracts)

Factors Influencing the Choice of the Type of Contract

- The appropriateness for providing an adequate incentive for efficient performance by the contractor
- The ability to introduce changes
- The allocation of risks
- The start and completion date of the project

1. Lump Sum Contact

Sometimes called **Drawings and Specifications Contract**

a) <u>Main Aspects of Lump Sum Contract</u>

1. The contractor agrees to perform a stipulated job of work in exchange for a fixed sum of money. In other words a single tendered price is given for the completion of a specified work to the satisfaction of the client by a certain date.

2. Payment may be staged at intervals of time on the completion of milestones.

3. Useful for construction works:
   - that can be accurately and completely described at the time of bidding such as residential and building construction,

- when limited variation is needed,
- when level of risks is low and quantifiable, and
- when the client does not wish to be involved in the management of his project.

4. The contractor is responsible for preparing his B.O.Q. i.e. determination of work items, description of work items, obtaining his own quantity form drawings and specifications and taking the responsibility for the accuracy of the estimated quantities.

5. The responsibility is on the contractor to include in his price everything necessary for carrying out the work.

b) Advantages of Lump Sum Contract

1. The final price is known, by the owner, before the work commences.

2. The contractor has more incentive to reduce his cost to increase the profit.

3. The contractor hopes to complete the job as quickly as possible, to minimize overhead, to maximize profit and to move to the next Job.

c) Disadvantages of Lump Sum Contract

1. A great deal of work should be done by the contractors prior to preparing the estimate. It is wasteful of a skilled estimator's time.
2. Changes in drawings and specifications can be very expensive and source of trouble. In other words the contract has very limited flexibility for design changes.

3. The contractor carries much of the risks. The tendered price may include high risk contingency.

4. Competent contractors may decide not to bid to avoid a high-risk lump sum contract.

Admeasurement Contract

1. Includes Bill of Quantities Contract and Schedule of Rates Contract.

2. Payment is made (monthly) for quantities of work completed and measured during the month.

3. The client can introduce variations in the work.

4. The contractor can claim additional payment for any changes in the work content.

5. Tender price is usually increased by variations and claims.

2. Contract based on a Bill of Quantities

Sometimes called **Unit Price Contract**

a) <u>Main Aspects of Unit Price Contract</u>

1. Items of work of the contract are specified with estimated quantities in the Bills of Quantities.

2. Estimated quantities are surveyed by Architect/Engineer.

3. Contractors enter unit prices against the estimated quantities of work.

4. The contract is based on estimated quantities of work items and unit price for each of these work items.

5. Payment is made on the basis of units of work actually done and measured in the field multiplied by the unit prices.

6. Re-determination of unit prices when substantial quantity deviations occur is stipulated in contract conditions.

7. Useful on projects where the nature of the work is well defined, but the quantities of work cannot be accurately determined in advance of construction. Suitable for highways, dams, airports…

b) <u>Advantages of Unit Price Contract</u>

1. Saving the heavy cost of preparing many bills of quantities by the contractors.

2. Fair basis for competition.

3. In comparing with lump-sum contract,
   - Changes in contract documents can be made easily by the owner.
   - Lower risk for contractor.

c) <u>Disadvantages of Unit Price Contract</u>

1. The exact final price of the project is not known to the owner until the completion of the project.

3. Schedule of Rates Contract

a) Main Aspects of Schedule of Rates Contract

1. A Schedule of the work items without quantities (or inaccurate quantities; possibly with upper and lower probable limits) is prepared by the owner and /or A/E to be rated by the contractor.

2. The descriptions of items and the units of measurement are similar to those used in a normal B.O.Q., but no quantities are given.

3. It is common for separate rates to be quoted for labor, plant, and materials.

4. Used for repair and maintenance works or under conditions of urgency.

b) Advantages of Schedule of Rates Contract

1. Work can be commenced earlier than if a full B.O.Q has been prepared.

c) Disadvantage of Schedule of Rates Contract

1. No indication of the final price of the works.

2. Very difficult to determine which contractor submitted the most advantageous offer.

3. May cause financial problems to the public owners.

This form is unsatisfactory for public owners and a B.O.Q form is to be desired.

Cost Reimbursement Contracts

a) <u>Main Aspects of Cost Reimbursement Contract</u>

1. The contractor will be reimbursed for all actual costs plus an agreed fee to cover his services (overhead and profit).

2. The contractor must make all his records and accounts available for inspection by the client or by some agreed neutral third party.

3. The fee can be designated as:
   - A fixed percentage of the cost of the work.
   - A fixed fee.
   - A fixed fee with a guaranteed top price.
   - A fixed fee with bonus.
   - A fixed fee with an arrangement for sharing any cost saving.

4. Suitable:
   - when the requirements of the client are vague,
   - when it is desirable for design to proceed concurrently with construction
   - for emergency projects, repairs, maintenance work, and alterations.
   - for project with unknown technologies or major changes.
   - where the contractor possesses a special ability.
   - when the client wishes to be involved in contract management.
   - Confidential processes.

5. Topics that should be negotiated between owner and contractor before signing a cost reimbursement contract include:
   - Subcontract-letting.
   - Determination and payment of fee.
   - Accounting methods.
   - Overheads (site and office).

b) Advantages of Cost Reimbursement Contract

1. Start construction without waiting for the whole set of drawings and specifications.
2. More flexibility for the owner to make changes as work progresses.
3. Draw the contractor expertise during design.

c) Disadvantages of Cost Reimbursement Contract

1. It is difficult to predict the final cost and the distribution of it, which may cause financial problems to the owner.
2. Contractor pays less attention to cost control.

4. Cost plus Percentage of Cost

a) Main Aspects of Cost plus Percentage of Cost

1. The contractor is reimbursed for all his costs with a fixed % age of costs to cover his services.
2. Project/site overheads may be covered by the %age or computed as one of the costs.

b) Advantages of Cost plus Percentage of Cost

1. Construction can start before design is completed.
2. If the contractor is efficient in the utilization of resources then the cost to the client should represent a fair price for the work undertaken.

c) Disadvantages of Cost plus Percentage of Cost

1. The project total cost is completely unknown before the project start.
2. No incentive for the contractor to be efficient in his use of labors, materials or equipments.
3. Minimum efficiency maximizes the profit.
4. Owner must exercise tight cost control, which may be difficult and/or costly.

5. Cost plus Fixed Fee

a) Main Aspects of Cost plus Fixed Fee

1. The owner pays all costs of construction with a fixed sum of money. The fee is fixed and does not fluctuate with the actual cost of the project.
2. The work must be fairly well defined by the owner.

b) Advantages of Cost plus Fixed Fee

1. There is no incentive for the contractor to inflate costs.

2. There is incentive for the contractor to complete the work as quickly as possible since his fee remains constant.

c) <u>Disadvantages of Cost plus Fixed Fee</u>

1. Major variations create problems. The fee must be re-negotiated to take account of such variations.
2. The speed of commencing the work is undermined since before a fee can be agreed a fairly detailed description of work must be made.

6. Target Cost with Variable Fees Contract

a) <u>Main Aspects of Target Cost Contract</u>

1. The contractor and owner agree to a target estimate of construction.
2. Bonus or penalty arrangements are tied to this target figure.
3. The work must have a fairly definite nature. Drawings and specifications must be sufficiently developed to enable a reasonably accurate cost to be determined.
4. Cost target → sharing of savings
5. Time target → fixed sum of money for each day.

b) <u>Advantages of Target Cost Contract</u>

1. There is an incentive to carry out the work as quickly and as economically as possible.
2. The client also stands to benefit through the contactor's efficiency.

c) Disadvantages of Target Cost Contract

1. Difficulties may arise in agreeing on a revised target cost if there are major variations or cost inflation.
2. A tight cost control must be exercised, which may be difficult and/or costly.

7. Guaranteed Maximum Price Contract (GMP)

1. The contractor guarantees that he will construct the project in full accordance with the drawings and specifications and that the price to the owner will not exceed some total upset price.
2. If the price of the work exceeds the assured maximum, the contractor pays for the excess.
3. Contracts are often competitively bid in a manner similar to that for lump-sum contracts, but managed as cost plus.
4. The successful bidder is determined on the combined basis of his quoted maximum price and fixed fee.