

# GOVERNMENT POLYTECHNIC FOR GIRL'S AHMEDABAD



**CIVIL ENGINEERING DEPARTMENT**

**“CONSTRUCTION PROJECT MANAGEMENT”**

**( 3360603 )**

**Types of Contracts**

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# CONTRACT



## ***WHAT IS CONTRACT ?***

- ❑ “An agreement enforceable by law is a **CONTRACT.**”
- ❑ “Every promise and every set of promises, forming the consideration for each other, is an **AGREEMENT.**”
- ❑ “The agreement must create legal obligations between the parties is an **ENFORCEABLE.**”
- ❑ **CONTRACT:** It is an undertaking by a firm or a person to do any work under certain terms and conditions.
- ❑ **CONTRACTOR :** A person or a firm who undertakes any type of contract.
- ❑ **ARRANGING CONTRACTOR :** Contract for a work is arranged by inviting sealed tenders, by issuing tender notices.

# ***TYPES OF CONTRACT***

- Lump sum contract
- Schedule contracts or Item Rate contract
- Labour contract
- Material supply contract
- Percentage rate contract
- Piece-Work agreement
- All in Contract Contracts
- Cost Plus Percentage Rate Contract
- Cost Plus Fixed Fee Contract
- Cost Plus Sliding Or Fluctuating Fee Contract
- Target Contract
- BOT Contract

# LUMP SUM CONTRACT

- Sometimes called *Drawings and Specifications Contract*.
- Payment may be staged at intervals of time on the completion of milestones.
- Deposit of 10% security money is taken by the department.
- The contractor is responsible for preparing his B.O.Q. (Bill of Quantities ).
- On completion of the work no detailed measurements of different items of work is required.
- Lower financial risk to Employer.
- Higher financial risk to Contractor.

## ADVANTAGES:

- The final price is known, by the owner, before the work commences.
- The contractor has more incentive to reduce his cost to increase the profit.
- When the client does not wish to be involved in the management of his project.

## DISADVANTAGES:

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

# ***SCHEDULE CONTRACTS OR ITEM RATE CONTRACT***

- ▶ As prepare, giving, as accurately as possible, the quantities In item rate contract the contractor quotes his rate per unit of each item of construction.
- ▶ The contractor undertakes the execution or construction of a work on the item rate basis only.
- ▶ The amount, the contractor receives depends on the number of items of work done.
- ▶ The contract agreement includes quantities, rates and amounts of various items of work.
- ▶ It also includes the 10% security money, penalties, etc.
- ▶ Used for repair and maintenance works or under conditions of urgency.
- ▶ Estimated quantities are surveyed by Architect/Engineer.
- ▶ It is also called as ***UNIT PRICE CONTRACT***
- ▶ **ADVANTAGES:**
  - ▶ Fair basis for competition.
  - ▶ In comparing with lump-sum contract , Changes in contract documents can be made easily by the owner.
  - ▶ Lower risk for contractor.
  - ▶ The exact final price of the project is not known to the owner until the completion of the project.

# LABOUR CONTRACT

- All materials for the construction are arranged and supplied at the site of work by the department or owner.
- Contractor uses his own tools for working.
- Plants and machineries are arranged by the department or owner.
- This system of contract is not generally adopted in government works but preferable for private sectors.
- It is absolutely necessary to state that these rates include:
  1. Use of contractor's plant and equipment
  2. All necessary false work
  3. Contractor's supervision
  4. Contractor's profit

## Advantages:

- 1. The materials stored by the government are thus utilized.
- 2. The increase in the cost of the work is checked in spite of any rise in the price of such materials in the market.

## Disadvantages:

- 1. There may be delay in obtaining the materials by the department consequently.
- 2. A large storage area is required to store the different kinds of materials and constant guarding, etc. are also essentially.

# MATERIAL SUPPLY CONTRACT

- ▶ In this form of contract, the contractors have to offer their rates for supply of the required quantity of materials, inclusive of all local taxes, carriage and delivery charges of materials to the specified site within the time fixed in the tender.
- ▶ This type of contract is generally used when purchase of materials viz. bricks, stone, chips, furniture, pipes, and special etc. are involved.
- ▶ All materials received should be examined and counted and measured, as the case may be when delivery is taken.

## Advantages

- ▶ Payment of this type of contract can be made promptly and so the contractor's try to take the supply order even at less profit, resulting low cost of the materials.
- ▶ As the supply of the materials taken through contractor, the department receiving the supply of materials is not worried due to loss of materials, breakage, demurrage, charges during transit.

## Disadvantages:

- ▶ Constant control for quality of materials to be received in several batches at different times is required. During submission of tender, intending contractor may form a ring to get the supply order at a higher rate.



# PERCENTAGE RATE CONTRACT

- In this form of contract, the development draws of the schedule of item according to the description of items sanctioned in the estimate with the equities, unit rate, and amount shown there in thus the department fixes up the item rate of the tender so called as percentage rate contract.
- The percentage above or below or at per, tender by the contractor is applicable to all the items.

## Advantages

- This type of contract is convened as the lowest rate and comparative position among the contactors are readily known just on opening of the tender.

- As there is no provision to quote contractor's own rate for an individual item, there is no possibility of unbalanced tender.

## Disadvantages

- The tender can easily from a ring even up to the time of submission of tender in order to a lot the work to a particular the contractor at a high rate without actual compaction.
- By negotiation among contractor two or more of them may quote the same rate in order to get a part of the work at high rate.

# PIECE WORK AGREEMENT

- Piece work agreement is that where only rates are upon without reference to the total quantity of work or time, and that involves payment of work done at the stipulated rate.
- In case of petty work valued up to Rs.10, 000 each inclusive of cost of materials may be carried out through contractors by piece work agreement.
- The P.W Agreement contains only the description of different items of works to be done and the rate to be paid for but does not provide the quantities of different items to be executed nor the time within which the work is to be completed.

## Advantages:

- Urgent small work may be taken up for execution without inviting tender and considerable time is saved.
- If a contractor delays to execute the work or uses inferior quality materials or leaves the work partials complete, another contractor may be engaged at any time.

## Disadvantages:

- For this type of small work, approved contractors find little interest and as such work is entrusted to petty contractors having little experience.
- No penalty clause and no security money is kept in the P.W. agreement.

# ALL IN CONTRACT

- This is a rare form of a contract but considered first because in it the owner ceases to be the promoter and delegate a large firm or consortium to perform both design and construction.
- In this form of contract, the owner specifies his requirement and also the broad and general outline of the proposed work and the contractor has to submit full particulars of detailed investigations, design and construction cost including maintain the work for a limited period.
- The two parties agree to the terms and conditions of executing the project through all the above phases. This form of contract is suitable to some exceptional types of works and is seldom adopted for normal works.
- The works most suited to this form are industrial where firms are in market with say patented processing plants.

# COST PLUS PERCENTAGE RATE CONTRACT

In this system contractor is paid the actual cost of the work, plus an agreed % in addition, to allow for profit.

Contractor arranges materials and labour at his cost and keeps proper account and he is paid by the department or owner the whole cost together with certain percentage, say 10% as his profit as agreed upon beforehand.

In adopting this system of tendering no “bill of quantities” or “schedule of rates” has to be formed but the owner or the department should carefully define the actual cost and record exactly what is permissible in the cost of work.

## Advantages:

- It has the merit that the contracts can quickly be drawn up and agreed and also work of an urgent nature put in hand completed without delay.
- This type of contract system is most suitable during war period when urgency prevails.

## Disadvantages:

- Close supervision and checking of delivery notes and invoices which it involves, makes it unsuitable for works where the necessary staff is not available.
- It is to the contractor's advantage to make the cost as high as possible by wasting material and employing inefficient workmen, as the contractor takes little risk and his profit is assured.

# COST PLUS FIXED FEE CONTRACT

In this type of contract, the contractor is paid by the owner, an agreed fixed lump sum amount over and above the actual cost of the work.

This fixed fee shall cover overheads and profit to the contractor.

The fee does not vary with the actual cost of the work as in the case of cost plus percentage rate contract.

## **Advantages:**

- Since the fixed fee cover the contractor's profit and overhead charges, the contractor shall naturally try to complete the work speedily in order to earn his fee as soon as possible.

## **Disadvantages:**

- The contractor shall try to complete the work as early as possible even by purchasing materials at higher rate and engaging labour at high charges and thus the owner may lose a reasonable amount.

# ***COST PLUS SLIDING OR FLUCTUATING FEE CONTRACT***

- ▶ In this type of contract the contractor is paid by the owner the actual cost of construction plus an amount of fee inversely variable according to the increase or decrease of the estimated cost agreed first by both the parties.
- ▶ Thus, higher the actual cost, lower will be the value of fee and vice versa.

## **Advantages:**

- ▶ In this type of contract, the contractor shall not try to increase the actual cost, as in case of “cost plus percentage rate” or shall not be indifferent to in the case of “cost plus fixed fee contract” because interest of contractor is totally involved with the variation of the actual cost.

## **Disadvantages:**

- ▶ The estimated cost must be very accurately determined. In case the estimate is much higher than the actual cost due to inefficiency of the estimator a contractor will get more amounts on the basis of savings and vice-versa.

# TARGET CONTRACT

- ▶ In this type of contract the contractor is paid on a cost – plus percentage basis of work performed under this contract.
- ▶ In addition he receives a percentage plus or minus on savings or excess effected against either a prior agreed estimate of total cost or a target value arrived at by measuring the work on completion on time and valuing at prior agreed rates.

## Advantages:

- ▶ The contractor is encouraged to use his skill and experience in keeping the cost as low as possible. This type of contract is profitable to both the contractor as well as to the owner.
- ▶ The contractor may show higher cost of construction and thus he gains more amounts even covering the penalty for excess expenditure.

# BOT CONTRACT

- ▶ In this type of contract, the contractor undertakes to design, finance, construct, operate and maintain the works for a concession period in consideration of the exercise
- ▶ The tenderer then works out the cost of financing the project and its recovery from the collection of toll till the cost of construction together with the cost of finance is fully recovered.
- ▶ Each year's income will reduce the cost till the cost becomes zero or negative. The cost of maintenance of the project during the period in question has also to be added to the basic cost.
- ▶ The number of years required to cover the total cost is generally called the "concession period" the tenderer who submits the "cash flow projections" seeking the minimum period of concession is generally awarded the contract.+

## Advantages:

- ▶ The main advantage is that the state or public authority is not required to finance the project immediately, and the project is made to generate the funds and be self-financing to the extent required.
- ▶ The development works which otherwise would get delayed can be undertaken forthwith.
- ▶ This type of contract is most suitable for roads and bridges.

## Disadvantages:

- ▶ The main drawback of this form of contract is that it is not suitable for each and type of work.
- ▶ In particular, works which are not likely to generate capital or be self-financing are not suitable for this contract.
- ▶ For example,
- ▶ Rural water supply
- ▶ Village roads
- ▶ City roads' etc.



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