



Unit III

1.1 Tender

A Tender is written offer submitted by an intending contractor, in pursuance of the notification issued to execute certain work at certain rates with the terms and conditions laid down in the tender document.

Types of work may be:-

1. Construction work of any project.
2. Supply of required materials.
3. Transportation of materials.
4. Providing labour for the work.

Classification of tenders:-

1. Open tender /Public tender
2. Negotiated tender
3. Limited tender / Selective tender
4. Rate contract

Tenderer: A person or a firm who tenders bid in response to invitation for tenders.

Tendering: The process of inviting bids and accepting them is known as tendering.

Tender form: It is a printed standard form of contract giving standard conditions of contract, general rules and directions for guidance of contractors. There is also a memorandum for giving: general description of the work, estimated cost, security deposit, time allowed for the work from the start date of written order of commence, columns for signature of the contractor before submission of tender, signature of witness to contractors signature and signature of the officer by whom tender is accepted. This is a part of the tender document.

1.2 Necessity of Tender

- To carry out the work in a fair and transparent way.
- To ensure the work is awarded to a competent contractor at a fair price. The lowest bid is generally accepted, unless there are good reasons for not doing so.
- Once client/government accepts a tender, it is binding on both parties. This means that the person or company that won the tender has to provide the goods or services in the manner agreed to and at the price offered, and client/government must pay the agreed price at the agreed time.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

1.3 Earnest Money Deposit (EMD)

It is the amount, which the contractor has to deposit with the department at the time of submitting a tender. This accompanies the tender form and this is usually 2% of the total estimated cost of the project. This serves as a check to prevent the contractor from refusing to accept the work when the tender has been accepted. The other objects of collecting earnest money are:

- **To reduce unnecessary competition:** If no earnest money is collected, heavy competition may start among the tenderers. The contractors who do not have sound financial status may also offer their tenders, which increase the unnecessary competition among the tenderers.
- **To act as a tool for punishment:** In case the contractors quote lower without intention of doing work, the earnest money shall be forfeited by the department as a punishment to such contractors.
- **To act as compensation:** When the lowest contractor refuses to take up the work, the work can be allotted to the second lowest contractor. The earnest money forfeited from the first lowest contractor compensates to loss of the department.

1.4 Security Money Deposit (SMD)

The contractor has to deposit about 10% of the tendered amount with the department as soon as his tender is accepted. This is inclusive of the earnest money already deposited by the contractor. This money is kept as a check so that the contractor fulfils all the terms and conditions of the contract and carries out the work satisfactorily in accordance with the specification and maintains satisfactory progress for completion of the work. In case he fails to fulfill the terms of the contract, the whole of the security money or part of it is forfeited by the department. When the contractor completes the work as per drawings, specifications and directions of the department within the specified time, the security money is refunded to the contractor. Normally the security deposit is refunded after the maintenance period, which may be 6 to 12 months after the completion of work, and it's handing over to the department.

1.5 Tender Documents

The following tender documents are made available along with the tender forms to enable contractors to bid for the job.

1. Notice inviting tenders (NIT) in a standard approved form of a department.
2. General conditions of the contract including time limits.
3. Special conditions of the contract that may have to be highlighted.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

4. Amount of Security deposits to be paid /deducted.
5. Bill of quantities
6. Schedule of tools and plant and other facilities to be made available by the owner, indicating the conditions, hire charges and the place of delivery.
7. Schedule of stores to be issued by the owner indicating the rates and their place and issue.
8. Detailed specifications or reference to standard specifications for each item of work.
9. Set of approved drawings, including Layout plan and working drawings

1.6 Elements of Tender Operation

1.6.1 Tender notice

Whenever works are to be let out on contract, tenders are to be invited from the registered contractors or both registered and unregistered contractors depending on the magnitude and nature of the work by issuing notice in newspapers. The notice that includes various particulars of work is named as Tender Notice. It is essential that tenders be given adequate publicity so that a sufficient number of contractors may bid and the most attractive offer may be obtained. At the same time it is also necessary that bids be obtained from contractors who have the capability and capacity to undertake the work

Tender notice inviting tenders, which indicates

- (1) Name and description of the work
- (2) Estimated cost
- (3) Completion time
- (4) Earnest money payable indicating the manner in which payment is to be made
- (5) Security deposit
- (6) Time and place where tender documents may be inspected or obtained
- (7) Last date and place of obtaining tender papers and submission thereof
- (8) Time and place of opening the tenders
- (9) Authority competent to accept tenders.

The tender notice may be advertised in newspapers and issued to registered contractors by post. Copies of the tender notice are also put up on the notice boards of various offices of the organization. For very large works or those involving special techniques, which may not be within the capacity of the construction industry in the country, global tenders will be issued all over the world inviting bids for the work. Contractors are given a reasonable period of time, depending upon the size of the work to prepare and submit their tenders. Tender documents are usually priced and are issued on payment of the prescribed amount. The sale of tender papers starts and closes at the time notified in the tender notice.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

Typical Notice Inviting Tenders

Tender No.: _____

- i. Sealed tenders are invited for the following work:
Name of the work : _____
Estimated cost : _____
Price of the tender form : _____
Ernest money deposit amount : _____
Time for completion : _____
- ii. Tender form and documents can be obtained from Office of the Executive Engineer, PH Division, Sambalpur from 20/12/2015 to 28/12/2015 except Sunday and public holidays during 10 AM to 6PM at a price of Rupees. 1000/- per set.
- iii. Each tender must accompany with earnest money in the form of treasury challan, demand draft in favor of EE, PH division, Sambalpur.
- iv. Bids must be delivered in the tender box to be kept in the office of the Office of the EE, PH division, Sambalpur by 31/12/2015 till 06 PM.
- v. The authority reserves the right to reject any tender /all tenders without assigning any reason.
- vi. Other details can be seen in the RFP document.

Date: 19/12/2015.

S/d-

Executive Engineer,
PH division, Sambalpur

Time limits for tender notice

Following time limits between date of call for tenders and the date of opening of the tenders are followed by central public works department.

Cost of the work	Time limit
Up to 1 lakh	10 days
Between 1 lakh to 10 lakh	2 weeks
More than 10 lakh	3 weeks

Necessity of including tender notice in contract document

Tender notice includes several information and conditions such as time of completion, earnest money, refund of earnest money, period of validity of rates quoted by the tender, site inspection, etc. which are not included in the conditions of contract/ Without performing as agreement for the above such particulars the contract is invalid. So the tender notice paper is a very important document on which tenders and subsequent agreements with the contractor are based. Hence tender notice must be a part of the contract document.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

1.6.2. Submission of tender and deposit of earnest money

According to the directions contained in the notice inviting tenders, the contractor are required to submit their tender on or before the date and hour fixed for the same duly filled in, signed and witnessed. Before that he has to deposit the earnest money deposit usually 2 to 2.5% of the estimated cost put to tender.

1.6.3. Acceptance of tender

After investigation the comparative statement the lowest tender shall be accepted as a rule by the competent authority. If for any reason, economical or otherwise, the lowest tender is not accepted, reasons should be recorded confidentially and reference shall be made to the tender committee or next higher authority for order as to which of the contractors the work should be given. No tender can be accepted or the circumstances under which lowest tender may be rejected.

Followings are the conditions under which the lowest tender may be rejected:

1. When the tender is informal (*i.e.* not submitted in the form as prescribed by the department or within due date),
2. If it is not technically sanctioned or exceeds the sanctioned amount for the work.
3. If it involves liabilities exceeding the amount of the expenditure sanctioned.
4. If there is any uncertainty or any condition of an unusual character.
5. If it exceeds the amount up to which he is empowered to accept tenders.
6. If any provision infringes any standard rule or order of higher authority.
7. If adequate competition and fair rates are not received.
8. In case a contractor has quoted abnormally low rates, analysis of rates may be asked from the contractor and thorough investigation with necessary remarks and recommendations in respect of the tender should be forwarded to the next higher authority for his approval. The lowest tender in such a case may or may not be accepted.

If the rates quoted are on the high side, all tenders may be rejected and re-invited to obtain a reasonable bid. In order to ensure that there is no legal complication in not accepting any tender, a clause is added in the tender notice reserving the right to reject any or all tenders without assigning any reason. The tenderer whose bid is accepted is intimated in writing and asked to sign the contract documents within a specified period of time. If he fails to do so, the offer is cancelled; the security deposit forfeited and the work allotted to the contractor whose tender is the next highest.

After signing the contract agreement, the site of the work is formally handed over to the contractor, and then he can start the work. The time for completion is reckoned from the day the site is handed over to the contractor.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

Types of Contract:

Contracts offered by PWD departments are mostly of following types:

1. Lump sum contract
2. Schedule contracts or Item Rate contract
3. Percentage Rate Contract
4. Labour contract
5. Materials supply contract

1. Lump sum contract (/Drawings and Specifications Contract)

In this type of contract, the contractor undertakes the construction work or the execution of the specified work and completes it in all respects for a fixed amount of money. Detailed specifications of all items of works, detailed drawings, plans etc., are supplied by the department to the contractor. The contractor on the basis of given details, works out the total cost of the construction and quotes it in lump sum. The design, shape and materials are as per the choice of contractor, but they have to be got approved before the start of the work.

Advantages:

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

- i. The contractor has more incentive to reduce his cost to increase the profit.
- ii. The contractor hopes to complete the job as quickly as possible, to minimize overhead, to maximize profit and to move to the next Job.
- iii. When level of risks is low and quantifiable, and
- iv. When the client does not wish to be involved in the management of his project.
- v. That can be accurately and completely described at the time of bidding such as residential and building construction.
- vi. When limited variation is needed.
- vii. The materials used on the temporary works during construction are relieved earlier resulting in their effective use in other works also.

Disadvantages:

- i. The owner tries to get the maximum work out of money he spends, whereas the contractor tries to get the maximum profit, this causes conflicting interests.
- ii. It becomes very difficult to adjust the additions and alterations in the plan and the specifications at a later stage.
- iii. If the plans and specifications are not clear, the contractors will quote higher rates, resulting in high cost of the work.
- iv. The contractor carries much of the risks. The tendered price may include high risk contingency.
- v. Competent contractors may decide not to bid to avoid a high-risk lump sum contract.

2. Item Rate Contract (unit price)

In this type of contract, the contractor undertakes the work on the item rate basis. The payment is done on the basis of quantities of items done and payments are made on the basis of their respective rates. The quantities of various items are worked out by detailed measurements. This type of contract is also known as unit price contract. The approximate quantities of all possible items of work are worked out and are shown in the tender form. Every contractor quotes his



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

rates against each item are arrived at the final total amount of the work. This is the most common type of contract system, which is widely adopted.

Advantages:

- i. The additions and alterations in the plan and specifications can be easily made at any stage.
- ii. As the contractor gets the payment against the actual quantities of items done by him, the method is economical. No possibility for excess payment.
- iii. As the rates are item-wise the contractor is not worried regarding the uncertainties in the plan and specifications.
- iv. The work can be started after accepting the tenders without waiting for all the detailed drawings and specifications.

Disadvantages:

- i. The total cost of the work can only be computed after completion of entire project. In such case the owner may face financial difficulties if final cost increases abnormally.
- ii. Before preparing the bills for payment of money to the contractor, all measurements of various items of work have to be carefully taken and suitably entered in the measurement book.
- iii. Great care shall be taken by the department officers to strictly enforce the specifications during execution of work to avoid the using of substandard materials by the contractor.
- iv. Contractor raises prices on certain items if he apprehends the quantity of those items is likely to increase during execution and make corresponding reductions of prices on other items, whose quantity likely to reduce during execution. This increases total cost of the project.

3. Percentage Rate Contract (cost-plus percentage)

In this type of contract the contractor agrees to take the work of construction for fixed percentage over the actual cost of construction. This type of contract is given when no contractor is agreeing to do work on other types due to uncertainties and fluctuations in the market rates of materials and labour. The department keeps the actual up to date records of the expenditure incurred on the work and pays the fixed percentage as agreed over it to the contractor. The contractor arranges for the labour, materials required for completion of the work, and maintains proper account of the construction costs.

The cost plus or percentage contracts can be of the following types:

a. Fixed Percentage of Cost

Contractor is paid the actual cost of the work and agreed percentage in addition to allow for profit.

b. Cost plus a fixed sum

The contractor gets actual cost of construction plus an amount of fee (in percentage of construction cost) which is inversely variable according to increase or decrease of estimated cost agreed first by both the parties.



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

c. Cost plus a fixed sum with profit sharing

In this type of contract the contractor is reimbursed at cost with an agreed upon fee up to the GMP (Guaranteed Maximum Price) which is essentially a cap. Beyond this point the contractor is responsible for covering any additional cost within the original project scope. Additionally an incentive clause is there, which specifies that the contractor will receive additional profits as reward to the contractors who minimizes the cost.

d. Cost plus variable percentage

Contractor is paid the actual cost of the work and a variable percentage in addition to allow for profit. Variable percentage allows the contractor to get better profit for completing the work at minimum cost.

4. Labour contract

In this type of contract, all materials for the construction are arranged and supplied at the site of work by the department or owner. The labour contractor engages the labour and gets the work done according to specifications. The contract is on item rate basis for labour portion only. The contractor is paid for the quantities of work done on measurement of the different items of work at the stipulated rate as in agreement. 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.

5. Materials 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 tenders.

CONTRACT DOCUMENTS:-

Following documents are included in the contract documents.

1. **Title page:** Name of work, contract bond number, etc.
2. **Index page:** Content of the agreement with page references.
3. **Tender notice:** Giving brief description of work, etc. Usually 2% of the estimated cost is deposited along with tender.
4. **Tender form:** Contractor's rates and time of completion, penalty clause, etc.
5. **Bill of quantities:** Giving quantities and rates of each item of work and the total cost of the whole work.
6. **Schedule of issue of materials:** Giving list of materials to be issued to the contractor with rates and place of issue.
7. **General specifications:** Specifying the class and type of works.
8. **Detailed specifications:** Each item of work and of each material to be used in the work.
9. **Drawings:** Complete set of drawings like plans, elevations, etc. and site plan, of fully dimensioned.

Conditions of Contract

Both parties of a construction team should be fully acquainted with their rights and duties. So while preparing the contract agreement, certain clauses related to the work are laid down and these will be binding on both parties. The main purpose of the conditions of contract is to avoid



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

dispute and keep the parties as far as possible out of the court of law. Therefore it is imperative that all the clauses of conditions of contract must be precise and definite and there should not be any room for ambiguity or misconstruction therein. The conditions of contract mainly depend upon the nature of the work. For most of the civil engineering construction projects following clauses are mostly provided in the contract documents:

1. Rates inclusive of materials, labour, etc.
2. Amount of security money
3. Time for completion of work
4. Progress to be maintained
5. Penalty for bad work
6. Mode of payment
7. Extension of time limit for delay
8. Termination of contract
9. Compensation to labour, minimum wages, etc.

Land Acquisition Act

Land acquisition is defined as the process of getting back the land by the government with the certain compensation. Land is needed by the government for:

- i. Strategic purposes like armed forces and
- ii. Industry and Infrastructure
- iii. Planned development
- iv. Residential purpose for poor, educational & health schemes
- v. Land for private companies for public purpose
- vi. Needs that arise from natural calamity

Procedure for land acquisition

In India Land can be acquired by the Government according to Land Acquisition, Rehabilitation and Resettlement (LARR) Act, 2013 (Land Acquisition Act, 2013). When the Government requires land for any of the stated purposes, a notification to that effect shall be published in the Official Gazette and in two daily newspapers circulating in that locality of which at least one shall be in the regional language. Thereupon it will be lawful for any officer and for his workmen to enter upon and survey and take levels, to dig or bore into the subsoil in such locality.

Objection

Any objection by any person to the process should be made in writing to the Collector within 30 days of publication of the notice.

Enquiry and award by the Collector

When government declares public purpose and shall control the land directly, consent of the land owner shall not be required. However, when the government acquires the land for private companies, the consent of at least 80% of the project affected families shall be obtained through a prior informed process before government uses its power under the Act to acquire the remaining land for public good, and in case of a public-private project at least 70% of the affected families should consent to the acquisition process. On the day so fixed, the Collector shall proceed to enquire into the objections (if any) and being satisfied that all the persons interested in the land who appeared before him have agreed in writing on the matters to be



ANJUMAN COLLEGE OF ENGINEERING & TECHNOLOGY
MANGALWARI BAZAAR ROAD, SADAR, NAGPUR - 440001.
DEPARTMENT OF CIVIL ENGINEERING

included in the award of the Collector in the form prescribed by rules made by the appropriate Government, make an award according to the terms of such agreement. On making an award, the Collector shall tender payment of the market value compensation awarded by him to the persons interested and entitled thereto according to the award. If there be any dispute as to the title to receive the compensation or as to the apportionment of it, the Collector shall deposit the amount of the compensation in the Court.

Legal aspects of various contract provisions:-

- i. For a contract to complete a definite piece of work, recovery is possible only after completion.
- ii. The impracticality of a work cannot be excuse for nonperformance.
- iii. A contractor who refuses to carry out the work before completion can be subjected for breach of contract.
- iv. When an employer makes it impossible for contractor to complete the work in accordance with the contract, the contractor can sue for the rate of the completed work.
- v. The penalties described in the penalty clause will not be applicable if the execution of the contract is delayed because of the fault of the employer.
- vi. In case of the contractor's inability to complete the work, after part execution the employer can consider the contract as rescinded and take an action for the damages. The contractor under such circumstances has no lien for the money spent on the work by the contractor.
- vii. When a contractor has finished part of a work and refused to complete the entire work and the employer without the consent of the contractor takes the work in his own hands for completion. In this case the law implies that the employer has to pay for the work, which has done by the contractor.
- viii. When a contractor without lawful excuse, refuses to carry on the work after part performance, the employer may have to pay for the materials delivered on the site by the contractor as distinguished from the materials, which have become fixed in to the work.
- ix. When a contract is formed and it becomes impossible to perform the work immediately or at a later date, it may be possible to adjust the rights and liabilities of the parties.