

Rural Electrification Corporation Ltd.  
(A Govt of India Enterprises)  
(Administration Division)  
Core-4, SCOPE Complex, 7-Lodhi Road, New Delhi-110003  
Ph. 011-24363613, Fax 011-24365815, [www.recindia.nic.in](http://www.recindia.nic.in), scgarg@recl.nic.in

**NOTICE INVITING TENDERS**

**NO:RE C/17/4/2007/ 8163**

**Dated:25 . 05. 2007**

Sealed bids are invited from bonafide, resourceful and reliable contractors having sufficient experience in Interior renovation works as per details mentioned hereunder

Sl No.	Name of work	Comple- tion period	Estima- ted cost	Earnest Money
1	Interior decoration of office space by providing/fabrication and fixing of partitions of chambers/modular workstations, furniture and allied works of REC Office at Palika Bhawan {2 <sup>nd</sup> & 3 <sup>rd</sup> floor}, R.K. Puram, New Delhi measuring 8478.87 sq. ft. area. The interior works also includes modular/fabricated partition, Flooring/False Ceiling, toilets fixtures/fittings/tiling, air-conditioning etc. For details refer Tender documents.	02 (Two) Months	Rs.120 lakh	<b>Rs.1,50,000</b>

Tender shall be submitted in a sealed cover Superscribing "Tender for Interior Works at Palika Bhawan, R.K. Puram, New Delhi" and shall contain three separate sealed envelopes superscribed as Envelope-I, Envelope-II & Envelope-III.

Envelope-I shall contain the Bank DD/Banker's cheque against the Earnest Money amounting to Rs. 1,50,000/- (Rupees one lakh fifty thousand only).

Envelope-II shall contain documents pertaining to qualifying criteria including technical and commercial terms and conditions as under and the formats mentioned in the Tender Documents from Format-I to format-X may be submitted in this envelope.

- ✓ List of similar work completed during the last seven year along with completion certificates.
- ✓ Copy of Balance Sheets for the last three years.

- ✓ Copy of Registration/VAT/Sales Tax clearance.
- ✓ Copy of Pan Number

The bidder shall be qualified on the basis of details/documents submitted under Format **I to X**.

Envelope-III shall contain the 'Price Bid'. The rates shall be quoted by the firm (in figure & in words), terms of payment, guarantee terms etc. should be clearly mentioned and submitted on or before 21<sup>st</sup> June,2007 upto 3.00 PM.

The Envelope-I of the bid and the Envelope-II of those who have submitted EMD in Envelope-I will be opened on the same day i.e. 21<sup>st</sup> June,2007 at 15:30 Hrs in the presence of the bidders or their representatives who choose to remain present. Envelope-III containing Price Bid will be opened at a later date. Information of opening of price bid (Envelope-III) will be sent/given to all of the eligible bidders.

#### **1. Pre-qualification criteria (PQ)**

- (i) Average Annual financial turnover of the bidders during the last 3 year, ending 31<sup>st</sup> March,2007 should be at least Rs.40 lakhs.
- (ii) Bidders should have experience of having successfully completed single similar works of Rs.1.0 Crore or two similar works of Rs.62 lakhs or three similar works of Rs.41 lakhs during the last 7 years ending April,2007.
- (iii) Similar work means that the bidder has executed interior works/renovation works for Interior decoration by providing/fabrication and fixing of modular/fabricated partitions of chambers/modular workstations, furniture and allied works including Flooring/False Ceiling, toilets fixtures/fittings/tiling, air-conditioning etc.

#### **2. Eligibility Criteria for opening of the "Price Bid" Envelope-III**

After opening of Envelope-II , technical suitability/documents required to be submitted shall be scrutinized as per pre-qualification criteria and respective bidders shall be enlisted

#### **(3) Security Deposit**

A sum of 5% from each payment shall be deducted from the Contractor's bill as security amount which shall be released after completion of the defect liability period valid for 12 months from the date of completion of the works against any manufacturing defect/poor workmanship, poor performance, and in case any deficiencies are found during this period, the same shall be repaired/rectified/replaced free of cost by the Contractor. EMD submitted earlier shall be adjusted against security deposit.

- (4) Work shall be completed at site. Availability of required material at site will be sole responsibility of the contractor at his own risk & cost.
- (5) Transit risk will be borne by the Contractor for either any damages or any shortage of goods.
- (6) If any bidder withdraws after its acceptance or refuses to carry out the work without any satisfactory and acceptable reasons, the bidders Earnest Money will be forfeited and the firm will be disqualified from participation in tender of REC in future for two years.
- (7) Validity:- Validity of offer should be at least **120 days** from the date of opening of the 1<sup>st</sup> Envelope of the Tender.
- (8) Liquidated damage:- For delay in completion of work, the liquidated damage @ 0.5% per week or part thereof subject to the maximum of 5% of the order value shall be deducted.
- (9) Details of Tender document submission can be downloaded from our website <http://www.recindia.gov.in> or <http://recindia.nic.in>
- (10) For Terms & Conditions, please refer to our Tender Documents displayed at the above website.
- (11) The Corporation reserves the right to accept or reject even the lowest and/or to reject any or all of the bidders or to split the order amongst more than one bidder or part thereof without assigning any reason whatsoever.

**Chief Manager (Admn.)**

**LETTER OF SUBMISSION**

**{To be submitted along with Envelope –I}**

To

M/s Rural Electrification Corporation Ltd.  
Core-4, Scope Complex,  
7 Iodhi Road,  
New Delhi-110003

Sub: Submission of Bid for Interior decoration of office space.

Sir,

I/We have read and examined the notice inviting Tender, bid document, BOQ, specifications applicable, Drawings & Design, and all other contents in the tender document for the above work.

I/We hereby tender as per NIT for the execution of the work specified for the REC within the time specified, BOQ and specification mentioned.

I/We agree to keep the tender open for **120** days from the due date of opening of the Envelope – I & II of the bid thereof and not to make any modifications in its terms and conditions.

Dated.....

Signature of Contractor

Address

(Please affix seal)

**PROFORMA OF APPLICATION FOR SHORTLISTING OF CONTRACTORS**

**Certificate**

(to be furnished by the Bidder)

**{To be submitted along with Envelope –II}**

Last date for submission:\_\_\_\_\_

I/We have read and understood the instructions contained in advertisement appeared in.....dated.....and the application form as also the terms & conditions for the Interior decoration of office space by providing/fabrication and fixing of partitions of chambers/modular workstations, furniture and allied works displayed at REC website. I/We do hereby declare that the information furnished in the application and in the supplementary sheets from pages .....to.....are correct to the best of my/our knowledge and belief. Xerox copies of the documents enclosed have been attested.

Signature\_\_\_\_\_

Name\_\_\_\_\_

Designation\_\_\_\_\_

Address\_\_\_\_\_

Place:\_\_\_\_\_

Date:\_\_\_\_\_

Seal of Applicant:



**Rural electrification Corporation Ltd.**

(A Govt. of India Enterprise)

**TENDER DOCUMENT CONTAINING DETAILED TERMS &  
CONDITIONS**

**TENDER DOCUMENT**

**INTERIOR FURNISHING WORK OF REC BUILDING  
AT  
PALLIKA BHAWAN, R K PURAM, NEW DELHI.**

**INSTRUCTIONS TO THE TENDERS, GENERAL CONDITIONS OF CONTRACT,  
SPECIAL TERMS AND CONDITIONS, SPECIFICATIONS**

**PART-I (TECHNO-COMMERCIAL PART)**

**RURAL ELECTRIFICATION CORPORATION LIMITED  
Core-4 "SCOPE" complex,  
7 - Lodhi Road,  
New Delhi-110 003**

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# Tender Document

**Sub : Interior Furnishing work of Rural Electrification Corporation ltd, Pallika Bhawan, R K Puram,New Delhi.**

Sealed Item Rate tenders are invited on behalf of **Rural Electrification Corporation Ltd.,** for the work as detailed below.

## 1.0 NAME OF WORK

**Interior Furnishing work of Rural Electrification Corporation ltd., Pallika Bhawan, R K Puram,New Delhi.**

## 2.0 EARNEST MONEY DEPOSIT

**Rs. 1,50,000/-** (Rupees one lakh fifty thousand) This shall be in the form of Demand Draft in favour of **Rural Electrification Corporation Ltd.** payable at New Delhi. Any Tender not accompanied by Earnest Money will be rejected and such Tenderers will not be allowed to attend the opening of tenders.

## 3.0 TIME SCHEDULE: **Two Months** reckoned from the seventh day of issue of Fax of intent, Letter of Acceptance, whichever is earlier.

## 4.0 SUBMISSION OF OFFERS

4.1 Tender shall be submitted in a sealed cover super scribed **Tender for Interior Furnishing work of Rural Electrification Corporation ltd, Pallika Bhawan, R K Puram,New Delhi and due date.** This shall contain separately sealed envelopes super scribed as below:

Part-I	EMD of Rs. 1,50,000/-
Part-II	TECHNO-COMMERCIAL PART
Part-II	PRICE PART

Tender and date of submission should be subscribed with the note  
“QUOTATION DO NOT OPEN”

- 4.2 (i) Part-I of offer shall contain:  
-Earnest Money Deposit in a sealed envelope as specified.
- (ii) Part-II of the offer shall contain  
Tender Document signed and stamped on each page. No cutting or overwriting should be done. Proforma, price schedule etc. forming part of this shall not be filled in.  
Covering letter, technical submissions and other details required forming part of the offer, filled separately.
- 4.3 Part-III of offer shall contain only the price schedule issued herewith, with all rates and amounts filled in and no conditions. No corrections are permitted. Any corrections in quoted prices must be stamped and signed. Any conditions mentioned in Part-III shall not be taken into account.
- 4.4 The Rural Electrification Corporation Ltd. takes no responsibilities for delay, loss or non receipt of tenders sent by post. Fax/Email' Telegraphic offers shall not be accepted.
- 5.0 **LAST DATE & TIME FOR RECEIPT OF TENDERS** : The tenders shall be received upto 3.00 P.M. on 21-06-2007 at Chief Manager (Admn),**Rural Electrification Corporation ltd., Core-4 SCOPE complex, 7 lodhi road,New Delhi.**

#### 6.0 OPENING OF TENDERS

Part-I & Part-II of Tenders shall be opened at 3.30 P.M. on 21-06-2007 in the presence of attending Tenderers/ Authorized representatives at **Rural Electrification Corporation ltd., Core-4 SCOPE complex, 7 lodhi road,New Delhi** Part-II (Price part) of the tenders of Techno Commercially qualified Tenderers shall be opened at a later date with due information to them.

#### 7.0 PLACE OF SUBMISSION

**Rural Electrification Corporation ltd., Core-4 SCOPE complex, 7 lodi road,New Delhi.**

8.0 The REC reserves the right to accept or reject any or all tenders in part or in total without assigning any reason.

**SUBMISSION OF OFFER**

From:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

To

Rural Electrification Corporation Ltd.,  
Core – 4, Scope Complex,  
7-Lodhi Road, New Delhi - 110003

Dear Sir,

We hereby submit our offer in full compliance with the terms and conditions of the attached Document.

Earnest money deposit in the form of demand draft/Banker's cheque for an amount of **Rs. 1,50,000/-** (Rupees One lakh fifty thousand only) valid up to six months is enclosed.

Our offer shall remain valid for acceptance for a period of 120 days from the date of opening of Part-I & Part-II of the tender

Very truly yours,

(Seal and Signature of the tenderer)

Full Name \_\_\_\_\_

Title & Capacity \_\_\_\_\_

Mobile/Phone No. \_\_\_\_\_

CERTIFICATE AS TO CORPORATE PRINCIPAL \_\_\_\_\_ certify that I am \_\_\_\_\_ Secretary of the Corporation organized under the laws of \_\_\_\_\_ and that \_\_\_\_\_ who signed the above tender is authorized to and the corporation by authority of its governing body.

**(SEAL AND SIGNATURE OF THE CONTRACTOR)**

## **INSTRUCTIONS TO TENDERER**

### **1.0 SITE INFORMATION**

The work involves interior of the REC in accordance with scope of work defined elsewhere in the tender documents.

### **2.0 INFORMATION/DOCUMENTS REQUIRED WITH TENDERS**

2.1 All details as mentioned in Clause 3.0 below including original tender document and addendum (if any), which shall be submitted only.

2.2 The Tenderers should note that all the documents/information as per above and other section of the tender documents must be enclosed with the offers and that the tenders as received shall be evaluated based on the document/information enclosed with the offers. It shall not be obligatory on the part of REC Ltd.,(Owner) to further correspond with the Tenderers on the above aspect. No communication/ representation shall be entertained from the Tenderers in the above respect

### **3.0 SUBMISSION OF TENDER:**

3.1 Tender duly filled in by the Tenderer should be submitted alongwith Earnest Money as stipulated in the Notice Inviting Tender. Earnest Money shall be accepted only in the form given in clause 2.4 of G.C.C. Tenders without Earnest Money Deposit will be rejected.

3.2 Tender shall be submitted in the following manner, in separately sealed envelopes duly superscripted as below:

### **PART-I & II - UNPRICED PART**

PART-I:- EMD shall be submitted in a separately sealed envelope clearly mentioning **'EARNEST MONEY DEPOSIT'**.

PART-II: - This part shall contain Tender Documents duly filled in as required, but without price i.e. Schedule of Rates should not be filled in along with this part, all covering letters, technical details, etc. shall be submitted.

Other details as required to be submitted alongwith Part-II (i.e. Techno Commercial Part) of tender as given below:

- a) Details of similar work executed in last seven (7) years as per given format of this document with names and postal address of Clients along with copies of Letters of Intent, work orders and other documents in evidence of award of work to the Tenderer.
- b) List of equipment/tools & tackles proposed to be deployed for this work as per given format in Tender Document.

- c) Site Organization chart with bio data of key personnel & Engineer-in-Charge. Details of progressive built-up envisaged & skilled personnel at site as per given format in the Tender document.
- d) Details of concurrent commitments giving contract values, details of work, date of commencement of work, percentages completed - as on date and schedule date of completion as per given format in the Tender document.
- e) Information about 'tenderer' as per given format in the Tender document.
- f) Power of Attorney in the name of person(s) who has/have signed the tender Documents. Solvency Certificate from Bankers.
- g) Audited Balance Sheet and Profit and Loss Account statements duly certified by a Chartered Accountant in practice for the last (3) three years.
- h) Partnership deed in case of partnership firm or Memorandum and Article of Association in case of limited Company.
- i) Latest Income Tax Clearance Certificate in the Proforma prescribed by the Government of India should accompany the Tender. The ITC Certificate should be in the name of the firm/individual quoting for the Tender. In the absence of the above ITC Certificate, Tenderer may not be awarded work tendered for, in the light of Central Government Directive/Instructions.
- j) Exceptions & Deviations :- Tenderers are required to submit their offer strictly as per terms and conditions of the tender document. Any exception/Deviation to the stipulations of bidding document is not acceptable and make liable your offer as non-responsive and thus rejected. However, in case it becomes unavoidable and bidder seeks certain clarifications for their understanding, they may submit such stipulations as per page 65. Tenderers shall note that exception/ deviation mentioned in this page 65 of the tender document shall only be taken into consideration for owner's review. Any other exception/ deviation mentioned anywhere in write up, price basis, etc. shall not be considered.
- k) Schedule of labour rates for such categories of labour as are likely to be employed for carrying out works as per Proforma enclosed in price part.
- l) Programme of works in the shape of Bar chart covering major activities to meet the time schedule for completion of works.

### **PART-III - PRICED PART:**

This part shall contain only Schedule of Rates duly filled in. It is to be noted that the sealed envelope containing this part shall contain only prices and no conditions whatsoever. Any conditions given in this part shall not be considered and if insisted upon by the Tenderer, shall render the Tender liable for rejection.

## **IMPORTANT NOTES:**

- i) Tenders not containing above information strictly in the required manner may be liable for rejection.
- ii) Only total of prices shall be read out during the Tender opening and no other conditions including Technical details whatsoever.

## **4.0 RATES TO BE IN FIGURES AND WORDS**

The Tenderer should quote in English both in figures as well as in words, the rates and amounts bid by him in the schedule of rates of tender document submitted by the Contractor.

If some discrepancies are found between the rates in figures and words of the amount shown in the Tender Document the following procedure shall be followed:

- a) When there is a difference between the rates in figures and words, the rate which corresponds to the amount worked out by the Tenderer shall be taken as correct.
- b) When the rate quoted by the Tenderer in figures and words tally but the amount is incorrect the rate quoted by the Tenderer shall be taken as correct.
- c) When it is not possible to ascertain the correct rate by either of above methods, the rate quoted in words shall be taken as correct.

## **5.0 VALIDITY OF OFFER:**

5.1 Tender submitted by Tenderers shall remain valid for acceptance for a minimum period of 120 days from the date of opening of the Tenders. The Tenderers shall not be entitled during the said period of 120 days, without the consent in writing of the REC Ltd. (Owner), to revoke or cancel their Tender or to vary the Tender given or any term thereof. In case of Tenderers revoking or canceling their Tenders or varying any terms in regard thereof without the consent of Owner in writing, Owner shall Forfeit Earnest Money paid by them alongwith their offers.

## **6.0 STIPULATIONS AND DEVIATIONS TO TENDER CLAUSES:**

6.1 No Deviations whatsoever shall be acceptable in the following provisions contained in General Conditions of Contract/Special Conditions of Contract and the tenders of the Tenderers taking exceptions/deviations to these provisions shall be rejected.

- a) Security Deposit
- b) Penalty/compensation for Delay
- c) Defect Liability Period and latent Defects
- d) Schedule of Rates

e) Termination

f) Time Schedule

7.0 Owner reserves the right to split up the above work between one or more Contractor or award the entire work to one Contractor. Quoted rates should hold good for all such eventualities. No revision in the quoted rates will be entertained at a later date on this account

## **8.0 INCOME TAX CLEARANCE/SALES TAX REGISTRATION**

Attested copy of Income Tax Clearance Certificate in the Proforma prescribed should accompany the tender. The registration should be in the name of the firm/individual quoting for the work.

## **9.0 NO DEVIATIONS TO TENDER REQUIREMENTS**

9.1 The Tenderers are required to submit offers strictly as per the terms and conditions/ specifications given in the tender document and not to stipulate any deviation. Owner reserves their right to reject tenders as may contain deviations.

## **10.0 CONTRACT AGREEMENT**

10.1 Contract document for agreement shall be prepared after award of works to the successful bidder by Telegram/ Fax/ Detailed letter of Intent. Until the final contract documents are prepared and executed this tender document together with the annexed documents, modifications, deletions agreed upon by the Owner and Bidders acceptance there of shall constitute a binding contract between the successful Bidder and the Owner based on terms contained in the aforesaid document and the finally submitted and accepted prices.

10.2 The contract document shall consist of the following:

- a) Original tender documents issued with its enclosures,
- b) Addendum/ Corrigendum to tender documents issued, if any.
- c) Acceptance.
- d) The detailed letter of Acceptance along with Statement of Agreed Variation (if any) and Enclosures attached therewith.
- e) Contract Agreement on stamp paper of appropriate value in prescribed format

10.3 The statement of agreed deviations shall be prepared based on the finally retained deviations, if any, by the Tenderer, and all correspondences between Owner/ architects and the Tenderer prior to issue of acceptance shall be treated as Null Void. Any deviations or stipulations made and accepted by the Owner after award of the jobs shall be treated as amendments to the contract documents above.

## SUB: CHECKLIST

Tenderers shall submit this checklist along with form of tender duly filled up with Tenderers confirmation and also specifying nos. of their offer.

S. No	Subject	Details to be furnished	Confirmation/ Page Nos. of the Offer
1	Letter of Submission	Tenderer to confirm that their offer has been submitted with their covering letter exactly as per letter of submission enclosed.	Yes No
2.	Tender Security EMD	Tenderer to confirm that EMD has been submitted by them as per following details 1. By Demand Draft/Banker's cheque No Dt.----- Drawn on ----- Bank-----Branch ----- For Rs.-----	Yes ( No (
3.	Validity	Confirm that your offer is valid for 120 days from date of opening of unpriced art.	
4.	Proforma enclosed with the tender document	Confirmed that the following Proforma has been submitted.	
4.1		Past experience details	
4.2		Present commitments	
4.3		Financial details Also confirm that following details have been submitted along with Proforma on page 59 of tender document: -	
		1. Balance Sheet for the last three years. 2. Latest ITCC/VAT Certificates. 3. Solvency Certificate	
4.4		Deployment schedule of supervisory personnel.	
4.5		Deployment list of construction equipment	
4.6		Information about Tenderer	
4.7		Curriculum vitae	
4.8		Exceptions & Deviations, if applicable.	
5.	Addendum corrigendum and other letter fax sent by owner	This shall be submitted along with original offer duly signed and stamped on each page as token of acceptance.	
6.	Original tender document	Tender document duly signed & stamped on each page shall be submitted in unpriced part.	
7.	Power of attorney	Power of attorney in the name of person signing the tender.	
8.	Unpriced part	All above details shall be submitted in unpriced Part i.e. Envelope-II Tender Document and addendum	

9. Price part

Price shall be submitted in a separate sealed envelope super scribing "Price do not open". Price shall be submitted exactly as per price format included in the Tender document.

Any deviation terms & conditions shall not be mentioned in the price part.

Correction fluid shall not be used in the price part.

In case of any correction, the same shall be signed and stamped by authorized signatory.

Price shall be submitted in a separately sealed Envelope-III.

## **GENERAL CONDITIONS OF CONTRACT**

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## 1.0 GENERAL INFORMATION

### 1.1 DEFINITION OF TERMS

In the contract document as herein defined where the context so admits, the following words and expressions will have the following meanings:

The 'Owner' shall mean **Rural Electrification Corporation Ltd.**

The "Chairman & Managing Director" shall mean the Chairman & Managing Director or his successor in The **Rural Electrification Corporation Ltd.**

The "Contractor" shall mean the person or the persons, Firm or company whose tender has been accepted by **Rural Electrification Corporation Ltd** and includes the Contractor's legal representatives, his/their successors and permitted assign and shall carry out work as per advise of Architect/Engineer-in-charge of REC Ltd.

The "Owner's Representative" means the person designated by **Rural Electrification Corporation Ltd** and shall include his authorized nominee or agent; provided, however, that the Owner's representative may be one person for certain aspects of his agreement and another person for other aspects of work covered by this contract.

'Architect' shall mean the architectural firm appointed by the owner. Who shall co-ordinate and supervise the work of contractor on behalf of owner and shall take decision on any matter whatsoever with the concurrence of the Engineer in charge. The decision of the Engineer-in-Charge shall be final and binding to all.

"Engineer in charge" means General Manager (P&A), REC or its representative or any other person authorized by the Owner.

The 'Work' shall mean the work to be executed in accordance with the contract or part thereof as the case may be and shall include all extra, additional, altered or substituted works as required for performance of the contract.

The "Completion Certificate" shall mean the certificate to be issued by the Engineer-in-Charge when the works have been completed to his satisfaction.

The 'Final Certificate' in relation to a work means the certificate regarding the satisfactory compliance of the various provisions of contract by the Engineer-in-charge after the period of liability is over.

"Permanent Work" means and includes works which will be incorporated in and form a part of the work to be handed over to Owner by the Contractor on completion of the contract.

"Construction Equipment" means all appliances and equipment of whatsoever nature for use in or about the execution, completion, operation and maintenance of the work unless intended to form part of the permanent work.

“Site” means the areas inside the premises of the Owner on which the permanent works are to be executed or carried out and any other places provided by Owner for the purpose of the Contract.

The “Contract Document” means collectively the tender documents, design, drawings, specifications, agreed variations, if any contract and other documents constituting the tender and acceptance thereof.

The “Contract” shall mean the agreement between Owner and the Contractor for the execution of the works however, including therein all contract documents.

The “Specification” shall mean various technical specifications attached and referred to in the tender documents. It shall also include relevant Indian Standard Institution Specifications and standards and specifications of any other country wherever applicable.

the “Drawing” shall include maps, plans and tracings or prints thereof with any modifications approved in writing by the Engineer-in-Charge and such other drawings as may, from time to time be furnished or approved in writing by the Engineer-in-Charge.

The “Tender” means the tender submitted by Contractor for acceptance by Owner.

The “Alteration Order” means an order given in writing by the Engineer-in-Charge to effect additions to or deletions from and alterations in the works.

The “Sub-Contractor” means any person or firm or company (other than the Contractor) to whom any part of the work has been entrusted by the Contractor with the written consent of the Engineer-in-Charge and the legal personal representatives, successors and permitted assigns of such person, firm or company.

The “Total Contract Value” shall, up to calculation of the entire remuneration due to the Contractor in terms of the contract on successful completion of the work, mean the total contract value as specified in the Acceptance of Tender, and after calculation of the entire remuneration due to Contractor under the contract on successful completion of the works, shall mean the totality of such remuneration or the total contract value as specified in the Acceptance of tender, whichever is greater.

“Running Account Bill” shall mean a Bill for the payment of ‘on account’ moneys to the Contractor in terms of Clause 5.4.0 hereof and associated clauses there under.

“Security Deposit” shall mean the Security Deposit as specified in Clause 3.4.0 hereof and associated clauses there under.

“Schedule of Rates” shall mean the Schedule of Rates annexed to the Acceptance of Tender and shall include any remuneration payable to the Contractor for any work, determined in accordance with the conditions herein notified in letter of acceptance.

“Notified Claim” shall mean a claim of the Contractor notified in acceptance.

“Agreed Variation” shall mean the Statement of Agreed Variation annexed to the Acceptance of Tender or a further Amendment annexed to the Contract forming part thereof.

“Defect Liability Period” shall mean the defect liability period as specified in the Contract.

## 1.2 Land for Contractor Field Office, godown and Workshop

It will not be possible for the owner to provide any land/storage for Godown/Workshop/Field office of the contractor. Contractor will have to make his own arrangement at his own cost for the same.

## 1.3 SCOPE OF WORK

The Scope of work is defined in the Special Conditions of Contract and Specifications.

The Contractor shall provide all necessary materials, equipment and labour etc. for the execution and maintenance of work till completion. All materials that go with the work shall be approved by Engineer-in-Charge prior to procurement and use. The engineer-in-charge can also ask the contractor to get certification of material to be got done from manufacturer at any stage.

## 2.0.0 GENERAL INSTRUCTIONS TO TENDERS

### 2.1.0 SUBMISSION OF TENDER

2.1.1 Tenders must be submitted in original and as per details given in other clauses given hereunder. The rates shall be filled in the Schedule given in the tender documents. Reservations if any, regarding the tender conditions should be clearly brought out in a separate letter accompanying the tender.

2.1.2 Addenda to this tender document, if issued, must be signed and submitted along with the tender document.

The tenderers should write clearly the revised quantities in “Schedule of Rates” of Tender document and should price the work based on the revised quantities when amendment for quantities are issued in addenda.

### 2.2.0 DOCUMENTS

2.2.1 The tenders, as submitted, will consist of the following: -

- a) Complete set of tender documents as issued duly filled in and signed by the Tenderer as prescribed in different clauses of the Tenderer document.
- b) Earnest Money in the manner specified.
- c) Power of Attorney or a true copy thereof duly attested by a Gazetted Officer in case an unauthorized representative who has signed the tender.
- d) Income Tax Clearance Certificate and Sales Tax Clearance Certificate/VAT Certificates copies duly attested by Government Gazetted Officer.

e) Information regarding Tenderer in the Proforma enclosed.

Declaration regarding the Tender's work of comparable nature and construction organization in the Proforma enclosed and the description of the works therein.

g) Any printing or typographical error / omission in tender document shall be referred to Engineer-in-Charge and his interpretations regarding correction shall be final and binding on Contractor.

### **2.2.2 All pages to be initialed**

All signatures in tender documents shall be dated as well. All pages of tender documents shall be initialed at the lower right hand corner or signed wherever required in the tender papers by the tenderer or by a person holding power of attorney authorizing him to sign on behalf of the tender or before submission of tender.

### **2.2.3 Rates to be in figures and words**

The Tenderer should quote in English both in figures as well as in words the rates and amounts tendered by him in the Schedule of Rates for each Item and in such a way that interpolation is not possible. The amount for each item should be worked out and entered and requisite totals given of all items both in figures and in words. The tendered amount for the work shall be entered in the tender and duly signed by the Tenderer.

### **2.2.4 Corrections and Erasures**

All corrections and alterations in the entries of tender papers will be signed in full by the Tenderer with date. No erasures or overwriting are permissible.

### **2.2.5 Signing of Tender**

The tender shall contain the name, residence and place of business of person or persons making the tender and shall be signed by the tenderer with his usual signature. Partnership firms furnish the full names of all partners in the tender. It should be signed in the partnership name by all the partners or by duly authorized representative followed by name and designation of the person signing. Tender by corporation shall be signed by an authorized representative and a Power of Attorney in that behalf shall accompany the tender. A copy of constitution of the firm with names of all partners shall be furnished.

When a Tenderer signs a tender in a language other than English, the total amount tendered should, in addition, be written in the same language. The signature should be attested by at least one witness.

### **2.2.6 Witness**

Witnesses and sureties shall be persons of status and property and their names, occupation and address shall be stated below their signature.

## **2.2.7 DETAILS OF EXPERIENCE**

The Tenderer should enclose documentary proof to show that he has previous experience in having successfully completed in the recent past works of this nature together with the names of Owners, location of sites and values of contract.

## **2.3.0 TRANSFER OF TENDER DOCUMENTS**

Transfer of tender documents purchased by one intending Tenderer to another is not permitted.

## **2.4.0 EARNEST MONEY**

2.4.1 The tenderer must pay the amount of Earnest Money as mentioned in the Notice/letter inviting tenders in the form of:

Crossed Bank Demand Draft/Banker's cheque in favour of "Rural Electrification Corporation Ltd." payable at New Delhi. No interest shall be allowed on the Earnest Money deposited by the Tenderer.

The tenderer should attach the EMD along with the tender, failing which the tender will not be considered.

2.4.2 The Earnest Money of the unsuccessful Tenderer(s) will be refunded after award of the contract without any interest and the EMD of successful Tenderer shall be retained towards the security deposit for the fulfillment of the contract but shall be forfeited if the Tenderer fails to execute the work satisfactorily.

## **2.5.0 VALIDITY**

Tenders submitted by Tenderers shall remain valid for acceptance for a period of 120 days from the date of opening of the tender. The Tenderers shall not be entitled during the said period of 120 days, without the consent in writing of Owner to revoke or cancel his tender or to vary the tender given or any terms thereof,

## **2.6.0 ADDENDA**

2.6.1 Addenda to the tender document may be issued prior to the date of opening of the tenders to clarify documents or to reflect modifications in the design of contract terms.

2.6.2 Each addendum issued by **Rural Electrification Corporation Ltd** will be distributed in duplicate, to each person or organization to which a set of tender documents has been issued. Each recipient will retain one copy of each addendum for submission along with his tender and return one signed copy to **Rural Electrification Corporation Ltd** as acknowledgment of receipt of the addendum. All addenda issued by **Rural Electrification Corporation Ltd** shall become part of Tender Documents.

## **2.7.0 RIGHT OF OWNER TO ACCEPT OR REJECT TENDER**

The right of acceptance of tender will rest with Owner. However, Owner does not bind itself to accept the lowest tender, and reserves to itself the authority to reject any or all the tenders received without assigning any reason whatsoever. The whole work may be split up between two or more Contractor or accepted in part and not entirely, if considered expedient.

Tenders in which any of the particulars and prescribed information are missing or are incomplete in any respect and/or the prescribed conditions are not fulfilled are liable to be rejected. Canvassing in connection with tenders is strictly prohibited and tenders submitted by the tenderers who resort to canvassing will be liable to rejection. Tender containing uncalled for remarks or any additional conditions are liable to be rejected.

## **2.8.0 SECURITY DEPOSIT**

A sum of 5% from each payment shall be deducted from the Contractor's bill as security amount which shall be released after completion of the defect liability period valid for 12 months from the date of completion of the works against any manufacturing defect/poor workmanship, poor performance,, and in case any deficiencies are found during this period, the same shall be repaired/rectified/replaced free of cost by the Contractors. EMD submitted earlier shall be adjusted against security deposit.

## **2.9.0 TIME SCHEDULE**

The time allowed for carrying out the job is as shown in Appendix-I. This shall be signed and submitted along with the tender.

## **2.10 COLLECTION OF DATA-TENDERER'S RESPONSIBILITY**

The Tenderer shall visit the site and acquaint him self fully of the site and no claims whatsoever will be entertained on the plea of ignorance of difficulties involved in execution of work or carriage of materials.

## **2.11.0 RETIRED GOVERNMENT OR OWNER'S OFFICERS**

No Engineer of Gazetted rank or other Gazetted officer, employed in Engineering or administrative duties in an Engineering Department of the State/Central Government or of Owner is allowed to work as a Contractor for a period of two years after his retirement from Government Service, or from the Employment of Owner without the previous permission of Owner. The contract if awarded is liable to be cancelled if either the Contractor or any of this employees is found at any time to be such a person, who had not obtained the permission of the State/Central Government or of Owner as aforesaid, before submission of tender, or engagement in the Contractor's service as the case may be.

## **2.12.0 SIGNING OF THE CONTRACT**

The successful Tenderer shall be required to execute an agreement in the Proforma attached with this tender document within 7 days from the date of receipt of the notice of acceptance of tender or letter of Intent. In the event of failure on the part of the successful Tenderer to sign the agreement within the above stipulated period, the earnest money or his initial security deposit may be forfeited and the acceptance of the tender may be considered as cancelled.

### **3.0.0 GENERAL OBLIGATIONS**

#### **3.1.0 INTERPRETATION OF CONTRACT DOCUMENTS**

3.1.1 The several documents forming the contract are to be taken as mutually explanatory of one another. Should there be any discrepancy, inconsistency, error or omission in the contract documents or any of them, the matter shall be referred to the Engineer-in-Charge for his decision which shall be final and conclusive and the Contractors shall carry out the work in accordance with such decisions.

3.1.2 Works shown upon the drawings but not mentioned in the specifications or described in the specifications without being shown on a drawing shall nevertheless be held to be included in the same manner as if they had been specifically shown upon the drawings and described in the specifications.

#### **3.1.3 Heading and Marginal Notes**

All headings of and marginal notes to the clauses of these general Conditions of Contract or of and to the specifications or any other tender document are solely for the purpose of giving a concise indication and not a summary of the contents thereof, and they shall never be deemed to be part thereof or be used in the interpretation or construction thereof or of the contract.

#### **3.1.4 Singular and plural**

In these contract documents unless otherwise stated specifically, the singular shall include plural and vice versa wherever the context so requires.

#### **3.2.0 SPECIAL CONDITIONS OF CONTRACT**

3.2.1 Special Conditions of Contract shall be read in conjunction with the General Conditions of contract, Specifications of work, drawings and any other documents forming part of this contract wherever the context so requires.

3.2.2 Notwithstanding the sub-division of the documents into these separate sections and volumes every part of each shall be deemed to be supplementary to and complementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.

3.2.3 Where any portion of the General Conditions of Contract is repugnant to or at variance with any provisions of the Special conditions of Contract, then unless a different intention appears, the provisions of the Special Conditions of Contract shall be deemed to over-ride the provisions of the General conditions of Contract and shall, to the extent of such repugnancy or variations, prevail.

#### **3.3.0 CONTRACTOR TO OBTAIN HIS OWN INFORMATION**

The Contractor in fixing his rate shall for all purposes whatsoever be deemed to have himself independently obtained all necessary information for the purpose of preparing his tender. The correctness of the details, given in the tender document to help the Contractor to make up the tender, is not guaranteed.

The Contractor shall be deemed to have examined the contract documents, to have generally obtained his own information in all matters whatsoever that might affect carrying out the works at the scheduled rates and to have satisfied himself to the sufficiency of this tender.

Any error in description or quantity or any other aspect in schedules rates or omissions there from shall not vitiate the contract or release the Contractor from executing the work comprised in the contract according to drawings and specifications at the scheduled rates He is deemed to know the scope, nature and magnitude of the work and the requirements, of materials and labour and the type of work involved etc.; and as to what all he has to do to complete the works in accordance with the contract documents whatever be the defects, omission or errors that may be found in the contract Documents. The Contractor shall be deemed to have visited the surroundings and to have satisfied himself as to the nature of all existing structures, if any, and also as to the nature and condition of the Railways, roads bridges and culverts, means of transport and communications whether by land, water or air, and as to possible interruptions, there to and the access and agrees from the site to have made inquiries, examined and satisfied himself as to the sites for obtaining sand, stones, bricks and other materials, the sites for disposal of surplus materials the available accommodation as to whatever required as depots and such other buildings as may be necessary for executing and completing the works, to have made local independent inquiries as to the subsoil, sub-soil water and variations thereof, storms, prevailing winds, climatic conditions and all, other similar matters affecting these works.

He is deemed to have acquainted himself as to his liability for payment of Government taxes, customs duty and other charges

Any neglect or failure on the part of the Contractor in obtaining necessary and reliable information upon the foregoing or any other matters affecting the contract shall not relieve him from any risks or liabilities or the entire responsibility from completion of the work at the schedule rates and time in strict accordance with the contract documents.

No verbal agreement or inferences from conversation with any officer or employee of Owner either before or after the execution of the Contract agreement shall in any way affect or modify any of the terms of obligations herein contained.

### **3.4.0 SECURITY DEPOSIT**

3.4.1 A sum of 5% from each payment shall be deducted from the Contractor's bill as security amount which shall be released after completion of the defect liability period valid for 12 months from the date of completion of the works against any manufacturing defect/poor workmanship, poor performance,, and in case any deficiencies are found during this period, the same shall be repaired/rectified/replaced free of cost by the Contractors. EMD submitted earlier shall be adjusted against security deposit.

### **3.5.0 COMPLETION TIME**

35.1 The work covered by this contract shall be commenced within seven days after the issue of the letter of award and be completed in stages on or before the dates as mentioned in the time schedule of completion of works. The Contractor should bear in mind that time is the essence of this agreement; unless such time is extended pursuant to the provisions of clause No. 3.6 requests for revision of Construction time after tenders are opened will not receive consideration.

### **3.5.2 TIME SCHEDULE OF CONSTRUCTION**

The general time schedule for the completion of the construction work is given in the tender document, Contractor should prepare a detailed construction program on week basis to the satisfaction of the Engineer-in-Charge within seven days of the issue of Letter of Intent or Acceptance of tender, which shall be strictly adhered to- The Engineer-in-Charge may at his discretion modify this program after review from time to time.

### **3.6.0 FORCE MAJEURE**

Any delay in or failure of performance of either party hereto shall not constitute default hereunder or give to any claims for damages if and to the extent such delays or failure of performance is caused by occurrence such as Acts of God or the Public enemy; expropriation or confiscation of facilities by Government authorities, compliance with any order or request of any Governmental authority, acts of war, rebellion or sabotage or damage resulting there from, fires, floods, explosion, riots or illegal strikes. The Contractor shall keep record of the circumstances referred to above which are responsible for causing delays in the completion of work and bring these to the notice of the Engineer-in-Charge

### **3.7.0 EXTENSION OF TIME**

Ordinarily no time extension shall be granted. However, request for an extension of the time if any for completion of the work by the Contractor on the grounds of his having been unavoidably hindered in its execution or any other grounds shall be in writing to the Engineer-in-Charge within ten days of the date of the hindrance on account of which he desires such extension as aforesaid and the Engineer-in-Charge shall, if in his opinion (which shall be Final) reasonable grounds have been shown therefore authorize such extension of time as may in his opinion be necessary or proper.

### **3.8.0 LIQUIDATED DAMAGE**

3.8.1 The time allowed for carrying out the work as entered in the Contract, shall be strictly observed by the Contractor. The work shall through out the stipulated period of **contract** be proceeded with all the diligence (time being deemed to be the essence of the contract). For delay in completion of work, the liquidated damage @ 0.5% of order value per week or part thereof subject to the maximum of 5% of the order value shall be deducted.

3.8.2 To ensure good progress during the execution of the work the Contractor shall be bound, in all cases in which the time allowed for any work exceeds one month, to complete one fifth of the work before one-fourth of the time allowed under contract has elapsed, three-eighth of the work before one half of such time has elapsed and three fourth of the work before three-fourth of such time has elapsed. In the event of the Contractor failing to comply with this condition, he shall be liable to pay as liquidated damage an amount as stipulated above. The liquidated damage so paid shall not relieve the Contractor from his obligations to complete the work or from any other obligations and liabilities under the contract.

### **3.8.3 SUM PAYABLE BY WAY OF LIQUIDATED DAMAGE COMPENSATION TO BE CONSIDERED AS REASONABLE COMPENSATION WITHOUT REFERENCE TO ACTUAL LOSS**

All sums payable by way of liquidated damage under any of these conditions shall be considered as reasonable compensation without reference to the actual loss or damage sustained by Owner and whether or not damage shall have been sustained.

### **3.9.0 RIGHTS OF OWNER TO FORFEIT SECURITY DEPOSIT**

Whenever any claim against the Contractor for the payment of a sum of money arises out of or under the Contract. Owner shall be entitled to recover such sum by appropriating **in** part or whole, the security deposit of the Contractor. In the event of the security being insufficient or if no security has been taken from the Contractor, then the balance or the total sum recoverable, as the case may be, shall be deducted from any sum then or which **at** any time there after may become due to the Contractor under this or any other contract with Owner and should this be not sufficient to cover the recoverable amount the

Contractor shall pay to Owner on demand the balance remaining due.

### **3.10.0 ACTION WHEN WHOLE OF SECURITY DEPOSIT IS FORFEITED**

In any case in which under any clause of this contract the Contractor shall have forfeited the whole of his security deposit (whether paid in one sum or deducted by installments) or have committed a breach of any of the terms contained in this contract Owner shall have power to adopt any of the following courses as they deem best suited to its interest.

- a) To rescind the contract (of which rescission notice in writing to the Contractor under the hand of the Engineer-in-Charge shall be conclusive evidence) in which case the security deposit of the Contractor shall stand forfeited and is absolutely at the disposal of Owner.
- b) To employ labour paid by Owner and to supply materials to carry out the work or any part of the work debiting Contractor with the cost of labour and the price of the materials of the amount of which cost and price, a certificate of the Engineer-in-Charge shall be final and conclusive against the Contractor, and crediting him with the value of the work done, in all respects In the same manner and at the same rates as if it had been carried out by he Contractor under the terms of his contract. The certificate of the Engineer-in-Charge as to the value of the work done shall be final and conclusive against the Contractor.
- c) To measure up the work of the Contractor and to take such part thereof as shall be unexecuted out of his hands and to give it to another Contractor to complete in which case any expenses which may be incurred in excess of the sum which would have been paid to the original Contractor, the whole work had been executed by him (of the amount of which excess the certificate in writing of the Engineer-in-Charge shall be final and conclusive) shall be borne and paid by the original Contractor and may be deducted from any money due to him by Owner under the contract or otherwise from his security deposit or a sufficient part thereof. In the event of any of the above courses being adopted by Owner, the Contractor shall have no claim to compensation for any loss sustained by him reason of his having purchased or procured any materials or entered into any agreements or made any advances on account of or with a view to the execution of the work or the performance of the contract. And in case the contract shall be rescinded under the provision aforesaid the Contractor shall not be entitled to recover or be paid any sum for any work therefore actually performed under this contract unless and until the Engineer-in-charge will certify in writing the performance of such work, and the value payable in respect thereof and he shall only be entitled to be paid the value so certified.

### **3.11.0 CONTRACTOR REMAINS LIABLE TO PAY COMPENSATION IF ACTION NOT TAKEN UNDER CLAUSE 3.10.**

In any case in which any of the powers conferred upon Owner by clause 3.10 thereof shall have become exercisable and the same had not been exercised, the non- exercise thereof shall not constitute a waiver of any of the conditions hereof and such power shall notwithstanding be exercisable in the event of any future case of default by the Contractor for which by any clause or clauses hereof he is declared liable to pay compensation amounting to the whole of his security deposit, and the liability of the Contractor for past and future compensation shall remain unaffected. In the event of Owner putting in force the power under sub-clause (a), (b) or (c) vested in it under the preceeding clause, Owner may, if he so desires, take possession of all or any tools; plant materials and stores in or upon the works or the site thereof or belonging to the Contractor or procured by him and intended to be used for the execution of the work or any part thereof paying or allowing for the same in account at the contract rates or in case of these not being applicable in current market rates to be certified by Engineer-in-Charge whose certificate thereof shall be final, otherwise the Engineer-in-Charge may give notice in writing to the Contractor or his clerk of the works, foremen or other authorized agent requiring him to remove such tools, plant materials or

stores from the premises (within a time to be specified in such notice), and in the event of the Contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the Contractor's expenses or sell them by auction or private sale on account of the Contractor and at his risk in all respects without any further notices as to the date, time or place of sale and the certificate of the Engineer-in-Charge as to expense of any such removal and the amount of the proceeds & expenses of any such sale shall be final and conclusive against the Contractor.

### **3.12.0 OWNER NOT BOUND BY PERSONAL REPRESENTATION**

The Contractor shall not be entitled to any increase on the schedule of rates or any other right or claim whatsoever by reason of any representation, explanation or statement alleged representation, promise or guarantees given or alleged to have been given to him by any person.

### **3.13.0 CHANGE IN CONSTITUTION**

Where the Contractor is partnerships firm the previous approval, in writing, of Owner –shall be obtained before any change is made in the constitution of the firm. Where the Contractor is an individual or a Hindu undivided family business concern, such approval as aforesaid shall, likewise be obtained before such Contractor enters into any agreement with other parties Where under. the reconstituted firm would have the right to carry out the work hereby undertaken by the Contractor. In either case if previous approval as aforesaid is not obtained the contract shall be deemed to have been allotted in contravention of clause 3.19 hereof and the same action may be taken and the same consequence shall ensue as provided in the said clause.

### **3.14.0 IF THE CONTRACTOR DIES**

Without prejudice to any of the rights or remedies under this contract, if the Contractor dies, Owner shall have the option of terminating the contract without compensation to the Contractor.

### **3.15.0 MEMBERS OF OWNER AND THE OWNER NOT INDIVIDUALLY LIABLE**

No Director, or Officer, official or employee of Owner shall in any way be personally bound or liable for the acts or obligations of Owner under the contract or answerable for any default or omission in the observance or performance of any of the acts, matters or things which are herein contained.

### **3.16.0 CONTRACTOR'S OFFICE AT SITE**

The Contractor shall provide and maintain an office at the site for the accommodation of his agent and staff and such office shall be open at all reasonable hours to receive instruction notices or other communications,

### **3.17.0 CONTRACTOR'S SUBORDINATE STAFF AND THEIR CONDUCT**

- a) **Contractor's field Engineer:** The Contractor after the award of the work should name the Engineer responsible for the work, to whom equipment and materials, if any will be issued and to whom all site instructions and notices can be issued. He should have necessary power of Attorney, which shall be deposited with the Engineer-in-Charge in original.
- b) **Contractor's fields staff strength:** The Contractor shall provide to the satisfaction of the Engineer-in-Charge sufficient and qualified staff to superintend the execution of the works competent sub-agents, Engineering assistants, foremen and leading hands including those specifically qualified by previous experience to supervise the types of works comprised in the

contract in such a manner as will ensure work of the best quality, expeditious working and proper supervision shall be employed and whenever in the opinion of the Engineer-in-Charge this is not the case, additional and properly qualified supervisory staff shall be employed by the Contractor without additional charge on account thereof. The Contractor shall ensure to the satisfaction of Engineer-in-Charge that Sub-Contractors, if any, shall provide competent and efficient supervision over the work entrusted to them. Where so required, the Contractor shall furnish a field organization chart as well as full detail of field staff.

- c) **Conduct of Contractor's field Staff :** The Contractor shall be responsible for the proper behavior of all the staff; foremen, workmen and others and shall exercise a proper degree of control over them and in particular and without prejudice to the said generality, the Contractor shall be bound to prohibit and prevent any employees from trespassing or acting in any way detrimental or prejudicial to the interests of the community or of the proprietor or occupiers of land and properties in the neighbourhood and in the event of such employee so trespassing, the Contractor shall be responsible therefore and relieve Owner of all consequent claims or actions for damages or injury or any other grounds whatsoever. The decision of the Engineer-in-Charge upon any matter arising under this clause shall be final.
- d) If and whenever any of the Contractors or Sub-Contractors agents, sub agents, assistants, foremen, or other employee shall in the opinion of Engineer. in - Charge **be** guilty of an misconduct or be incompetent or insufficiently qualified or negligent in the performance of their duties or that In the opinion of the Engineer-in-Charge, it is undesirable for administrative or any other reason for such person or persons to be employed in the works, the Contractor, if so directed by the Engineer-in-Charge, shall at once remove such persons from employment thereon. Any person or persons so removed from the works shall not again be employed in connection with the works without the written permission of the Engineer-in-Charge Any person so removed from the works shall be immediately replaced at the expense of the Contractor by a qualified and competent substitute. Should the Contractor be requested to repatriate any person removed from the works, he shall do so and shall bear all costs in connection herewith.
- e) If and when required by Owner all Contractors' personnel entering upon the premises shall be properly identified by badges of a type acceptable to Owner which must be worn at all times on the premises of the company and all work sites.

### **3.18.0 SUBLETTING OF WORK**

- a) No part of the contract nor any share of interest therein shall in any manner or degree be transferred, assigned or sublet by the Contractor directly or indirectly to any person, firm or corporation whosoever except as provided for in the succeeding sub-clause, without the consent in writing of the Engineer-in-Charge.
- b) The Engineer-in-Charge may give written consent to sub-contract for the execution of any part of the works at the site, being entered into by the contract or provided each individual sub contract is submitted to the Engineer-in-Charge before being entered into and is approved by him.
- c) List of Sub-Contractors to be supplied: At the commencement of every month the Contractor shall supply to the Engineer-in-Charge list of all Sub-Contractors or other persons or firms engaged by the Contractor and working at the site during the previous month with particulars of the general nature of the sub-Contractors or works.
- d) **Contractor's Liability not limited by Sub-Contractors:**

Notwithstanding any sub-letting with such approval aforesaid and notwithstanding that the Engineer-in-Charge shall have received copies of any subcontract, the Contractor shall be and shall remain solely responsible for the quality and proper and expeditious execution of the contract in all respects as if subletting or subcontracting had not taken place and as if such work had been done directly by the Contractor.

**e) Owner may Terminate Sub-Contractors:**

If any Sub-Contractor engaged upon the works at the site executes any work which in the opinion of the Engineer-in-Charge is not accordance with the contract documents the Engineer-in-Charge may give written notice to the Contractor requiring him to terminate such subcontract and the Contractor upon the receipt of such notice shall terminate such subcontract and dismiss the Sub-Contractors and the latter shall forthwith leave the works, failing which the Engineer-in-charge shall have the right to remove such Sub-Contractors from the site.

**f) No remedy for action taken under this clause :**

No action taken by the Engineer-in-Charge under the clause shall relieve the contractor of any of his liabilities under the contract or give rise to any rights to compensation extension of time or otherwise failing which the Engineer-in-Charge shall have the rights to remove such sub-Contractors from the site,

**3.19.0 POWER OF ENTRY**

If the Contractor shall not commence the works in the manner, previously described in the contract documents or if he shall at any time in the opinion of the Engineer-In-Charge

- a) Fail to carry on the works in conformity with the contract documents, or
- b) Fail to carry on the works in accordance with the nine schedule, or
- c) Substantially suspend work or the works for a period of fourteen days without authority from the Engineer-in-Charge, or
- d) Fail to carry on and execute the works to the satisfaction of the Engineer-in-Charge, or
- e) Fail to supply sufficient or suitable constructional plant, temporary works. labour, materials or things, or
- f) Commit or suffer, or permit any other breach of any of the provisions of the contract on his part to be performed or observed or persist in any of the above mentioned breaches of die contract for fourteen days, after notice in writing shall have been given to the Contractor by the Engineer-in-Charge requiring such breach to be remedied, or
- g) If the Contractor shall abandon the works, or
- h) If the Contractor during the continuance of the contract shall become bankrupt, make any arrangements or composition with his creditors, or permit any execution to be levied or go into liquidation whether compulsory or voluntary (not being merely a voluntary liquidation for the purpose of amalgamation or reconstruction).

Then in any such case, the Owner shall have the power to enter upon the works and take possession there of and of the materials, temporary works, constructional plant, and stock thereon, and to revoke the

Contractor's license to use the same, and to complete the works by his agents, other Contractors, or workmen, or to relet the same upon any terms and to such other person, firm or corporation as the Engineer-in-Charge in his absolute discretion may think proper to employ, and for the purpose aforesaid to use or authorize the use of any materials temporary works, constructional plant, and stock as aforesaid, without making payment or allowance to the Contractor for the said materials other than such as may be certified in writing by the Engineer-in-Charge to be reasonable, and without making any payment or allowance to the Contractor for the use of the said temporary works, constructional plant and stock or being liable for any loss for damage there to, and if the Owner shall by reason of his taking possession of the works or of the works being completed by other Contractor (due account being taken of any such extra work or works which may be omitted) then the amount of such excess as certified by the Engineer-in-Charge shall be deducted from any money which may be due for work done by the Contractor under the contract and not paid for any deficiency shall forthwith be made good and paid to Owner by the Contractor and Owner shall have power to sell in such manner and for such price as Owner may think fit and or any of the constructional plant, materials etc., construction by or belonging to and to recoup and retain the said deficiency or any part thereof out of the proceeds of the sale.

### **3.20.0 MAIN CONTRACTOR'S RESPONSIBILITY WITH THE MECHANICAL, ELECTRICAL, INTER-COMMUNICATION SYSTEM, AIR-CONDITIONING CONTRACTORS AND OTHER AGENCIES**

Without repugnance to any other condition, it shall be the responsibility of the main Contractor executing the work of civil construction to work in close cooperation and coordinate the work with the mechanical, electrical, air-conditioning and inter communication.

### **3.21.0 OTHER AGENCIES AT SITE**

The Contractor shall have to execute the work in such place and condition where other agencies will also be engaged for other works such as site grading, filling and leveling, civil, electrical and mechanical engineering, etc. No claim shall be entertained due to work being executed in the above circumstances.

### **3.22.0 NOTICES**

Any notice hereunder may be served on the Contractor or his duly authorized representative at the job site or may be served by registered mail direct to the address furnished by the Contractor. Proof of issue by Owner of any such notices would be conclusive of the Contractor having been duly informed of all the contents therein.

### **3.23.0 RIGHTS OF VARIOUS INTERESTS**

3.23.1 Owner reserves the right to distribute the work between more than one Contractor. The Contractor shall cooperate and afford other Contractor reasonable opportunity for access to the works for the carriage and storage of materials and execution of their works.

3.23.2 Wherever the work being done by any department of Owner or by other Contractors employed by Owner the respective rights of the various interests involved shall be determined by the Engineer-in-Charge to secure the completion of the various portions of the work in general harmony.

### **3.24.0 DETERMINATION & TERMINATION OF CONTRACT**

#### **3.24.1 Right of Owner to Determine & Terminate Contract**

- I) Owner, shall at any time, be entitled to determine and terminate the contract, if in their opinion the cessation of the work becomes necessary owing to paucity of funds change in scheme or from any other cause, whatsoever, in which case the cost of approved materials at the site at current market rates as verified and approved by Engineer-in-charge and of the value of the work done to date by the Contractor shall be paid for in full at the rates specified in the contract. A notice in writing from the Engineer-in-Charge to the Contractor of such determination and termination and the reason therefore shall be the conclusive proof of the fact that the contract has been so determined and terminated by Owner.
- ii) Should the contract be determined under sub clause (I) of this clause and the Contractor claims payments to compensate expenditure incurred by him in the expectation of completing the whole of the work, the Engineer-in-Charge shall consider and admit such claims, as are deemed fair and reasonable and are supported by vouchers to his satisfaction. The decision of Owner on the necessity and propriety of any such expenditure shall be final and conclusive and be binding on the Contractor.

#### **3.24.2 Mutual Rescission**

No mutual rescission of this contract or the mutual rescission of any obligation of either party hereto shall be binding upon the other party unless such mutual rescission is reduced to writing and signed by both parties hereto.

#### **3.24.3 Bankruptcy**

If a petition of bankruptcy be filed by or against the Contractor, Owner may at its opinion and within sixty days of the filing of such petition cancel this contract and agreement provisions contained in Clause 3.24.1 above shall apply in such a case.

### **3.25.0 PATENTS, ROYALTIES AND LIENS**

3.25.1 The Contractor, if Licensed under any patent covering equipment, machinery, materials compositions of matter to be used or supplied or methods and processes to be practiced or employed In the performance of this contract, agrees to pay all royalties and license fees which may be due with respect thereto, If any equipment, machinery, materials, composition of matters, to be used or supplied or methods or processes to be practiced or employed in the performances of this contract is covered by a patent, then the Contractor, before supplying or using the equipment machinery, materials, composition, method or process, shall obtain such licenses and pay such royalties and license fees as may be necessary for performance of this contract, in the event the Contractor fails to pay any such royalty or obtain any such license any suit for infringement of such patents which is brought against the Contractor or Owner as a result of such failure will be defended by the Contractor at his own expenses and the Contractor will pay any damage and costs awarded in such suit. The Contractor shall promptly notify Owner if Contractor has acquired knowledge of any plant under which a suit for infringement could be reasonably brought because of the use by Owner of any equipment, machinery, materials, composition, process, methods to be supplied hereunder.

3.25.2 The Contractor agrees to and does hereby grant to Owner together with the right to extend the same to any of the subsidiaries of Owner as irrevocable, royalty-free license to use in any country; any invention made by the Contractor or his employee in or as a result of the performance of the work under the contract.

- 3.25.3 Owner shall indemnify and save harmless the Contractor from any loss on account of claims against Contractor for the contributory infringement of patent rights arising out and based upon the claim the use by Owner of the process included in the design prepared by Owner and used in the operation of the plant infringes on any patent rights. With Contractor pursuant to the provisions of the relevant clause hereof the Contractor shall obtain from the sub-Contractor an undertaking to provide Owner with the same patent protection that Contractor is required to provide under the provisions of this clause.
- 3.25.4 All drawings, blue prints, tracings, reproducible, models, plans, specifications and copies thereof furnished by Owner as well as all drawings, tracings, reproducible, plans, specification, design, calculations etc. prepared by the Contractor for the purpose of execution of works covered in or connected with this contract shall be the property of Owner and shall not be used for any other work but are to be delivered to Owner at the completion of the contract.
- 3.25.5 Where so desired by Engineer-in-Charge, the Contractor agrees to respect the secrecy of any documents, drawings etc. issued to him for the execution of this contract, and restrict access to such documents. Drawings etc. to the minimum and further the Contractor agrees to execute an individual SECRECY agreement from each or any person employed by the Contractor having access to such documents, drawings etc. In any event the contractor shall not issue drawings and documents to any other agency or individual without the written approval by Engineer-in-charge.

3.25.6 **LIENS**

- a) if, at any time, there should be evidence of any lien or claim for which Owner might have become liable and which is chargeable to the Contractor. Owner shall have the right to retain out of any payment then due or thereafter becomes due an amount sufficient to completely indemnify Owner against such lien or claim and if such lien or claim be valid Owner may pay and discharge the same and deduct the amount so paid from any money which may be or may become due and payable to the Contractor, If any lien or claim remaining unsatisfied after all payments are made, the Contractor shall refund or pay to Owner all moneys that the latter may be compelled to pay in-discharging such lien or claim including all costs and reasonable expenses.
- b) The anal payment shall not become due until the Contractor delivers to the Engineer-in Charge as complete release or waiver of all liens arising or which may arise out of this agreement or receipts in full or certification by the Contractor in a form approved by Engineer-in-Charge that all invoices for labour, materials and services have been paid in lien thereof and if required by the Engineer-in-Charge in any case, an affidavit that so far as the Contractor has knowledge or information the releases and receipts include all the labour and material for which a lien could be filled.
- c) Contractor will indemnify and hold Owner harmless for a period of two years after the issue of final certificate from all liens and other encumbrances against Owner on account of debts or claims alleged to be due from the Contractor or his sub-Contractor to any person including Sub-Contractors and on behalf of Owner will defend at his own expenses any claim or litigation in connection therewith Contractor shall defend or contest at his own expenses any fresh claim or litigation brought against Owner or the Contractor by person including even after the expiry of two years from the date of issue of anal certificate.
- d) Contractor shall indemnify and save harmless Owner from and against all actions, suits proceedings, losses, costs damages, charges claims and demands of every nature and description brought or recovered against Owner by reason of any act or omission of the Contractor, his agents or employees in the execution of the work or in regarding the same. All sums payable by way of

compensation to be applied to the use of Owner without references to the actual loss or damage sustained and whether or not any damage shall have been sustained.

**e) PUBLICITY**

Contractor will not disclose details of the work to any person or persons except those engaged in its performance, and only to the extent required for the particular portion of the work being done.

Contractor will not give any items concerning details of the work to the press or a news dissemination agency without prior written approval from Engineer-in-Charge. Contractor shall not take any picture on site without specified written approval of Owner representative -

**3.26.0 OPERATION OF CONTRACT**

**3.26.1 Law Governing**

Regardless of the place of contracting, place of performance or otherwise, this agreement ii amendments modifications, alterations, or supplements thereto shall be governed by the law Indian and particularly the Union territory interpretation thereof.

**3.26.2 Non-waiver of Defaults**

Any failure by Owner or Contractor at any time, or from time to time, to enforce or require the strict keeping and performance of any of the terms or conditions of this agreement or to exercise a right hereunder, shall not constitute a waiver of such terms, conditions, or rights and shall not affect or impair same or the right of Owner or Contractor, as the case may be, at any time to avail itself of same.

**4.0.0 PERFORMANCE OF WORK**

**41.0 EXECUTION OF WORKS**

**4.1.1** All the works shall be executed in strict conformity with the provisions of the contract documents and with such explanatory detailed drawings, specifications and instructions as may he furnished from time to time to the Contractor by the Engineer-in-Charge whether mentioned in the contract or not. The Contractor shall be responsible for ensuring that works throughout are executed in the most substantial proper workman like manner with the quality of material and workmanship in strict accordance with the specifications and to the entire satisfactions of the Engineer-in-Charge-

**4.1.2** Wherever it is mentioned in the specifications that the Contractor shall perform certain work or provide certain facilities/materials, it is understood that the Contractor shall do so at his cost.

**4.1.3** The materials, design and workmanship shall satisfy the relevant Indian standards, the job specifications contained herein and codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied.

**4.2.0 COORDINATION AND INSPECTION OF WORK**

The coordination and inspection of the day-today work under the contract shall be the responsibility of the Engineer-in-Charge The written instructions regarding any particular job will normally be passed by the Engineer-in-Charge or his authorized representative. A work order book will be maintained by the

Contractor for each section in which the aforesaid written instructions will be entered. These will be signed by the Contractor or his authorized representative by way of acknowledgement within 12 hours. This shall be in addition to instructions or orders issued in writing by the Engineer-in-Charge.

#### **4.3.0 GENERAL CONDITIONS OF CONSTRUCTION AND ERECTION WORK**

- 4.3.1 Work has to be executed during normal working hours on weekdays only. Normally work in the night, on Sunday and other holidays observed by Owner will not be permitted. However, Contractor should be prepared to work two or three shifts per day, if so required by Engineer-in-Charge without any extra cost over the quoted rates. If at any time the Contractor wants to work more than one shift or on Sunday or beyond normal working hours, he shall get the approval of Engineer-in-Charge at least 24 hours before hand- Refusal by Engineer-in-charge at any time for such extension of work hours shall not constitute any claim for compensation or extension of time of completion.
- 4.3.2 The execution of the work may entail working in the monsoon season also. The contractor must maintain a minimum labour force as may be required for the job plan and execute the construction and erection according to the prescribed schedule. No extra rate will be considered for such work in monsoon.
- 4.3.3 During monsoon and other period, it shall be the responsibility of the Contractor to keep the construction work site free from water at his own cost. He should also provide necessary equipment (like dewatering pumps, tarpaulins for cement etc.) so as to be readily available at work site, for which no extra payment will be made.
- 4.3.4 The contractor must arrange for the placement of workers in such a way that the delay completion of the work or any part thereof for any reason whatsoever will not affect their proper employment. Owner will not entertain any claim for idle time payment whatsoever.

#### **4.4.0 DRAWINGS**

##### **4.4.1 DRAWINGS TO BE SUPPLIED BY THE OWNER**

- 4.4.1.1 General drawings for the work are attached with tender. This is for general guidance of the Contractor to enable him to visualize the type of work contemplated. The Contractor will be deemed to have studied the drawings and formed an idea about the work involved. Detailed working drawings on the basis of which actual execution is to proceed, if required, will be furnished from time to time during the progress of work.
- 4.4.1.2 The Contractor shall be deemed to have gone through the drawings supplied to him thoroughly and carefully and in conjunction with all other connected drawings and bring to the notice of the Engineer-in-Charge discrepancies, if any, therein before actually carrying out the work. Copies of all detailed working drawings relating to the works shall be kept at the Contractor's office on the site and shall be made available to the Engineer-in-Charge at any time during the contract. The drawings shall be returned to the Owner on completion of the works. Reference is also invited to CL3.25.4 & 3.25.5 above regarding drawings and other documents.

##### **4.4.2 PLANS, DESIGNS & DRAWING TO BE FURNISHED BY CONTRACTOR**

- 4.4.2.1 Where the Contractor shall, within the scope of work be required to prepare or furnish any Plans, Drawings or Designs in respect of the work or any particular work the Contractor shall within 15 (fifteen) days (or such other period as the Owner may prescribe in this behalf of receipt of

notification of Acceptance of Tender or within 15 (fifteen) days before the proposed date of commencement of the relative work, whichever shall be earlier, submit to the Owner for approval the relative plan(s)/drawing(s)/design(s). Owner shall be entitled at any time to suggest any amendment(s)! modification(s) in the plans/designs/drawing and the Contractor shall thereupon either convince the Owner of the un-necessariness in whole or portion of such amendment/ modification or shall implement the same and shall cause the plans/drawings/designs to be accordingly amended/provided that no such approval of or amendments/modifications in the plans drawings/designs by or suggested by the Owner shall anyway absolve the Contractor of any of his obligations, responsibilities or liabilities under the contract, inclusive of and relative *to* the utility and suitability of the Contractor's plans/drawings/designs in the relative work(s) and the fulfillment of all specifications and performance guarantees of the consequent works any such approval or suggestion by Owner as aforesaid being intended only by way of assistance *to* the Contractor without any attendant liability upon the Owner.

- 4.4.2.2 The Contractor shall not permit any work to be done or any installation, material or equipment to be supplied or fabricated or erected at variance with drawings/designs approved by the outer and/or amended or modified as aforesaid.
- 4.4.2.3 Unless otherwise required at east 3 (three) sets of all approved plans/drawings/designs prepared by the contractor together with similar sets of all revision/amendments/modifications therein shall be lodged with the Owner for the record of the Owner, such sets of plans / drawings/ designs to be signed by the Contractor and to indicate thereon the number and date of each revision/ amendment and of the communication, of the Owner of any other agency appointed by the Owner for or relative to the approval thereof.

#### **4.5.0 SETTING OUT WORKS**

- 4.5.1 The Engineer-in-Charge shall furnish the Contractor with only the Four Corners of the work site and a level benchmark. The Contractor shall set out the work and shall provide an efficient staff for the purpose and shall be solely responsible for the accuracy of such setting our All markings and guidelines shall be done with paint where so required.
- 4.5.2 The Contractor shall provide, fix and be responsible for the maintenance of all stakes, templates, level marks, profiles and other similar things and shall take all necessary precaution to prevent their removal or disturbance and shall be responsible for the consequence of such removal or disturbance should the same take place and or their efficient and timely reinstatement. The Contractor shall also be responsible for the maintenance of all existing survey marks, either existing or supplied and fixed by the Contractor. The work shall be set out to the satisfaction of the Engineer-in-Charge. The approval thereof or joining with the Contractor by the Engineer-in-Charge in setting out the work shall not relieve the Contractor of any of his responsibilities.
- 4.5.3 Before beginning the works, the Contractor shall at his own cost, provide all necessary reference and level posts, pegs, bamboo, flags, ranging rods, strings and other materials for proper layout of the work in accordance with the scheme for bearing marks acceptable to the Engineer-in-Charge The center, longitudinal or face lines and cross lines shall be marked by means of small masonry pillars. Each pillar shall have distinct mark at the center to enable a theodolite to be set over it. No work shall be started until all these points are checked and approved by the Engineer-in-Charge in writing but such approval shall not relieve the Contractor of any of his responsibilities. The Contractor shall also provide all labour, instruments material and other facilities, free of cost as required by Engineer-in-Charge for the proper checking of layout and inspection of the point during construction.

- 4.5.4 Pillars bearing geodetic marks located at the sites of unit of works under construction should be protected and fenced by the Contractor.
- 4.5.5 On completion of works, the Contractor must submit the geodetic documents according to which the work was carried out.

#### **4.6.0 RESPONSIBILITY FOR LEVEL AND ALIGNMENT**

The Contractor shall be entirely and exclusively responsible for the horizontal and vertical alignment, the levels and correctness of every pin of the work and shall rectify effectually the errors or imperfections therein. Such rectification shall be carried out by the Contractor, at his own cost, when instructions are issued to that effect by the Engineer-in-Charge.

#### **4.7.0 MATERIALS TO BE SUPPLIED BY CONTRACTOR**

- 4.7.1 The Contractor shall procure and provide the whole of the materials required for the constructions including reinforcement, cement and other building materials, tools, tackle, construction plant and equipment for the completion of the works except the materials which will be issued by Owner and shall make his own arrangements for procuring such materials and for the transport thereof. Owner may give necessary recommendation to the respective authority if so desired by the contractor but assumes no further responsibility of any nature.
- 4.7.2 Owner will insist on the procurement of materials as mentioned in detailed drawings, which bear ISI, stamp and/or which are supplied by reputed suppliers borne on DGS&D list. All materials procured should meet the specifications given in the tender document. The Engineer-in-charge may, at his discretion, ask for samples and test certificates for any batch of any materials procured. Before procuring the contractor should get the approval of Engineer-in-Charge for any material to be used for the works.
- 4.7.3 Manufacturers certificates shall be submitted for all materials supplied by the Contractor. If however, in the opinion of Engineer-in-Charge any test are required to be conducted on the material supplied by the Contractor, these will be arranged by the Contractor promptly at his own cost.

#### **4.8.0 STORES SUPPLIED BY OWNER**

If the specification of the work provides for the use of any material of special description to be supplied from Owner stores or if it is required that the Contractor shall use certain stores to be provided by the Engineer-in-Charge, such materials and stores and price to be charged therefore as herein after mentioned being so far as practicable for the convenience of the Contractor, but not so the meaning of the effect of this contract specified in the schedule of memorandum hereto annexed, the Contractor shall be bound to purchase and shall be supplied such materials and stores as are from time required to be used by him for the purpose of the contract only. The sums due from the Contractor for the value of material supplied by Owner will be recovered from the running account bills on the basis of the actual consumption of materials in the work covered and for which the running account bill has been prepared. After the completion of the works, however, the Contractor has to account for the full quantity of materials supplied to him as per relevant clauses in this document.

The value of the stores/materials as may be supplied to the Contractor by the Owner will be debited to the Contractor's account at the rates shown in the schedule of materials and if they are not entered in the schedule, they will be debited at cost price, which for the purpose of the contract shall include the cost of carriage and all other expenses whatsoever such as storage and supervision charge which shall have been incurred in obtaining the same at Owner stores.

All materials so supplied to Contractor shall remain the absolute property of Owner and shall not be removed on any account from the site of the work, and shall be at all times open for inspection to the Engineer-in-Charge Any such materials remaining unused at the time of the completion or termination of the contract shall be returned to Owner stores or at a place as directed by the Engineer-in-charge in perfectly good condition.

#### **4.9.0 CONDITIONS FOR ISSUE OF MATERIALS**

- 4.9.1 Material specified as to be issued by Owner will be supplied to the Contractor by Owner from its stores. It shall be the responsibility of the Contractor to take delivery of the materials and arrange for its loading, transport, unloading and unloading at the site of work at his own cost. The materials shall be issued between the working hours and as per rules of Owner as framed from time to time.
- 4.9.2 The Contractor shall bear all incidental charges for the storage and safe custody of materials at site after these have been issued to him.
- 4.9.3 Materials specified as to be issued by owner shall be issued in standard sizes as obtained from the manufactures.
- 4.9.4 The Contractor shall construct suitable godown at the site of work for storing the materials safe against damage by rain, dampness, fire, theft, etc., establishment for the purpose.
- 4.9.5 It shall be duty of the Contractor to inspect the materials supplied to him at the time of taking delivery and satisfy himself that they are in good condition. After the materials good condition and if the materials are damaged or lost, at any time, they shall be repaired and/ or replaced by him at his own cost according to the directions of the Engineer-in-Charge.
- 4.9.6 Owner shall not be Liable for delay in supply or non-supply of any material, which Owner has undertaken to supply where such failure or delay is due to natural calamities, act of enemies. transport and procurement difficulties and any circumstances beyond the control of Owner. In no case, the Contractor shall be entitled to claim any compensation or loss suffered by him on this account.
- 4.9.7 It shall be the responsibility of the Contractor to arrange in time all materials required for the works other than those to be supplied by Owner, if in the opinion of the Engineer-in-Charge the execution of the work is likely to be delayed due to the Contractor's inability to make arrangements for supply of materials which normally he has to arrange for, the Engineer-in-Charge shall have the right at his own discretion to issue such materials if available with Owner or procure the materials from the market or elsewhere and the Contractor will be bound to take such materials at the rate decided by the Engineer-in-Charge.

This, however, does not *in any* way absolve the Contractor of responsibility of making arrangements for the supply of such materials in part, or in full should such a situation occur nor shall this constitute a reason for the delay in the execution of the work.

- 4.9.8 None of the materials supplied to the Contractor will be utilized by the Contractor for manufacturing items, which can be obtained as supplied from standard manufacturer in finished form.
- 4.9.9 The Contractor shall furnish to the Engineer-in-Charge sufficiently in advance a statement showing his requirement of the quantities of the materials to be supplied by Owner and the time

when the same will be required by him for the works, so as to enable the Engineer-in-charge to make necessary arrangements for procurement and supply of the materials.

- 4.9.10 The Contractor shall, if desired by the Engineer-in-Charge be required to execute an indemnity bond in the prescribed form, for safe custody and accounting of all materials issued by Owner.
- 4.9.11 A day-to-day account of the materials issued by Owner shall be maintained by the Contractor indicating the daily receipt, consumption and balance in hand, This account shall be maintained in a manner prescribed by the Engineer-in-Charge along with all connected papers viz, requisition, issues, etc. and shall be always available for inspection in the Contractor's office a site.
- 4.9.12 The Contractor should see that only the required quantities of materials are got issued. The Contractor shall not be entitled to cartage and incidental charges for returning the surplus materials, if any to the stores where from they were issued or to place as directed by the Engineer-in-Charge.
- 4.9.13 All packing materials of stores issued by Owner shall be returned to Owner stores as directed by Engineer- in-Charge.
- 4.9.14 Notwithstanding any thing contained to the contrary in any or all the clauses of this contract, where any materials for the execution of the contract are procured with the assistance of Owner either by issue from store or purchases made under orders, or permits or licenses issued by Government, the Contractor shall hold the said materials as trustee For Owner and use such materials economically and solely for the purpose of the contract and not dispose them of without the permission of Owner and return, if required by the Engineer-in-Charge, all surplus unserviceable materials that may he left with him after the completion of the Contract or its termination for any reason whatsoever on his being paid or credited such price as the Engineer-in-Charge shall determine having due regard to the condition of the materials. The price allowed to the Contractor however, shall not exceed the amount charged to him excluding the storage charges, if any. The decision of the Engineer-in-Charge shall be final and conclusive in such matters. In the event of breach of the aforesaid condition, the Contractor shall in terms of the licenses, or, permits and/or for the criminal breach of trust, be liable to compensate Owner *at* double the rate or any higher rate, in the event of those materials at that time having higher rate or not being available in the market, then any other rate to be determined by the Engineer-in-Charge and his decision shall be final and conclusive.

#### **4.10.0 MATERIALS OBTAINED FROM DISMANTLING**

If the Contractor in the course of execution of the work is called upon to dismantle any part of work for reason other than those stipulated in clauses 4.19 and 4.23 hereunder, the materials obtained in the work of dismantling etc. will be considered as the property of Owner and will be disposed off to the best advantage of Owner as the Engineer-in-Charge deems fit.

#### **4.11.0 ARTICLES OF VALUE FOUND**

All gold, silver and other minerals of any description and all precision stones, coins, treasure, relics, antiquities and other similar things which shall be found in under or upon the site shall be the property of Owner and the Contractor shall only preserve the same to the satisfaction of the Engineer-in-Charge and shall from time to time deliver the same to such person or persons indicated by the Engineer-in-Charge.

#### **4.12.0 DISCREPANCIES BETWEEN INSTRUCTIONS**

Should any discrepancy occur between the various instructions furnished to the Contractor, his agents or staff or any doubt arise as to the meaning of any such instructions or should there be any misunderstanding between the Contractor's staff and the Engineer-in-Charge's staff, the Contractor shall refer the matter immediately in writing to the Engineer-in-Charge whose decision thereon shall be final in and conclusive and no claim for losses alleged to have been caused by such discrepancies between instructions, doubts, or misunderstanding shall in any event be admissible.

#### **4.13.0 ALTERATIONS IN SPECIFICATIONS AND DESIGNS & EXTRA WORK**

The Engineer-in-Charge shall have power to make any alterations in omission from additions to or substitutions for the schedule of rates, the original specifications, Drawings, Designs and Instructions that may appear to him to be necessary or advisable during the progress of work and Contractor shall be bound to carry out such altered/extra/new items of work in accordance with any instructions which may be given to him in writing signed by the Engineer-in-Charge and such alterations, omissions, additions or substitutions shall not invalidate contract and any altered, additional or substituted work which Contractor may be directed to do in the manner above specified as part of the work shall be carried out by Contractor on the same conditions in all respects on which he agreed to do the work. The time for completion or work may be extended for a part of the particular job at the discretion of the Engineer-in-Charge for only such alterations, additions or substitutions or work, as he may consider as just and reasonable. The rates for such additional altered or substituted work under this clause shall be worked out in accordance with the following provisions:

- i) If the rates for additional, altered or substituted class of work are specified in contract for work, Contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in contract.
- ii) If the rates for the additional, altered or substituted work are not specifically provided in contract for work, the rates will be derived from the rates for similar class of work as are specified in contract for work. The opinion of the Engineer-in-charge as to whether or not the rates can be reasonably so derived from the items in this contract will be final and binding on Contractor
- iii) If the rates for the altered, additional or substituted work cannot be determined in the manner specified in the sub clause (i) & (ii) above, then Contractor shall, within seven (7) days of the date of receipt of order to carry out work, inform the Engineer-in-charge of the rate which is his intention to charge for such class of work, supported by analysis of the rate of rates claimed and the Engineer-in-charge shall determine the rate or rates on the basis of the issue rate for materials issued by Owner,, prevailing market rates of other materials, labour cost at schedule of labour plus Ten percent (10%) thereon to cover Contractor's supervision, overheads and profit and pay the Contractor accordingly. As to the current market rates of materials and the quantum of labour involved per unit of measurement the decision of the Engineer-in-charge will be final and binding on Contractor.

Provision contained in sub-clause (i) to (iii) above shall not however apply in case where the value of addition of new items together with the value of alterations, additions/deletions or substitutions exceeds by or is less than plus minus twenty five percent (25%) of the accepted value of tender as given in the letter of acceptance of tender The item rates in the schedule of rates shall hold good for all such variations between the above-mentioned limits.

In case the total value of the work, including additional altered or substituted work exceeds 23 percent of the value stipulated in the letter of acceptance of tender, the Contractor shall for the excess of work done

over 25% claim revision of the rates for only those items which have exceeded individually the limit of 25% supported by a proper rate analysis. The Engineer-in-charge may revise the rates for such excess having regard to the market rates, and the Contractor shall be paid in accordance with the rates so fixed. The decision of the Engineer-in-charge in this respect shall be final and binding on the Contractor. But, under no circumstances, Contractor shall suspend work on the plea of non-settlement of items falling under this clause.

If as a consequence of such alteration the total contract value for the completed works on finalization and settlement of all dues to the Contractor under the contract shall be less than 75% (seventy five percent) of the total contract value as specified for the purpose of security deposit in the acceptance of tender, then the Contractor shall be entitled by way of allowance for the advantage (including profit) which the Contractor may have anticipated on the execution of the complete work, to 15% (fifteen percent) of the differences between the aggregate aforesaid and 75% (seventy five percent) of the total contract value specified in the acceptance of tender, but In addition thereto the Contractor shall not be entitled to any compensation or expenses or damages or loss or profit whatsoever.

Lump Sum contract shall also allow for any increase or decrease in the total quantity of work upto approximately twenty-five percent (25%) of the quoted price and the contract value shall be adjusted accordingly based on item wise or workwise schedule of rates suitable for evaluating the value of the work done & preparing running account bills, provided by Contractor.

#### **4.14.0 ACTION WHERE NO SPECIFICATION IS ISSUED**

In case of any class of work for which there is no such specifications supplied by Owner as is mentioned in the tender documents such work shall be carried out In accordance with Indian Standard Specifications and if the Indian Standard Specifications do not cover the same, the work should be carried as per our standard Engineering practice subject to the approval of the Engineer-in-Charge.

#### **4.15.0 ABNORMAL RATES**

The Contractor is expected to quote rate for each item after careful analysis of cost involved for the performance of the completed item, considering all specifications and conditions of contract. This will avoid loss of profit or gain in case of curtailment or change of specification for any item. In case it is noticed that the rates quoted by the tenderer for any item are unusually high or unusually low it will be sufficient cause for the rejection of the tender unless Owner is convinced about the reasonableness of the rates on scrutinizing the analysis for such rate to be furnished by the Tenderer on demand.

#### **4.16.0 INSPECTION OF WORKS**

4.16.1 The Engineer-in-Charge or its representative or Architect will have full power and authority to inspect the works at any time wherever in progress either on the site or at the Contractor's premises/workshops wherever situated, premises/workshops of any person, firm or corporation where work in connection with the contract may be in hand or where materials are being or are to be supplied, and the Contractor shall afford or procure for the Engineer-in-Charge every facility and assistance to carryout such inspection. The Contractor shall, at all times at which, reasonable notice of the intention of the Engineer-in-Charge or his representative to visit the works shall have been given to the Contractor, either himself be present to receive orders and instructions, or have a responsible agent duly accredited in writing present for the purpose. Orders given to the Contractors agent shall be considered to have the same force as if they had been given to the Contractor himself. The Contractor shall give not less than three days notice in writing to the Engineer in charge before covering up or otherwise placing beyond reach of inspection and measurement of any work in order that the same may be inspected and measured. In the event of breach of above, the same shall be uncovered at Contractor's expenses for carrying out such measurement or inspection.

4.16.2 No material or construction equipment shall be dispatched from the Contractors stores before obtaining the approval in writing of the Engineer-in-Charge. the Contractor is to provide at all times during the progress of the work and the maintenance period proper means of access with ladders, gangways, etc., and the necessary attendance to move and adopt as directed for inspection or measurement of the works by Engineer-in-Charge.

#### **4.17.0 ASSISTANCE TO THE ENGINEER:**

The Contractor shall make available to the Engineer-in-Charge free of cost all necessary instruments and assistance in checking of setting out of works and in the checking of any works made by the Contractor for the purpose of setting out and taking measurements of work, He shall also provide all instruments and labour free of cost for testing and inspection of all works either under progress or on completion.

#### **4.18.0 TESTS FOR QUALITY OF WORKS**

4.18.1 All workmanship shall be of the respective kinds described in the contract documents and In accordance with the instructions of the Engineer-in-Charge and shall be subjected from time to time to such tests at contractor's cost as the Engineer-in-charge may direct at the place of manufacture or other places. The contractor shall provide such assistance, required for examining, measuring and testing any workmanship as may be selected and required by the Engineer-in-charge.

4.18.2 All the tests that will be necessary in connection with the execution of the work as decided by the Engineer-in-Charge shall be carried out at the field testing laboratory of Owner by paying the charges as decided by Owner from time to rime. In case of non availability of testing facility with Owner the required test shall be carried out at the cost of Contractor at government or any other testing laboratory as directed by Engineer-In-Charge.

#### **4.19.0 SAMPLES**

The Contractor shall furnish to the Engineer-in-Charge for approval when requested or if required by the specifications, adequate samples of all materials and hushes to be used in the work. Such samples shall be submitted before the work is commenced and in ample time to permit tests and examinations thereof. All materials furnished and finishes applied in actual work shall be fully equal to the approved samples

#### **4.20.0 ACTION AND COMPENSATION IN CASE OF BAD WORK**

If it shall appear to the Engineer-in-Charge that any work has been executed with unsound, imperfect or unskilled workmanship, or with materials of any inferior description, or that any materials or articles provided by the Contractor for the execution of the work are unsound, or of a quality inferior to the contracted for, or otherwise not in accordance with the contract, the Contractor shall on demand in writing from the Engineer-in-Charge or his authorized representative specifying the work, materials or articles complained of, non withstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or remove and reconstruct the work so specified and provide other proper and suitable materials or articles at his own charge and cost, and in the event of failure to do so within a period to be specified by the Engineer-in-Charge in his demand aforesaid, the Contractor shall be liable to pay compensation at the rate of half percent of the estimated cost of the whole work for the value of the whole work, while his failure to do so shall continue and in the case of any such failure the Engineer-in-Charge may on expiry of notice period rectify or remove, and re-execute the work or remove and replace with others, the materials or articles complained of as the case may be at the risk and expense in all respect of the Contractor. lire decision of the Engineer-in-Charge as to any question arising under this clause shall be final and conclusive.

#### **4.21.0 SUSPENSION OF WORKS**

4.21.1 Subject to the provisions of sub-Para (ii) of this clause, the Contractor shall if ordered in writing by the Engineer-in-Charge, or his representative, temporarily suspend the works or any part thereof for such period and such time as so ordered and shall not after receiving such written orders, proceed with the work therein ordered to be suspended until he shall have received a written order to proceed therewith. The Contractor shall not be entitled to claim compensation for any loss or damage sustained by him by reason of this temporary suspension of the works aforesaid. An extension of time for completion corresponding with the delay caused by any such suspension of the works as aforesaid will be granted to the Contractor should he apply for the same provided that the suspension was not consequent to any default or failure on the part of the Contractor.

4.21.2 In case of suspension of entire work, ordered in writing by the Engineer-in-Charge for a period of more than four months, the Contractor shall have the option to terminate the contract.

#### **4.22.0 OWNER MAY DO PART OF WORK**

Upon failure of the Contractor to comply with any instructions given in accordance with the provisions of this contract, Owner shall have the right, instead of assuming charge of entire work, to place additional labour force, tools, equipment and materials on such parts of the work, as the Engineer-in-Charge designates or also engage another Contractor to carry out the work. In such cases, Owner shall deduct from the amount which otherwise might be due to the Contractor, the cost of such work and materials with ten percent added and should the amount thereof exceed the amount due to the Contractor, the Contractor shall pay the difference to Owner.

#### **4.23.0 POSSESSION PRIOR TO COMPLETION**

The Engineer-in-Charge shall have the right to take possession of or use any completed or partially completed work or part of the work. Such possession or use shall not be deemed to be an acceptance of any work completed in accordance with the contract agreement. If such prior possession or use by the Engineer-in-Charge delays the progress of work, equitable adjustment in the time of completion will be made and the contract agreement shall be deemed to be modified accordingly.

#### **4.24.0 TWELVE MONTHS PERIOD OF LIABILITY FROM THE DATE OF ISSUE OF COMPLETION CERTIFICATE**

4.24.1 The Contractor shall maintain the work for a period of 12 months from the date of completion and **if** any damage shall happen to the work while in progress or after completion from any cause whatever or any imperfection or defects become apparent either in the materials supplied by the Contractor or in the workmanship within a period of 12 months from the date of issue of completion certificate. The Contractor shall make the same good at his own expense or in default, the Engineer-in-Charge may cause the same to be made good by other workmen and deduct expenses (of which certificates of the Engineer-in-Charge shall be final) from any sums that may be then or at any time thereafter become due to the Contractor or from his security depositor the proceeds of sale thereof or of a sufficient portion thereof.

4.24.2 If the Contractor feels that any variation in work in quality of materials or proportions would be beneficial or necessary to fulfill the guarantees called for he shall bring this to the notice of the Engineer-in-Charge in writing.

The work will not be considered as complete and taken over by Owner until all the temporary works, labour and staff colonies etc. constructed by Contractor is removed and work site cleaned to the satisfaction of the Engineer-in-Charge.

#### **4.24.3 Defects Prior To Taking Over:**

If at any time before the work is taken over, the Engineer-in-Charge shall:

- a) Decide that any work done or materials used by the Contractor or any sub-Contractor is or are defective or not in accordance with the contract or that the works or any portion thereof are defective or do not fulfill the requirements of contract (all such matters being hereinafter called 'Defects in this clause), and
- b) As soon as reasonably practicable gives to the Contractor notice in writing of the said decision specifying particulars of the defects alleged to exist or to have occurred, then the Contractor shall at his own expenses and with all speed make good the defects so specified.

In case Contractor shall fail to do so, Owner may take, at the cost of the contractor, such steps as may in all circumstances be reasonable to make good such defects. The expenditure so incurred by Owner will be recovered from the amount due to the Contractor. The decision of the Engineer-in-Charge with regard to the amount to be recovered from the Contractor will be final and binding on the Contractor. As soon as the works have been complete in accordance with the contract (except in minor respects that do not affect their use for the purpose for which they are intended and except for maintenance there of provided in clause 4.24.1 of General Conditions of Contract) and have passed the tests, the Engineer-in-Charge shall issue a certificate (hereinafter called completion certificate) in which he shall certify the date on which the works have been so completed and have passed the said tests and Owner shall be deemed to have taken over the works on the date so certified. If the works have been divided into various groups in the Contract, Owner shall be entitled to take over any group or groups before the other or others and thereupon the Engineer-in-Charge shall issue a completion certificate, in respect thereof. Such completion certificate will, however, be for such group or groups so taken over only.

If by reason of any default on the part of the Contractor a completion certificate has not been issued in respect over of every portion of the works within one month after the date fixed by the Contractor for the completion of the works, Owner shall be at liberty to use the works for which certificate has not been issued, provided that the works or the portion thereof so used as aforesaid shall be reasonably capable of being used and that the Contractor shall be afforded reasonable opportunity for completing these works for the issue of completion certificate.

#### **4.24.4 DEFECTS AFTER TAKING OVER**

In order that the Contractor could obtain a completion certificate he shall make good with all possible speed any defect arising from the defective materials supplied by the Contractor that may have been noticed or developed after the works or group or the work has been taken over the period allowed for carrying out such work will be normally one month.

If any defects were not remedied within a reasonable time, owner may proceed to do the work at Contractor's risk and expense and deduct from the final bill, such amount as may be decided by the Engineer-in-Charge

## **5.0.0 CERTIFICATES AND PAYMENTS**

### **5.1.0 CONTRACTORS REMUNERATION**

5.1.1 The price to be paid by Owner to Contractor for the whole of the work to be done and for the performance of all the obligations undertaken by the Contractor under the contract documents, shall be ascertained by the application of the respective schedule of rates (the inclusive nature of which is more particularly defined by way of amplification but not of limitation, with the succeeding sub-clause of this clause) and payment to be made according to the work actually executed and approved by the Architect and the Engineer-in-Charge. The extent expressly provided herein constitutes the sole and inclusive remuneration of the Contractor under the contract and no further or other payment whatsoever shall be or become due or payable to the Contractor under the contract.

### **5.1.2 SCHEDULE OF RATES TO BE INCLUSIVE**

Schedule of Rates shall be deemed to include and cover all cost, expenses and liabilities of every description and all risks of every kind to be taken in executing, completing and handing over the work to Owner by the Contractor. The Contractor shall be deemed to have known the nature, scope, magnitude and the extent of the works and materials required, though the contract documents may not fully and precisely furnish them. He shall make such provision in the Schedule of Rates, as he may consider necessary to cover the cost of such item of work which as may be reasonable and necessary to complete the works. The opinion of the Engineer-in-charge as to the items of work which are necessary and reasonable for completion of work shall be final and binding on the contractor, although the same may not be shown on or described specifically in contract documents

5.1.3 Generality of this present provision shall not be deemed to cut down or limit in any way because in certain cases it may and in other cases it may not be expressly stated that the contractor shall do or perform a work or supply articles or perform services at his Own cost or without additional payment or without extra charges or words to the same effect or that it may be stated or not stated that the same are included in and covered by the Schedule of Rates.

### **5.1.4 Schedule of rate to cover constructional plant, materials, labour etc.**

Without in any way limiting the provisions of the preceding sub-clause the Schedule of Rates shall be deemed to include and cover the cost of all constructional plant, temporary works (except as provided for herein) pumps, materials, labour, insurance, fuel, stores and appliances to be supplied by the Contractor and all other matters in connection with each item in every respect maintained and as shown or described in the contract documents or as maybe ordered in writing during the continuance or the contract.

### **5.1.5 Schedule of rates to cover royalties, rents and claims**

The Schedule of Rates shall be deemed to include and cover the cost of all royalties and fees for all articles, processes, protected by letter, patent or otherwise incorporated in or used in connection with the works, also all royalties, rents and other payments in connection with obtaining materials of whatsoever kind for the works and shall include an indemnity to Owner which the Contractor hereby give against all actions, proceedings, claims, damages, costs and expenses arising from the incorporation or the use on the works of any such articles, processes or materials. Octroi or other municipal or local Board charge, if levied on materials, equipment or machinery to be brought to site and removed from site for use on work or after completion of the work, shall be borne by the Contractor.

### **5.1.6 Schedule of rates to cover taxes and dues**

No exemption or reduction of customs duties, excise duties, sales tax or any other duties. transport carriages, stamp duties of Central or State Government or other body including one company or dues, taxes or charges (from or of any other body including the company). whatsoever will be granted or obtained all of which expenses shall be deemed to be included in and cover by the Schedule of Rates. The Contractor shall also obtain and pay for all permits, or other privileges necessary to complete work.

### **5.1.7 Schedule of rates to cover risks of delay**

The Schedule of Rates shall be deemed to include and cover the risk of all possibilities of delay and interference with the Contractor's conduct of the works which occur from any cause including orders of Owner in the exercise of his powers and on account of extension of time granted due to various reasons and for all other possible causes of delay.

### **5.1.8 Schedule of rates cannot be altered**

For work under unit rate basis, no alteration will be allowed in the schedule of rates by reason or works or any part of them being modified, altered, extended, diminished or omitted. The schedule of rates are fully inclusive rates which have been fixed by the Contractor and agreed to by owner and can not be altered.

For lumpsum contracts the payment will be made according to the work actually carried out, for which purpose an item-wise or work-wise schedule of rates shall be furnished. suitable evaluating the value of work done and preparing running account bills.

## **5.2.0 PROCEDURE FOR MEASUREMENT & BILLING OF WORK IN PROGRESS**

### **5.2.1 i) Measurements**

All measurements shall be in metric system. All the works in progress will be jointly measured by the authorized agent progressively. Such measurements will be got recorded in the measurement book by the Engineer-in-Charge or his authorized representative and signed in token of acceptance by the Contractor or his authorized representative.

For the purpose of taking joint measurement the Contractor's representative shall be bound to be present whenever required by the Engineer-in-Charge. If he is absent for any reason whatsoever the measurements will be taken by the Engineer-in-Charge or his representative and this will be deemed to be correct and binding on the Contractor.

Works that are likely to be covered up by subsequent operations should be got measured before such covering up, failing which such covered works may be liable for not being measured.

### **ii) Billing**

The Contractor will submit a bill in approved Proforma to the Engineer-in Charge of the work giving abstract and detailed measurement for the various items executed.

### **iii) Dispute in Mode of Measurement**

In case of any dispute as to the mode of measurement not covered by the contract to be adopted for any item or work, mode of measurement as per Indian Standard Specification No. 1200 shall be followed.

### **5.3.0 LUMP-SUMS IN TENDER**

For the item in tender where it include lumpsum in respect of parts of work, the Contractor shall be entitled to payment in respect of the items at the same rates as are payable under this contract for such items, or if the part of the work in question is not in the opinion of the Engineer-in-Charge capable of measurement or determination, the Engineer-in-Charge may at his discretion, pay the lumpsum amount entered in the tender of a percentage thereof and the certificate in writing of the Engineer-in-Charge shall be final to any sum or sums payable to him under the provisions of this clause.

### **5.4.0 PAYMENTS OF RUNNING ACCOUNT TO BE REGARDED AS ADVANCES**

All running account payments shall be regarded as payment by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be removed and taken away and reconstructed or re-executed or be considered as in admission of the due performance of the contract, of any part thereof in this respect, or of the accruing of any claim by the Contractor, nor shall it conclude, determine or affect in any way the powers of the Owner under these conditions or any of them as to the final settlement and adjustment of the accounts or otherwise, or in any other way vary or affect the contract. The Final bill shall be submitted by the contractor within one month of the date fixed for completion of the work. Otherwise, the Engineer-in-Charge's certificate of the measurement and of the total amount payable for the work accordingly shall be final and binding on all parties.

### **5.5.0 NOTICE OF CLAIMS FOR ADDITIONAL PAYMENT**

- 5.5.1 Should the Contractor consider that he is entitled to any extra payment or compensation in respect of the works over and above the amounts due in terms of the Contract or should the contractor dispute the validity of any deductions made or threatened by the Owner from any Running Account Bills or any payments due to him in terms of the Contract, the Contractor shall forthwith give notice in writing of his claim in this behalf to the Engineer-in-Charge and the Site Engineer within 10 (Ten) days from the date of the issue of orders or instructions relative to air. works for which the Contractor claim such additional payment or compensation. or on the happening of other event upon which the Contractor bases such claim and such notice shall give full particulars of the nature of such claim, grounds on which it is based, and the amount claimed. The Contractor shall not be entitled to raise any claim nor shall the Owner anyway be liable in respect of any claim by the Contractor unless notice of such claim shall have been given by the Contractor to the Engineer-in-Charge and the Site Engineer in the manner and within the time aforesaid and the Contractor shall be deemed to have waived any or all claims and all his rights in respect of any claim nor notified to the Engineer-in-Charge and the Site Engineer in writing in the manner and within the time aforesaid.
- 5.5.2 The Engineer-in-Charge and/or the Site Engineer shall be under no obligation to reply to any notice of claim given or claim made by the Contractor within the provisions aforesaid or otherwise or to otherwise reject the same and no commission or failure on the part of the Engineer-in-Charge/Site Engineer to reject any claim made or notified by the Contractor or delay in dealing therewith shall be deemed to be an admission by the Owner of the validity of such claim or waiver by the Owner of any of its rights in respect thereof with the intent that all such claims otherwise valid within the provisions of Clause 5.5.1 read with Clause 5.5.3 and 5.5.4 shall be dealt with/considered by the Owner at the time of submission of the Final Bill.
- 5.5.3 Any or all claims of the Contractor notified in accordance with the provision of Clause 5.3.1 hereof shall remain at the time of preparation of Final Bill by the Contractor shall be separately included in the Final Bill prepared by the Contractor in the form of a Statement of Claims

attached thereto giving particulars of the Contractor in the claim, grounds on which it is based and the amount claimed and shall be supported by a copy (ies) of the notice(s) sent in respect thereof by the Engineer-in-Charge and Site Engineer under Clause 5.5.1 hereof. In so far as such claim shall in any manner particular be at variance with the claim notified by the Contractor within the provision of Clause 5.5.1 hereof, it shall be deemed to be a claim different from the notified claim with consequence in respect thereof indicated in Clause 5.5.1 thereof and with consequences in respect of the notified claim as indicated in Clause 5.5.4 hereof.

- 5.5.4 Any and all notified claims not specifically reflected and included in the Final Bill in accordance with the provisions of Clause 5.5.3 hereof shall be deemed to have been waived by the Contractor and the Owner shall have no liability in respect thereof and the Contractor shall not be entitled to raise or include in the Final Bill any claim(s) other than a notified claim conforming in all respects in accordance with the provisions of Clause 5.5.3 hereof.
- 5.5.5 No claim(s) shall on any account be made by the Contractor after the Final Bill with the intent the Final Bill prepared by the Contractor shall reflect any and all claims whatsoever of the Contractor against the Owner arising out of or in connection with the Contract or work performed by the Contractor there under or relation thereto and the Contractor shall notwithstanding any enabling provision in any law or contract and notwithstanding any claim in quantum merit that the Contractor could have in respect thereof be deemed to have waived any and all such claims not included In the Final Bill and to have absolved and discharged the Owner from and against the same, even if in not including the same as a foresaid, the (I in tractor shall have acted under a mistake of law or fact.
- 5.5.6 Notwithstanding the existence of any claim by the Contractor in terms hereof of otherwise the Contractor shall continue and be bound to continue and perform the works to completion in all respects according to the Contract unless the Contract or works be priory determined by he Owner in terms hereof and shall remain liable and bound in all respects under the contract
- 5.5.7 The payment of any sum on account to the Contractor during the performance of any work or item of work in respect of which a claim has been notified by the Contractor in terms of Clause 5.5.1 hereof or the making or negotiation of any interim arrangements in respect of the performance of such work or item or work by the Owner shall not be deemed to be an acceptance C' of the related claim by the Owner, or any part or portion thereof with the intent that any such payment shall constitute merely a facility or assistance to the Contractor and not an obligation upon the Owner.

#### **5.6.0 PAYMENT OF CONTRACTOR'S BILL**

No payment shall be made for works estimated to cost less than Rs.15,00,000/- till after the whole of the work shall have been completed and a certificate of completion given but in the case of works estimated to cost more than Rs, 15,00,000/- the Contractor on submitting the bill therefore be entitled to receive payment after necessary deduction towards security deposit proportionate to the part thereof approved and passed by the Engineer-in-Charge whose certificate of such approval and passing of the sum so payable shall be final and conclusive against the Contractor This payment will be made after making necessary deductions as stipulated elsewhere in the contract document for materials, security deposit etc.

Payment due to the Contractor shall be made by the Owner by Crossed Account Payee' cheque forwarding the same to registered officer or the notified office of the Contractor. In no case will Owner be responsible if the cheque is mislaid or misappropriated by unauthorized persons. In all case the Contactor shall present is bill dully pre-receipt on proper revenue stamp. All payments shall be made in Indian currency.

## **5.7.0 RECEIPT FOR PAYMENT**

Receipts for payment made on account of work when executed by a firm must be signed by a person holding due power of attorney in this respect on behalf of the Contractor except when the Contractor is described in his tender as a limited company in which case the receipts must be signed in the name of the company by one of its Principal officers or by some other persons having authority to give effectual receipt for the company.

## **5.8.0 COMPLETION CERTIFICATE**

### **5.8.1 Application for Completion Certificate**

When the Contractor fulfills his obligations under clause 5.1.4 he shall be eligible to apply for completion certificate, The Contractor may apply for separate completion certificate in respect of each such portion of the work by submitting the completion documents alongwith such application for completion certificate.

The Engineer-in-charge shall normally issue to the Contractor completion certificate within one month after receiving an application therefore from the contractor after verifying from the completion documents and satisfying himself that the work has been completed in accordance with and as set out in the construction and erection drawings, and the contract documents.

The Contractor after obtaining the completion certificate is eligible to present the final bill for the work executed by him under the terms of contract.

### **5.8.2 Completion Certificate**

Within one month of the completion of the work in all respects the Contractor shall be furnished a certificate by the Engineer-in-Charge for such completion but no certificate shall be given nor shall the work be deemed to have been executed until all scaffolding, surplus materials and rubbish is cleaned off the site completely nor until the work shall have been measured by the Engineer-in Charge whose measurement shall be binding and conclusive.

If the Contractor shall fail to comply with the requirements of this clause on or before the date fixed for the completion of the work, the Engineer-in-Charge may at the expenses of the Contractor, remove such scaffolding, surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid, and the Contractor shall forthwith pay the amount of all expenses so incurred and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any sum remaining after deducting from the amount actually realized by the sale thereof~ the full expenses incurred by Owner in removal and disposal of such scaffolding, surplus materials, debris, etc.

### **5.8.3 Completion Certificate Documents**

For the purpose of clause 5.8.4 the following documents will be deemed to form the completion documents:

- i) The Technical Documents according to which the work was carried out.
- ii) Three sets of Construction Drawings showing therein the modification and corrections made during the course of execution signed by the Engineer-in-Charge.

- iii) Completion Certificate for embedded' and 'covered' up works.
- iv) Certificates of tests performed for various works.
- v) Certificates of final levels as set out for various works.
- vi) Material appropriation Statement for the materials issued by Owner Stores for the works and list or surplus materials returned to Owner Stores duly supported by necessary documents.

#### **5.8.4 Final decision and final certificate**

Upon the expiration of the liability and subject to the Engineer-in-Charge being satisfied that the works have been duly maintained by the Contractor during monsoon or such period as herein before provided in Clause 4.24.1 and that the Contractor has in all respect made up an) subsidence and performed all his obligations under the contract, the Engineer-in-Charge shall (without prejudice to the rights of Owner to retain the provisions of relevant clause here or otherwise) give a certificate (herein referred to as the final certificate) to that effect and the Contractor shall not be considered to have fulfilled the whole or his obligations under the contract until Final Certificate shall have been given by the Engineer-in-charge notwithstanding any previous entry upon the works and taking possession, working or using of the same or any part thereof by owner.

#### **5.8.5 Certificates and payments no evidence of completion**

- a) No certificate other than the final certificate or payments against a certificate or on general account shall be taken to be an admission by Owner of the due performance of the contract any part thereof or of occupancy of validity of any claim by the Contractor.
- b) Owner shall have a lien on and over all or any moneys that may become due and payable to the Contractor under these presents and/or also on and over the deposit or security amount or amounts made under the contract and which may become repayable to the Contractor under the conditions for, or in respect of any debt or sum that may become due and payable to Owner by the Contractor either alone or jointly with another or others and either under this or under any other contract or transactions of any nature whatever between Owner and the Contractor.
- c) Owner reserve the right to carry out a post payment audit and/or technical examination of the works and the final bills including all supporting vouchers, abstracts etc. and to enforce recovery if as a result of such examination any over-payment is discovered in respect of any work done by the Contractor or alleged to have been done by him under the contract and such recovery will be made by Owner from the Contractor by any or all of the methods presented above. Such audit and/or technical examination may be conducted by the Chief Technical Examiner of the Central Vigilance Commission or any other Authority as appointed by the owner. If on the other hand any under payment is discovered the amount shall be duly paid to the Contractor by Owner. Further, Owner reserves the right to make such recovery and adjustment notwithstanding the fact that the amount of the final bill may be included by one of the parties as an item of dispute before any Arbitrator appointed under the Arbitration clause of the contract and notwithstanding the fact that the amount of the final bill figures in the Arbitration award. And further, unless the Contractor pays and clears the claims of Owner immediately on demand, Owner shall, at all times be entitled to deduct the said debt or sum from the sums due to the Contractor or becoming payable to the Contractor under these presents or under any other contract or transaction whatsoever between the Contractor and the Company.

## **6.0.0 TAXES AND INSURANCE**

### **6.1.0 TAXES, DUTIES, OCTROI ETC.**

The Contractor agrees to and does hereby accept full and exclusive liability for the payment of any and all taxes, duties, Octroi, royalties etc. now or hereafter imposed, increased, or modified, and all sales tax duties, Octroi, royalties etc. now in force and thereafter increased, imposed or modified from time to time in respect of works and materials and all contribution and taxes for unemployment compensation, insurance and old age pensions or annuities now or hereafter imposed by any Central or State Governmental authority or other local authorities which are imposed with respect to or covered by the wages, salaries, or other compensations paid to by the persons employed by the Contractor or by his Sub-Contractor and the Contractor shall be responsible for the compliance with all obligations and restrictions imposed by the Labour Law or any and the Contractor further agrees to comply, and to secure the compliance of all Sub-Contractors, with all applicable Central, States, Municipal and local laws and regulations and requirements of any Central, State or Local Governmental or other agency or authority. Contractor further agrees to defend, indemnify and hold harmless from any liability or penalty which may be imposed by the Central, State or Local authorities by reason of any violation by Contractor or Sub-Contractor of such laws, regulations or requirements and also from all claims, suits or proceedings that may be brought against Owner arising under growing out of, or by reason for the work provided for by this contract, whether brought by employees of the Sub Contractor by third parties, or by central or State Government authority of any subdivision thereof, or other local authorities.

### **6.2.0 INSURANCE**

Contractor shall at his own expenses carry and maintain insurance with reputable Insurance companies to the satisfaction of owner as follows :

#### **i) Employees State Insurance Act**

The Contractor agrees to and does hereby accept full and exclusive liability for the compliance with obligations imposed by the Employees State Insurance Act, 1948 as amended from time to time and the Contractor further agrees to defend, indemnify and hold Owner harmless from any liability or penalty which may be imposed by Central, State or local authority by reason of any asserted violation by Contractor or Sub-Contractor of the Employees State Insurance Act, 1948 and its amendments and also from all claims, suits or proceedings that may be brought or by reason of the work provided for by this contract whether brought by employees of the Contractor, the sub-Contractor or his employees by third parties or by Central or State Govt. authority or any administrative sub-division thereof, or other local authorities.

The Contractor agrees to fill in with Employees State Insurance Corporation, the Declaration Forms and alt forms which may be required in respect of the Contractor's or Sub-Contractor's employees, whose aggregate remuneration is Rs. 400 per month or less or such other sums as the said Act may provide and who are employed in the work provided from time to time under the Agreement. The Contractor shall deduct and secure the agreement of the Sub-Contractor to deduct the employees' contribution as per the first Schedule of the Employee's State Insurance Act from wages and affix Employee's Contribution shall remit and secure the agreement of the Sub-Contractor to remit to the State Bank of India, Employee's State Insurance Corporation Accounts, the employer's contribution as required by the Act, the tam employer being understood as the Contractor.

The Contractor agrees to maintain all cards and records as required under the Act in respect of employees and payments and the Contractor shall secure the agreement of the Sub-Contractor to maintain such records. Any expenses, incurred for making contributions or maintaining records whether by Contractor or his Sub-Contractor shall be to the Contractor's account.

Owner shall retain such sum as may be necessary from the total contract value until the Contractor shall furnish satisfactory proof that all contributions as required by the Employees State Insurance Act, 1948 and its amendments from time to time have been paid.

**ii) Workman's Compensation & Employer's Liability Insurance**

Insurance shall be effected for all the Contractor's employees engaged in the performance of this contract. If any of the work is sublet, the Contractor shall require the sub-Contractor provide Workman's Compensation and employers responsibility insurance for the latter's employees if such employees are not covered under Contractor's Insurance.

**iii) Any other Insurance required under Law or Regulations or by Owner**

Contractor shall also carry and maintain any and all other insurance, which he may be required under any Law or regulations from time to time. He shall also carry and maintain any other insurance, which may be required by Owner.

**v) Automobile Liability Insurance**

Contractor shall take out Automobile liability Insurance to cover all risks to Owner for each of his vehicles plying on works of this contract and these insurance shall be valid for the total contract period. No extra payment will be made for this period. No extra payment will be made for this insurance. Owner shall not be liable for any damage or loss not made good by the insurance company, should such damage or loss result from unauthorized use of the vehicle.

**6.3.0 DAMAGE TO PROPERTY**

Contractor shall be responsible for making good to the satisfaction of the Engineer-in-Charge any loss of and any damage to all structures and properties belonging to Owner or being got executed or procured or being procured by Owner or of other agencies within the premises of all the works of Owner if such loss or damage is due to fault and/or the negligence or willful act or omission of the Contractor, his employees, agents, representatives or sub-Contractors.

**7.0,0 LABOUR LAWS AND SAFETY REGULATIONS**

**7.1.0 LABOUR LAWS**

- I) No labourers below the age of fifteen years shall be employed on tile work
- ii) The Contractor shall not pay less than what is provided under law to labourers engaged by him or his Sub-Contractors on this work, for work done other than on item rates basis, labour rates shall not exceed the standard rates prevailing in locality for the respective classes of labour employed.
- iii) The Contractor shall at his expenses comply with all labour laws and keep the Owner indemnified in respect thereof,

## **7.2.0 CONTRACTOR INDEMNIFY OWNER**

- i) The Contractor shall indemnify Owner and every member, officer and employee of Owner also the Engineer-in-Charge and staff against all actions, proceedings, claims, demands, costs and expenses whatsoever arising out of any failure by the Contractor in the performance of the obligations or relevant labour laws, Acts, regulations, etc. and under the contract documents. Owner shall not be liable for or in respect of any demand or compensation payable by law in respect or in consequence of any accident or injury to any workmen or other person in the employment of the Contractor or his Sub-Contractor and Contractor shall indemnify Owner against all such damage and compensation and against all claims, damage, proceedings, costs, charges and expenses whatsoever in respect thereof or in relation thereto.

### **ii) Payment of Claims and Damages**

Should Owner have to pay any money in respect of such claims or demands as aforesaid the amount so paid and the costs incurred by Owner shall be charged and paid by the Contractor and the Contractor shall not be at liberty to dispute or question the right of Owner to make such payments, notwithstanding same may have been made without his consent or authority; or in law or otherwise to the contrary.

- iii) In every case in which by virtue of the provision of section 12, sub-section (1) of workmen's compensation Act, 1923 or other applicable provision of Workman's Compensation Act or any other Act, Owner is obliged to pay compensation to workman employed by the Contractor in execution of the Works, Owner will recover from the Contractor the amount of the compensation so paid, and without prejudice to the rights under section 12, sub-section (20) of the said Act, Owner shall be at liberty to recover such amount or any thereof by deducting it from the security; deposit or from any sum due to the Contractor whether under this contract or otherwise Owner shall not be bound to contest any claim made under section 12, sub-section (1) of the said Act, except on the written request of the Contractor and upon his giving to Owner full security for all costs for which might become liable in consequence of contesting such claim.

### **iv) Employment Liability**

- a) The Contractor shall be solely and exclusively responsible for engaging or employing persons for the execution of work. All employees engaged by the Contractor shall be on his/their pay roll and paid by him/them. AU disputes or differences between the Contractor and his/their employees shall be settled by him/them. Owner has absolutely no liability whatsoever concerning the employees of Contractor. The Contractor shall indemnify the Owner against all loss or damage or liability arising out of or in the course of his/their employing persons or relations with his/their employees. The Contractor shall make regular and full payment of wages and salaries to his employees and furnish necessary proof whenever required by the Engineer-in-Charge. In case of any complaint by any employee of the Contractor or his sub-Contractor regarding non-payment of wages, salaries or other dues, Owner reserves the right to make such payments directly to such employee or Sub-Contractor of the Contractor and recover the amount in full from the bills of the Contractor, and the Contractor shall not claim any compensation or reimbursement thereof. The Contractor shall comply with the Minimum wages Act applicable to the area with regard to payment of wages of his employees and also of employees of his sub-Contractor.

- b) The Contractor shall advise in writing to all his employees and the employees of his sub Contractor as follows:

It is to be fully understood that your appointment is only in connection with our construction contract with Owner and that it does not give you any right or claim for employment in Owner.

### **7.3.0 HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS**

In respect of all labour directly or indirectly employed in the works for the performance of the Contractor's part of this agreement, the Contractor shall comply with or cause to be complied with all the rules and regulations of the local sanitary and other authorities or as framed by Owner from time to time for the protection of health and sanitary arrangements for all workers, whether of the Contractor or other agency including workers of Owner.

### **7.4.0 SAFETY REGULATIONS**

- i) In respect of all labour, directly or indirectly employed in the work for the performance of Contractor's part of this agreement, the Contractor shall at his own expense arrange for all the safety provisions as per safety codes of CPWD, Indian Standards Institution, the Electricity Act, the Mines Act and such other Acts as applicable.
- ii) The Contractor shall observe and abide by all fire and safety regulations of Owner, Before starting construction work Contractor shall consult safety engineer of Owner and Engineer-in-Charge and must make good to the satisfaction of the Engineer-in-Charge any loss or damage due to fire to any portion of the work done or to be done under this agreement or to any of the existing property of Owner.

7.4.1 The Contractor undertake to ensure due and complete compliance with all Laws, regulations, rules etc. whether of the Central Government or the State Government or of any other competent authority applicable to the workmen employed or whose services are otherwise availed of by the Contractor whether in connection with the construction work at the site or otherwise, The Owner shall have the right to inspect the records maintained by the Contractor concerning such workmen from time to time and the Contractor shall whenever required by the Owner produce such records as the Owner may call upon the Contractor to produce for the Owner inspection in order to ascertain whether or not the requirements or all such laws, regulations, rules etc. have been complied with by the Contractor, In the event of any contravention of such laws, regulations, rules etc. coming to light whether as a result of such inspection or to otherwise the Owner shall have the right to require the Contractor to effect such compliance within such time as the Owner prescribe in that behalf and in the event of the Contractor failing to effect such compliance within the time prescribed by the Owner then the Owner shall without prejudice to his other rights be entitled to withhold from the amount payable to the Contractor any amount payable to the workmen under any such laws, regulations or rules and to make payment thereof to the workmen, The Owner shall also have in that event the right to terminate the contract with immediate effect and to exercise powers reserved to the Owner under the contract as a result of termination.

### **8.0.0 ARBITRATION**

#### **8.1.0 Settlement of Disputes by Arbitration (other than mentioned in 8.2 below):**

In case any dispute or difference arises between the parties either upon any question relating to the meanings of the specifications, designs, drawings and instructions herein before mentioned or

these conditions, or otherwise concerning the work, or the execution, or failure to execute the same, whether arising during the progress of the work, or after the completion or abandonment thereof, or as to the breach of this contract, then the dispute or difference shall be referred to the OWNER or his authorized representative who will be the sole Arbitrator, whose decision thereon shall be final, conclusive and binding on all the parties.

**8.2.0** For the settlement of disputes between government department and another and one government department and public enterprise and one public enterprise and another:

In the event of any dispute or difference relating to the interpretation and application of the provisions of the contract, such disputes or differences shall be referred by either party to the arbitration of one or the arbitrators in the department of public enterprises to be nominated by the secretary to the government of India in charge of the bureau of public enterprises. The arbitration act, 1940 shall not be applicable to the arbitration under this clause. The award of the arbitrator shall be binding upon the parties to the dispute, provided, however, any party aggrieved by such award may make a further reference for setting aside or revision of the award to the law secretary, department of legal affairs, ministry of law and justice, government of India upon such reference the dispute shall be decided by the law secretary or the special secretary/additional secretary when so authorized by; the law secretary, whose decision shall bind the parties finally and conclusively. The parties to the dispute will share equally the cost of arbitration as intimated by the arbitrator.

**9.0.0 SAFETY CODE-GENERAL**

**9.1.0 GENERAL**

Contractor shall adhere to safe construction practice and guard against hazardous and unsafe working conditions and shall comply with safety rules of Owner as set forth herein. Prior to start of construction, Contractor will be furnished extra copies of Owners Safety Code or information and guidance.

**9.2.0 FIRST AID AND INDUSTRIAL INJURIES**

- a) Contractor shall maintain First-aid facilities for his employees and those of his sub Contractors.
- b) Contractor shall make outside arrangements for ambulance service and for the treatment of industrial injuries. Names of those providing these services shall be furnished to Engineer-in-Charge prior to start of construction, and their telephone numbers shall be prominently posted in Contractor's field office.
- c) All critical industrial injuries shall be reported promptly to the Engineer-in-Charge as also a copy of Contractor's report covering each personal injury requiring the attention of a Physician shall be furnished,

**9.3.0 GENERAL RULES**

No person shall carry any photographic films, inflammable material within the premises of the project.

#### **9.4.0 CONTRACTOR'S BARRICADES**

9.4.1 Contractor shall erect and maintain barricades required in connection with his operation to guard or project:

- a) Excavations.
- b) Hoisting areas.
- c) Areas adjudged hazardous by inspectors of Owner.
- d) Existing property subject to damage by Contractor's operations.
- e) Rail Road unloading spots.

9.4.2 Contractor's employees and those of his Sub-Contractor shall become acquainted with barricading practice of Owner and shall respect the provisions thereof.

9.4.3 Barricades and hazardous area adjacent to and along normal routes or travel shall be marked by approved type of electric rod flasher lights at night.

9.4.4 Suitable warning boards of standard traffic type shall be erected 30m away from each road barricades as well as barricades for work spots within 2m of road curb.

#### **9.5.0 SCAFFOLDING**

- i) Suitable scaffoldings should be provided for workmen for all works that cannot be done safely from the ground or from solid construction except such short period work as can be done safely from ladders. When a ladder is used an extra Mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well, suitable footholds and handholds shall be provided on the ladder and the ladder shall be given an inclination not steeper than 1 in 4 (1 horizontal and 4 vertical).
- ii) Scaffolding or staging more than 3.5M above the ground or floor, swing suspended from an overhead support or erected with stationary support shall have a guard rail properly attached, bolted, braced and otherwise rewarded at least 1m high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such openings and may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened to prevent it from swaying from the building structure.
- iii) Working platform gangways and stairways should be so constructed that they should not sag unduly, unequally and if the height of the platform of the gangway or the stairway is more than 3.5m above ground level or floor level, they should be closed boarded, should have adequate width and should be suitably fastened as described in (ii) above.
- iv) Every opening in the floor of a building or in working platform be provided with suitable means prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1 m.
- v) Safe means of access shall be provided to platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 10m in length while the width between the wide rails in rung ladder shall in no case be less than 300mm for ladder upto and including 3m in length. For longer ladders this width should be increased at least 5mm for each additional 300mm of length. Uniform step spacing shall not exceed 300mm. adequate precaution shall be taken to prevent danger from electrical equipment. No materials on any of the sites of work shall be so stacked or placed as to cause danger or inconvenience to any person or public.

- vi) The Contractor shall also provide all necessary fencing and lights to protect the workers and staff from accidents and shall be bound to bear the expenses of defense of every suit, action or other proceedings of law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any such suit or action or proceedings to any such person or which may with the consent of the Contractor be paid to compromise any claim by any such person.

#### **9.6.0 EXCAVATION AND TRENCHES**

All trenches, 1.2 m or more in depth shall at all times be supplied with at least one ladder for each 30m length or fraction thereof.

Ladder shall be extended from bottom of the trench to at least 1 meter above the surface of the ground. The sides of the trenches which are 1.5m or more in depth shall be stepped back to give suitable slope, or securely held by timber bracing, so as to avoid the danger of sides to collapse, the excavated material shall not be placed within 2m of the edge of the trench or the trench depth whichever is more. Cutting shall be done from top to bottom with proper slopes. Under no circumstances undermining or undercutting be done.

#### **9.7.0 DEMOLITION**

Before any demolition work is commenced and also during the process of the work.

- a) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- b) No Electric cable or apparatus which is liable to be a source of danger shall remain electrically charged.
- c) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so over loaded with debris or material as to render it unsafe.

#### **9.8.0 SAFETY EQUIPMENT**

All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the persons employed on the site and maintained in a condition suitable for immediate use, and the Contractor should take adequate steps to ensure proper use of equipment by those concerned.

- a) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective gloves.
- b) those engaged in white washing and mixing or stacking of cement bags or any materials which are injurious to the eyes shall be provided with protective goggles.
- c) Those engaged in welding and cutting works shall be provided with protective face and eye-shields, hand gloves etc.
- d) Stonebreakers shall be provided with protective goggles and protective clothing and seared at sufficiently safe intervals.

- e) When workers are employed in sewers and manholes, which are in use, the Contractor shall ensure that the manhole covers are opened and are ventilated at least for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public.
- f.) The Contractor shall not employ men below the age of 18 years and women on the work of painting with products containing lead in any form. Wherever men above the age of 18 years are employed on the work of lead painting, the following precautions should be taken.
  - 1. No paint containing lead or lead product shall be used except in the form of paste or ready-made paint.
  - 2. Suitable facemasks should be supplied for use by the workers when paint is applied in the form of spray or a suitable surface having lead paint dry rubbed and scraped.
  - 3. Overall shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on cessation of work.

#### **9.9.0 RISKY PLACES**

When the work is done near any place where there is a risk of drowning, all necessary safety equipment should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision should be made for prompt first-aid treatment of all injuries likely to be sustained during the course of the work.

#### **9.10.0 HOISTING EQUIPMENT**

Use of hoisting machine and tackle including their attachments, anchorage and supports shall conform to the following standard conditions.

- a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defect and shall be kept in good repair and in good working order.
- b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from patent defects.
- c) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to the operator.
- d) In case of every hoisting machine and of every chain ring hook, shackle, swivel and pulley block used in hoisting or lowering or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load and the conditions under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
- e) In case of departmental machines, the safe working load shall be notified by the Engineer-in-Charge. As regards Contractor's machines, the Contractor shall notify the safe working load of machine to the Engineer-in-Charge, whenever he brings any machinery to site of work and get it verified by the Engineer-in-Charge.

### **9.11.0 ELECTRICAL EQUIPMENT**

Motors, Gearing, Transmission, Electric Wiring and other dangerous parts of hoisting appliance should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum risk of accidental descent of the load. Adequate precaution should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations, which are already energized, insulating mask wearing apparel; such as gloves, sleeves and boots and insulated tools as may be necessary should be provided. The workers shall not wear any rings, watches and carry keys or other materials, which are good conductors of electricity.

### **9.12.0 MAINTENANCE OF SAFETY DEVICES**

All scaffolds ladders and other safety devices mentioned or described herein shall be maintained in safe conditions and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.

### **9.13.0 DISPLAY OF SAFETY INSTRUCTIONS**

The safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at the work spot. The person responsible or compliance of the safety code shall be named therein by the Contractor.

### **9.14.0 ENFORCEMENT OF SAFETY REGULATIONS**

To ensure effective enforcement of the Rules and Regulations relating to Safety Precautions, the arrangement made by the Contractor shall be open to inspection by the Welfare Officer, Engineer-in-Charge or Safety Engineer.

### **9.15.0 NO EXEMPTIONS,**

Notwithstanding the above clauses there is nothing in these to exempt the Contractor from the operations of any other Act or Rules in force in the Republic of India.

The works throughout including any temporary works shall be carried on in such a manner as not to interfere in any way whatsoever with the traffic on any roads or footpath at the site or in the vicinity thereto or any existing works whether the property of the company or a third party. In addition to the above, the Contractor shall follow the Safety Code provisions as per CPWD Safety provisions framed time to time.

**(SEAL AND SIGNATURE OF TENDERER)**

## 10. FORM OF CONTRACT

THIS CONTRACT made at \_\_\_\_\_ this  
Day of 2007 BETWEEN **Rural Electrification Corporation Ltd.**, ‘(Owner)’ (which expression shall include its successors and assign) of the one part AND \_\_\_\_\_ s/o \_\_\_\_\_(carrying on business sole proprietorship) carrying on business in partnership under the name and style of \_\_\_\_\_ a company registered in India under the Indian Companies Act\* 1913/1936, having its registered office at (hereinafter referred to as the ‘Contractor’ which expression shall include \*his/their/\* its executors, administrators, representatives and permitted assigns successors and permitted assigns) of the other part:

### WHEREAS

The OWNER desires to have executed the works of \_\_\_\_\_ more specifically mentioned and described in the contract documents (hereinafter called the ‘work’ which expression shall include all amendments therein and/or modifications thereof) and has accepted the tender of the Contractor for the said work.

NOW, THEREFORE, THIS CONTRACT WITNESS AS FOLLOWS;

### ARTICLE 1

#### CONTRACT DOCUMENTS

1.1 The following documents shall constitute the contract documents, namely;

- (a) This contract;
- (b) Tender documents as defined in the general instructions to tenders;
- (c) Acceptance of Letter of Award.

1.2 A copy of each of the Tender Documents is annexed hereto and the said copies have been collectively marked Annexure A’ while a copy of the letter of Award and a copy its acceptance dated \_\_\_\_\_ are annexed hereto & said copies have been collectively marked as Annexure-’B’.

### ARTICLE 2

#### WORK TO BE PERFORMED

2.1 The Contractor shall perform the said work upon the terms and conditions and within the time specified in the Contract Documents.

### ARTICLE 3

#### COMPENSATION

3.1 Subject to and upon the terms and conditions contained in the Contract Document OWNER shall pay Contractor compensation as specified in the Contract document upon the satisfactory performance of the said work and/or otherwise as may be specified in the Contract Documents.

**ARTICLE 4  
JURISDICTION**

4.1 Notwithstanding any other court or courts having jurisdiction to decide the question(s) forming the subject-matter of the reference if the same had been the subject matter of a suit, any and all actions and proceeding arising out of or relative to the contract (including any arbitration in term thereof) shall lie only in the Court of Competent Civil Jurisdiction in this behalf at New Delhi (where this contract has been signed on behalf of the Owner) and only the said Court(s) shall have jurisdiction to entertain and try any such action(s) and/or proceeding(s) to the exclusion of all other Courts.

**ARTICLE 5**

**ENTIRE CONTRACT**

5.1 The Contract Documents mentioned in Article-I hereof embody the entire Contract between the parties hereto, and the parties declare that in entering this Contract they do not rely upon any previous representation, whether express or implied and whether written or oral, or any inducement, understanding or agreement of any kind not included within the Contract Document and all prior negotiations, representation, contract and/or agreements and understandings are hereby cancelled.

**ARTICLE 6**

**NOTICES**

6.1 Subjects to any provisions in the contract documents to the contrary, any notice, or communication sought to be served by the Contractor on the Owner with reference to the Contractor shall be deemed to have been sufficiently served upon the Owner (notwithstanding any enabling provisions under any law to the contrary) only if delivered by hand or by Registered Acknowledgment Due Post to the Engineer-in-Charge as defined in the General Conditions of Contract.

6.2 Without prejudice to any other mode of service provided for in the Contract Documents or otherwise available to the Owner, any notice, order or other communication sought to be served by the Owner on the Contractor with reference to the Contract, shall be deemed to have been sufficiently served if delivered by hand or through Registered Post Acknowledgment Due to the principal office of the Contractor at \_\_\_\_\_

**ARTICLE 7**

**WAIVER**

7.1 No failure or delay by the Owner in enforcing any right or remedy of the Owner in terms of the Contract or any obligation or liability of the Contractor in terms thereof shall be deemed to be a waiver of such right, remedy, obligation or liability, as the case may be, by the Owner and notwithstanding such failure or delay, the Owner shall be entitled at any time to enforce such right, remedy, obligation or liability, as the case may be.



**INFORMATION ABOUT TENDERERS****FORMAT-I**

<b>Sl.No.</b>	<b>Particulars</b>	<b>Information to be furnished</b>
1.	Name of the Organisation	
2.	Address	
3.	Year of Establishment	
4.	Status of the firms (Whether Company/Firm/Proprietary)	
5	Name of Directors/Partners/Proprietor: i) ii) iii) (Enclose relevant document/deed)	
6	Whether registered with the Registrar of Companies/Registrar of Firms. If so, mention number and date along with relevant documents.  (a) Name and address of Bankers : i) ii) iii) iv)	
	(b) Enclose Solvency Certificate from the Bankers. Depending upon the class of contractors up to 100 lacs .	
	(c) Whether able to furnish performance guarantee for full cost of work if entrusted.	
7	Whether registered for sale tax purposes. If so, mention No. and date. Also Furnish Copies of sales tax Clearance Certificate.	

Sl.No.	Particulars	Information to be furnished															
8	<p>Whether an assessee of Income Tax. If so, mention permanent account number.</p> <p>Furnish copies of audited Balance Sheet and Profit &amp; Loss Account (audited) for the last three years {Turn over details}</p>	<table border="1"> <thead> <tr> <th data-bbox="846 352 922 384"><u>S.N.</u></th> <th data-bbox="954 352 1031 384"><u>Year</u></th> <th data-bbox="1175 352 1289 384"><u>Turnover</u></th> </tr> </thead> <tbody> <tr> <td data-bbox="867 407 883 438">1</td> <td data-bbox="954 407 1052 438">2004-05</td> <td></td> </tr> <tr> <td data-bbox="867 464 883 495">2</td> <td data-bbox="954 464 1052 495">2005-06</td> <td></td> </tr> <tr> <td data-bbox="867 520 883 552">3</td> <td data-bbox="954 520 1052 552">2006-07</td> <td></td> </tr> <tr> <td colspan="3" data-bbox="846 577 1105 609">Average of Three years:</td> </tr> </tbody> </table>	<u>S.N.</u>	<u>Year</u>	<u>Turnover</u>	1	2004-05		2	2005-06		3	2006-07		Average of Three years:		
<u>S.N.</u>	<u>Year</u>	<u>Turnover</u>															
1	2004-05																
2	2005-06																
3	2006-07																
Average of Three years:																	
9	<p>If you are registered in the panel of other organizations/statutory bodies, such as CPWD, PWD, MES, Banks etc.furnish their names, category and date of registration.</p> <p>i)</p> <p>ii)</p> <p>iii)</p> <p>iv)</p> <p>v)</p> <p>vi)</p> <p>vii)</p>																
10	<p>Detailed description and value of works done for others in the past.(Supported with copies of relevant documents).</p>																
11	<p>Specify the maximum value of work executed in last seven years. (Supported with copies of relevant documents). Mention at least three works of maximum value.</p>																
12	<p>Furnish the names of three responsible persons who will be in a position to certify about the quality as well as past performance of your organization.</p> <p>i)</p> <p>ii)</p> <p>iii)</p>																
<p><b>NOTE: Where copies are required to be furnished, these are to be certified copies preferably by the concerned agencies or a Govt. Officer.</b></p>																	

**(SEAL AND SIGNATURE OF TENDERER)**

**FORMAT FOR PRE-QUALIFICATION****FORMAT-II**

S.N.	Pre-qualification Condition	Name of the completed project	Cost of the project	Completion Month/Year
1(a)	completed single similar works of Rs.1.0 Crore and above during the last 7 years ending April,2007.			
1(b)	completed at least two similar works of Rs.62 lakhs during the last 7 years ending April,2007.			
1(c)	completed at least three similar works of Rs.41 lakhs during the last 7 years ending April,2007.			
Average Annual financial turnover of the bidders during the last 3 year, ending 31 <sup>st</sup> March,2006, should be at least Rs.40 lakhs.				

**Note :- Completion certificate in respect of the project completed should be furnished duly attested.**



**CONCURRENT COMMITMENTS**

**FORMAT-IV**

**Name of Work:**

**Name of Tenderer :**

TENDER SHALL GIVE INFORMATION ABOUT HIS PRESENT COMMITMENTS AS PER PROFORMA

<b>Sr No.</b>	<b>Full Postal Address Of client &amp; Name of Officer-in-Charge</b>	<b>Description of the work</b>	<b>Value of Contract  Work</b>	<b>Date of commence ment of the</b>	<b>Scheduled Completion period</b>	<b>%age completion as on date</b>	<b>Expected date of completion</b>	<b>Remarks</b>
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

Certified that the above information is correct

**(SEAL AND SIGNATURE OF TENDERER)**

**FORMAT-V**

**INFORMATION REGARDING EQUIPMENT WHICH THE TENDERER PROPOSES TO USE FOR THIS WORK**

<b>S.No.</b>	<b>DESCRIPTION</b>	<b>NUMBER</b>	<b>MAKE</b>	<b>CAPACITY</b>	<b>OWNER</b>	<b>APPROXIMATE DATE WHEN IT WILL BE DEPLOYED AT SITE</b>	<b>PERIOD OF RETENTION AT SITE</b>
1.	2.	3.	4.	5.	6.	7.	8.

**(SEAL AND SIGNATURE OF TENDERER)**

**KEY PERSONNEL PERMANENTLY EMPLOYED**

**FORMAT-VI**

Sl. No.	Name	Designation	Qualification	Experience	Years with the Firm	Any Other
1	2	3	4	5	6	7

**OTHER RELEVANT INFORMATION**

**WORK FORCE**

Sl.No.	Permanently Employed	No.	Years with the Firm	Remarks
1	Masons			
2	Carpenters			
3	Mechanics			
4	Electricians			
5	Mate/Helpers			
6	Others			

**PROPOSED SITE ORGANIZATION**

**NAME OF THE WORK:**

**NAME OF TENDERER:**

The Tenderer is to indicate here the proposed site organization he proposes to set up for execution of the work. It is understood that this will be augmented from time to time depending on the requirements for timely completion of work as directed by Engineer-in-Charge. The Tenderer is also to furnish the Bio-Data of Site-in-Charge and his key personnel to be deployed at Site

**BIO-DATA OF SITE-IN-CHARGE & KEY PERSONNEL**

**(SEAL AND SIGNATURE OF TENDERER)**

**FORMAT-VIII**

**LIST OF ENCLOSURES**

**NAME OF WORK:**

**NAME OF TENDERER:**

The Tenderer is required to enclose the following documents as part of his tender.

1. Power of attorney of the signatory to the tender.
2. Income-tax/Sales-tax clearance certificate in the performance prescribed by the Govt. of India.
3. Document showing turnover for the past three years such as annual report profit & loss account etc.
4. Solvency Certificate from Nationalized/Scheduled Bank

(SEAL AND SIGNATURE OF TENDERER)

**EXCEPTIONS AND DEVIATIONS**

**NAME OF WORK:**

**NAME OF TENDERER**

In line with Tender document Tenderer may stipulate exceptions and deviations to the Tender conditions if considered unavoidable.

<b>SR. NO.</b>	<b>PAGE NO OF TENDER DOCUMENT</b>	<b>CLAUSE NO. OF TENDER</b>	<b>SUBJECT</b>	<b>DEVIATION</b>
----------------	-----------------------------------	-----------------------------	----------------	------------------

NOTE: Any deviations taken by the Tenderer to the stipulations of the tender document shall be brought out as per this format only and enclosed alongwith the offer

Any deviations not brought out in this Form and written elsewhere in the tender document shall not be recognized and the tender document shall not be recognized and the same is treated as null & void.

**(SEAL AND SIGNATURE OF TENDERER)**

**Workshop Facilities**

<b>Location</b>	<b>Land Area</b>	<b>Type of Structure</b>	<b>Type of Facilities</b>
(a)			
(b)			
(c)			
(d)			

**List of major constructional equipment in possession of the firm :-**

- (i)
- (ii)
- (iii)
- (iv)
- (v)

## **I. SPECIAL CONDITIONS OF CONTRACT**

### **1.0 GENERAL:**

- 1.1 Special Conditions of Contract shall be read in conjunction with the General Conditions of Contract, Schedule of Rates specifications of work, drawings and any other document forming part of this contract wherever the context so requires.
- 1.2 Notwithstanding the sub-division of the document into these separate sections and volumes, every part of each shall be deemed to be supplementary of every other part and shall be read with and into the contract so far as it may be practicable to do so.
- 1.3 Where any portion of the General Conditions of contract is repugnant to or at variance with any provisions of the Special conditions of Contract, then unless different intention appears, the provision(s) of the Special Conditions of Contract shall be deemed to override the provision(s) of General Conditions of Contract only to the extent that such repugnance or variance cannot be reconciled with the tender conditions of contract and shall be to the extent of such repugnance of variations, prevail it being understood that the provisions of General Conditions of Contract shall otherwise prevail.
- 1.4 Wherever it is stated anywhere in this tender document that such and such a supply is to be effected or such and such a work is to be carried out, it shall be understood that the same shall be effected/carried out by the Contractor at his own cost, unless a different intention is specifically and expressly stated herein or otherwise explicit from the context.
- 1.5 The materials, design and workmanship shall satisfy the relevant Indian Standards, the job specifications contained herein & codes referred to. Where the job specifications stipulate requirements in addition to those contained in the standard codes and specifications, these additional requirements shall also be satisfied. In the absence of any Standard/Specifications/Codes of practice for detailed specifications covering any part of the work covered in this tender, the instructions/directions of Engineer-in-Charge will be binding on the Contractor.
- 1.6 The items given under Schedule of Rates shall be read in conjunction with scope of work scope of supply (by Owner as well as by Contractor) and job specifications and in case of any irreconcilable conflict between them the provision in the item under Schedule of Rates” will override the corresponding provision only if the scope of work, scope of supply and job specifications, which cannot be reconciled in such cases the decision of Engineer-in-Charge shall be final and binding on the Contractor.
- 1.7 In case of contradiction between Indian Standards, General Conditions of Contract, Special Conditions of Contract, Specifications Drawings, Schedule of Rates, the following shall prevail in order of precedence.

- i) Telefax of intent / Detailed Letter of intent along with statement of Agreed Variations and its enclosures.
- ii) Schedule of Rates and Quantities.
- iii) Special Conditions of Contract
- iv) Job Specifications
- v) Drawings
- vi) General Conditions of Contract
- vii) Indian Standard! Technical /Material Specifications

## **2.0 LOCATION OF SITE AND SITE PARTICULARS**

- 2.1 The site of work is located at New Delhi.
- 2.2 The intending Tenderer shall be deemed to have visited the site and familiarized himself thoroughly with the site conditions before submitting the tender. Non-familiarity with the site conditions will not be considered a reason either for extra claims or for not carrying out the work in strict conformity with the drawings and specifications.

## **3.0 WATER AND POWER**

- 3.1 Water  
Contractor shall make his own arrangement for construction water at site.

- 3.2 **Power**  
Contractor shall be required to make his own arrangement for construction power. However power can be made available to the Contractor to a limited extent from the Civil Contractor on chargeable basis at the prevailing rates of BSES + 15% towards overhead charges subject to availability. All installations/fixtures & fittings/cabling for construction power shall be in the scope of the Contractor without any additional cost to the Owner.

## **4.0 TIME SCHEDULE**

- 4.1 The time schedule is given separately in Appendix-I. The works shall be executed strictly as per the time schedule.
- 4.2 Monthly/weekly execution program will be drawn up by the Engineer-in-Charge jointly with the Contractor based on availability of materials, work fronts and the joint program of execution as referred to above. The Contractor shall scrupulously adhere to the Targets/Programs by deploying adequate personnel, Construction equipment, Tools and Tackles and also by timely supply of required materials coming within his scope of

supply as per contract. In all matters concerning the extent of target set out in the weekly/monthly program and the degree of achievement, the decision of the Engineer-in-Charge will be final and binding on the Contractor.

- 4.3 Contractor shall give every day category-wise labour and equipment report alongwith the progress of work done on previous day in the Proforma prescribed by the Owner.

## **5.0 SCOPE OF SUPPLY**

Owner does not envisage to supply any material for this work & Contractor has to arrange all materials at his own & the rates quoted shall deemed to include the same.

## **6.0 SCOPE OF WORK**

The scope of work for this work shall be as per Annexure-III.

## **7.0 SCHEDULE OF QUANTITIES/RATE**

- 7.1 The quantities shown against the various items are only approximate and may vary to any extent individually subject to relevant clause of General Conditions of Contract. Any increase or decrease in the quantities shall not form the basis for alteration of rates quoted and accepted including where low/high rates have been quoted by the successful Tenderer.
- 7.2 The Owner reserves the right to interpolate or extrapolate the rate for any new item of work not finding a place in the schedule of Rates, for similar items of lower and/or higher magnitude available in the schedule of Rates.
- 7.3 In case any activity though specifically not covered in Schedule of Rates description but the same is covered under scope of work/spec. /drawing etc. no extra claim on this account shall be entertained.

## **8.0 INCOME TAX**

Income tax at prevailing rate shall be deducted from the Contractor's bills as per Income Tax Act.

## **9.0 SALES TAX ON WORKS CONTRACT/ TURNOVER TAX**

Sales tax on works Contract/ Turnover tax shall be deducted from the Contractors bill as per the prevailing rate in Punjab State. However if at a later date due to any statutory amendment for any increase! decrease i.e. variation in the sales tax on works contract/ turnover tax, the actual Sales tax! turnover tax paid by the Contractor will be reimbursed/ refunded subject to production of documentary evidence. It is however specifically noted that the Contractor shall pay Sales tax on all the purchases made by him for fulfilling his obligations under this contract and this should be included in the price quoted by him.

## **10.0 PRICE VARIATION**

- 10.1 Owner requires “FIRM PRICES FOR MATERIAL AND LABOUR’ during Contract period and no escalation shall be admissible on any account whatsoever. It is to be noted that no deviation on contract period requirements in this connection will be acceptable.

## **11.0 Measurements, Billing & Terms of Payment**

- 11.1 All works shall be measured in metric system based on actual work done as per the terms and conditions of the Tender document. Running Accounts bills based on schedule of rates shall be prepared and submitted based on joint measurements.

## **11.0 SECURED ADVANCE**

- 11.1 As per the decision of the Engineer-in-Charge, the secured advance for all imperishable items shall be released. The contractor shall execute necessary indemnity/hypothecation bond as stipulated by the Engineer-in-charge.

The secured advance shall be released as below:

75% of the landed cost of imperishable materials on receipt at site and approval of the same by Engineer-in-charge.

- 11.2 The secured advance so paid shall be recovered from the contractor’s RA Bills proportionately to the extent that the concerned materials are incorporated in the works and billed for. Balance amount, if any, will be recovered in full from the final bill of the contractor.

## **12.0 MOBILIZATION ADVANCE : No mobilization advance shall be payable.**

## **13.0 Terms of Payment**

### **RA. Bills:**

- 75% of the recommended payments duly certified by the Engineer-in-charge within Fifteen (15) working days of the submission and acceptance of the bill.
- Balance 25% with in 30 days from submission & acceptance of bill.
- 75% of Secured advance bill shall be paid with in 15 days of submission and acceptance by Engineer-in-charge.

### **Final Bill:**

Within one (1) months of submission of the bill with the final completion certificate and as per terms and conditions of the contract.

#### **14.0 PAYMENT WITH-HELD**

14.1 The Engineer-in-Charge may cause to withhold or on account of subsequently discovered evidence, cause to nullify the whole or part of any certificate to such extent as may be necessary to protect the Owner from loss on account of:

##### **14.1.1 Defective work not remedied.**

14.1.2 Failure of the Contractor to make payments properly to sub-Contractors or for materials or labour of equipment.

14.1.3 Damage to another Contractor or sub-Contractor.

14.1.4 A reasonable doubt that the Contractor intends to leave work items incomplete.

14.15 Failure to provide samples, shop drawings, models or charts as called for.

#### **15.0 DEDUCTIONS FOR INCORRECT WORK:**

15.1 If the Engineer-in-Charge deems it expedient to correct work damaged or not done in accordance with the contract, an equitable deduction from the contract price shall be made thereof and the decision of the Owner shall be final.

#### **16.0 DECLARATION TO BE FURNISHED IN RESPECT OF TENDERER'S ORGANIZATION**

16.1 Tenderer shall have to submit a declaration whether he is a relative of any Director of OWNER or the Tenderer is a firm in which Director of Owner or his relative is a partner in his organization or the Tenderer is a Private Company in which Director of Owner is a member or Director, alongwith his offer. Such declaration is a must for considering the offer of the Tenderer.

#### **17.0 CONTRACT DRAWINGS**

17.1 Drawings forming part of the contract are listed under Tender Document Part-II. Other drawings and details issued and shop drawings approved during the currency of the contract shall also form part of the contract.

The Contractor shall keep at least one copy each of drawings, conditions of contract, specifications, instructions and schedule of quantities at the site of works available for reference by any authorized representative of Owner/Engineer-in-Charge, at all times during the progress of the works. The drawings shall be displayed and arranged as directed by the Engineer-in-Charge.

#### **18.0 CONSTRUCTION EQUIPMENT AND SITE ORGANIZATION**

##### **18.1 Construction Equipment**

The Contractor shall without prejudice to his overall responsibility to execute and complete the work as per specifications and Time Schedule, progressively deploy adequate equipment and

tools and tackles and augment the same as decided by the Engineer-in-Charge depending on the exigencies of the work so as to suit the construction schedule. The Tenderer shall submit a list of construction equipment he proposes to deploy for the subject work alongwith deployment schedule. No construction equipment shall be supplied by the Owner.

## **18.2 Site Organization**

Subject to the provisions in the tender document and without prejudice to Contractor's liabilities and responsibilities to provide adequate qualified and skilled personnel on the work, Contractor shall deploy site organization and augment the same as decided by the Engineer-in-Charge depending on the exigencies of work.

The Tenderer shall submit the details of minimum site organization proposed by him, as per Forms given in the tender document.

## **19.0 PROVIDENT FUND**

19.1 The Contractor should strictly comply with the provision of the Employees Provident Fund Act.

19.2 It is to be noted that the subject contract would be awarded only to those agencies who have fulfilled the following requirements: -

- a) Obtained license under Contract Labour (Abolition and Regulation) Act 1970.
- b) PP. Registration Number allotted to them by RPFC.
- c) The agencies should promptly deposit P.F. deduction of the eligible contract employees plus the employers' contribution to the RPFC. For this purpose agency must submit a certificate in their Bill that PF amount has been deducted from the eligible employees and alongwith the employers' contribution has been deposited with RPFC. In support of this the agency must furnish the challan/ receipt for the payment made to RPFC for the earlier months.

19.3 If the certificate and the challan/ receipt referred to in clause 19.2 (c) above are not furnished the Finance & Accounts Dept. Of Owner will deduct 16% (Sixteen Percent) of the amount of the Contractor's bill and retained deposits may only be refunded to the Contractor on production of the challan/ receipt.

19.4 Contractor's quoted rate should include the royalty on different applicable items as per the prevailing State Government rates. In case, owner is able to obtain the exemption of Royalty from the State Government, the Contractor shall pass on the same to owner for all the items involving Royalty. Any increase in prevailing rate of Royalty shall be borne by the Contractor at no extra cost to the owner.

## **20.0 LABOUR LAWS**

20.1 The Contractor shall obtain necessary license from the Licensing Authority under the Contract Labour (Regulation & Abolition) Act, 1970 and the Central Rules framed thereunder and produce the same to the Engineer-in-charge before start of work.

- 20.2 The Contractor shall not undertake or execute permit any other agency or sub-contractor to undertake or execute any work on the Contractor's behalf through contract labour except under and in accordance with the license issued in that behalf by the Licensing Officer or other authority prescribed under the Factories Act or the contract labour (Regulation & Abolition) Act 1970 or their applicable law, rule or regulation, if applicable.
- 20.3 The provision of EPF & MP Act, 1952 and the Rules! Scheme thereunder shall be applicable to the Contractor and the employees engaged by him for the work. The Contractor shall furnish the code number allotted by the RPFC Authority to the Engineer-in-charge before commencing the work.
- 20.4 The Contractor shall be exclusively responsible for any delay in commencing the work on account of delay in obtaining a license under clause 20.1 above or in obtaining the code number under Clause 20.3 above and the same shall not constitute a ground for extension of time for any purpose.
- 20.5 The Contractor shall enforce the provisions of ESI Act and Scheme framed thereunder with regard to all his employees involved in the performance of the Contract, and shall deduct employee's contribution from the wages of each of the employees and shall deposit the same together with employer's contribution of such total wages payable to the employees in the appropriate account.

## **21 LABOUR RELATIONS**

- 21.1 In case of labour unrest labour dispute arising out of non-implementation of any law, the responsibility shall solely lie with the Contractor and he shall remove/resolve the same satisfactorily at his own cost and risk.
- 21.2 The Contractor shall deploy only duly qualified and competent personnel for carrying out the various jobs as assigned by the Engineer-in-charge from time to time. The workmen deployed by the Contractor should also possess the necessary license etc. if required under any law, rules and regulations.

## **22.0 CONTRACTOR'S LABOURERS TO LEAVE SITE ON COMPLETION OF THE WORK**

- 22.1 The Contractor's labourers must leave the location of the project Site/ Township after the work is tapered/ completed to avoid creation of a -slum in the areas adjoining the Project/ Township.

## **23.0 DEFECT LIABILITY PERIOD**

Defect Liability Period shall be as per Clause 4.24 of General Conditions of Contract

## **24.0 QUALITY ASSURANCE**

Tenderer shall include in his offer the Quality Assurance Program containing the overall quality management and procedures, which is required to be adhered to during the execution of contract. After the award of the contract, detailed quality assurance program to be followed for the execution of contract under various divisions of works will be mutually discussed and agreed to.

The Contractor shall establish document and maintain an effective quality assurance system as outlined in recognized codes.

Quality Assurance System plans/procedures of the Contractor shall be furnished in the form of a QA manual. This document should cover details of the personnel responsible for the quality assurance, plans or procedures to be followed for quality control in respect of design, engineering, procurement, supply, installation, testing and commissioning. The quality assurance system should indicate organizational approach for quality control and quality assurance of the construction activities at all stages of work at site as well as at manufacturer's works and dispatch of materials.

The Owner or their representative shall reserve the right to inspect/witness; review any or all stages of work at shop/site as deemed necessary for quality assurance.

#### **25.0 TAXES, DUTIES, OCTROI, LEVIES ETC.**

The **quoted** prices shall be deemed to be inclusive of all taxes, duties, octroi, levies etc. till the completion of the contract and Contractor shall not be eligible for any compensation on this account.

#### **26.0 TESTS AND INSPECTION**

The Contractor shall carry out the various tests as enumerated in the Technical Specification of this tender and technical documents that will be furnished to him during the performance of the work at no extra cost to the Owner.

All the tests either on the field or at outside laboratory concerning the execution of the work and supply of materials by the Contractor shall be carried out by the Contractor at his own cost.

The work is subject to inspection at all times by the Engineer-in-charge The Contractor shall carry out all instructions given during inspection and shall ensure that the work is being carried out according to the technical specifications of this tender, the technical documents that will be furnished to him during performance of work and the relevant codes of practice.

The Contractor shall provide for purpose of inspection access ladders, lighting, equipment for testing, necessary instruments etc. at his own cost including low voltage lighting equipment for tray fixing and inspection work

All results of inspection and test will be recorded in the inspection reports, proforma of which will be approved by the Engineer-in-charge. These reports shall form part of the Completion Documents. Any work not conforming to the execution drawings, specifications or codes shall be rejected and the Contractor shall carry out the rectification at his own cost.

#### **27.0 EMPLOYEES STATE INSURANCE ACT**

27.1 The Provision made in this tender document towards employees state insurance Act **1948** as amended from time to time shall remain part of tender if applicable.

## **28.0 ARBITRATION**

### **28.1 The Clause 8.00 on page 50 of is modified as below :**

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, design, drawings and instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim, right, matter or thing whatsoever in any way arising out of or relating to the contract, design, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works or the execution or failure to execute the same whether arising during the progress of the work or after the cancellation, termination, completion or abandonment thereof shall be dealt as mentioned hereinafter:

- i) If the Contractor considers any work demanded of him to be outside the requirement of the contract, or disputes and drawings, record of decision given in writing by the Engineer-in-Charge on any matter in connection with or arising out of the contract or carrying out of the work, to be unacceptable he shall promptly within 15 days request the Owner in writing for written instructions or decision. Thereupon, the Owner shall give his written instruction or decision within a period of 01 month from the receipt of Contractor's letter.

If the Owner fails to give his instructions or decisions in writing within the aforesaid period or if the Contractor is dissatisfied with the instructions or decisions of the Owner, the Contractor may, within 15 days of the receipt of Owners decision, appeal to the DG who shall afford an opportunity to the Contractor to be heard, If the latter so desires, and to offer the evidence in support of his appeal. The DG shall give his decision within 30 days of receipt of Contractor's appeal. If the Contractor is dissatisfied with the decision, the Contractor shall within a period of 30 days from receipt of decision, give notice to the DG for appointment of Arbitrator failing which the said decision shall be final binding and conclusive and not referable to adjudication by the Arbitrator.

- ii) Except where the decision has become final, binding and conclusive in terms of sub para (i) above disputes or difference shall be referred for adjudication through Arbitration by a soul Arbitrator appointed by the DG, OWNER's or if there be no DG, the Administrative Head of the said OWNER. If the Arbitrator so appointed is unable or unwilling to act or resign his appointment or vacates his office due to any reason whatsoever another soul Arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was by his predecessor.

It is a term of this contract that the part invoking Arbitration shall give a list of disputes with amounts claimed in respect of each such dispute along with the notice for appointment of Arbitrator and giving reference to the rejection by the DC of the appeal.

It is also appointed a term of this contract that no person other than a person appointed by the DG or the administrative head of the OWNER, as aforesaid should act as Arbitrator and if any reason that is not possible, the matter shall not be referred to Arbitration at all.

It is also a term of this contract that if the Contractor that if the Contractor does not make any demand for appointment of Arbitrator in respect of any claim in writing as aforesaid within 120 days of receiving the intimation from the Engineer-in-Charge that the final bill is ready for the payment, the claim of the Contractor shall be deemed to have been waived and absolutely barred and Government shall be discharged and released of all liabilities under the contract in respect of these claims. The Arbitration shall be conducted in accordance with the provisions of the Arbitration and Conciliation Act, 1996 (26 of 1996), or any statutory modifications or re-

enactment thereof and the rules made thereunder and for the time being in force shall apply to the Arbitration proceeding under this clause.

The Arbitrator may from time to time with the consent of the parties enlarge the time for making and publishing the award.

It is also a term of this contract that the Arbitrator shall adjudicate on only such disputes as are referred to him by the appointing authority and give separate award against each dispute and claim referred to him and all cases where the total amount of the claim by any party exceeds Rs. 1,00,000.00. The Arbitrator shall give reasons for the award.

It is also a term of the contract that if any Fees are payable to the Arbitrator, these shall be paid equally by both the parties.

It is also term of the contract that the Arbitrator shall be deemed to have entered on the reference on the date he issued notice to both the parties calling them to submit the statement of claims and counter statement of the claims. The venue of the Arbitration shall be such place as may be fixed by the Arbitrator in his soul discretion. The Fees if any, of the arbitrator shall, if required to be paid before the award is made and published, be paid half-and-half by each of the parties. The cost of the reference and of the award (including the fees, if any, of the arbitrator) shall be in the discretion of the arbitrator who may direct to any by whom and in what manner, such costs or any part thereof shall be paid and fix or settle the amount of costs to be so paid.

#### **29.0 COMPLETION DRAWINGS:**

On completion of the work, the Contractor shall submit **AS BUILT DRAWINGS** for the complete work in his scope in 3 sets and one set in electronic form.

## APPENDIX-I

### IV. TIME SCHEDULE

Description of Work

Time of completion of work – 2 Months

#### NOTE.

Time of commencement shall be reckoned from the seventh day of issue of Telefax/Letter of Acceptance, whichever is issued earlier

2. The time indicated above is for completing the works in all respects as per design, drawings, specifications and instruction of Engineer-in-charge

**(SEAL AND SIGNATURE OF TENDERER)**

## APPENDIX-II

### V. SCHEDULE OF FISCAL ASPECTS

1.	Earnest money to be deposited	<b>Rs. 1,50,000/-</b>
2.	Possession of site	Immediate on award of contract
3.	Time of completion	As per Appendix-I (Max. 02 Months)
4.	Liquidated damages per week for	0.5% of the contract value (inclusive of Non-completion of work in time Sundays & Holidays) per week, or part thereof to a Maximum of 5% of the Contract Value.
5.	Minimum interval between Submission	Monthly of interim bills
6.	Security Deposit	Refer Clause 3.4 of GCC
7.	Payment of RA Bills	75% of the recommended payments duly certified by Engineer-in-Charge within fifteen (15) working days of Submission and acceptance of the bill.
8.	Period of submitting final bill	Within one (1) months from the date of completion of work.
9.	Release of Security Deposit	After expiry of defect liability period
10.	Defects Liability Period	12 (twelve) months from the date of Virtual completion.
11.	Insurance etc.	Insurance covers as required under clause mentioned in condition of contract.

**(SEAL AND SIGNATURE OF THE CONTRACTOR)**

## **TECHNICAL SPECIFICATION (INTERIOR WORKS)**

## **Annexure-III**

1. Materials shall be of the approved quality best obtainable. A list of materials of approved brand(s) and Manufacturer(s) is indicated in the Annexure. Testing of materials of approved brand(s) may have to be done at the discretion of Engineer-in-Charge. The cost to be borne by the Contractor.

In case, for some reason or other materials are required to be obtained from any manufacturer other than those listed then prior approval from Engineer-in-Charge will be necessary supported by a relevant test certificates qualifying the required standard. Further tests as directed by the Engineer-in-Charge shall also be carried out by the Contractor at their own cost, if required.

2. Samples of all materials including the sources shall be got approved before placing order and the approved sample shall be carefully preserved in an appropriate manner at the site office for verification from time to time.
3. For standard bought out items, the sizes manufactured by the firms listed, shall prevail when there is discrepancy in the sizes mentioned in the schedule without any financial adjustment.
4. Materials shall be tested in any approved Testing Laboratory conforming to the requirements and frequency indicated in the list of Mandatory test. The test certificate in original shall be submitted to the Engineer-in-Charge and entire charges connected with testing including charges for repeated tests if ordered, shall be borne by the Contractor.
5. It shall be obligatory for the Contractor to furnish certificates, if demanded by the Engineer-in-Charges, from the manufacturer or the material supplier that the work has been carried out by using their material and as per their recommendations.
6. All materials supplied by the Owner any other specialist firms shall be properly stored and the Contractor shall be responsible for its safe custody until they are required on the works and till the completion of work.
7. The Contractor without any extra cost shall provide all equipment and facilities for carrying out field tests on materials.
8. Unless otherwise shown on the drawings or mentioned in the Schedule of quantities or special specifications, the quality of materials, workmanship, dimensions etc. shall be followed hereunder.

## GLASS BLOCKS

### TECHNICAL SPECIFICATIONS:

#### BREAKAGE TENSION (N/mm<sup>2</sup>)

Dimensions (cm)	Surface design and commercial name	Medium unit weight (kg)	MEDIUM VALUE Certified DIN value 18175/77		Min. VALUE Certified DIN value 8175/77	
19X19X8	Wavy (O)	2.4				
	Smooth (T)	2.4				
	Cross ribbed (I)			2.4		
	Parallel lines (P)			2.4		
	Squared (Q)	2.5	>7.5	7.5	> 6.0	6.0
	Diagonal (D)	2.4				
	Antiqued (AT)	2.4				
	Studded on one side (A)	2.7				
	Concentric circles (S)	2.8				
19X9X8	Concentric circles (SC)	3.8				
	wavy (0)	1.3	>7.5	(*)	>6.0	(*)

### RESISTANCE TO BREAKAGE

#### ULTIMATE STRENGTH: (19X19X8cms)

1. Studded on one side having unit weight 2.7kg. It should be 2500N in accordance with UNI 7440/75.
2. Concentric circles having unit weight 2.8kg. It should be 2500N in accordance with UNI 7440/75.
3. Concentric circles having unit weight 3.8kg. It should be 2500N in accordance with UNI 7440/75.

### THERMAL INSULATION

Certified Unit coefficient of Heat Transmission "K"

Dimensions	Test Specimen	Mortar Used	W/M20K	Keal/h m20C
19x19x8	Single panel	traditional	3.02	2.60
	Single Panel	(+) Lightened	2.81	2.42

### SOUND INSULATION

#### CERTIFIED SOUND INSULATION POWER

Db at 500Hz

Dimensions	Test specimen	UNI	ISO
19x19x8	single panel	40.5	40.0
19x19x8	single panel	40.0	40.0

## Wooden Flooring

**Supporting Joints:** The vertical supports, beams and joints shall be of the class of wood specified in the description of item and shall be axed in position dead level. The sections, arrangement and spacing shall be as specified in detailed drawings. The width of joints shall not be less than 50mm. All the members shall be treated with wood preservative as directed by the Engineer-in-Charges.

**Boards:** Selected boards of uniform width (not less than 100mm or of 150mm) of class of wood specified in the description of item shall be used. The length of boards shall not exceed 3 meter and shall be such that the board rest at least on three supports unless otherwise directed by the Engineer-in-Charge. The board shall be planned true on the top face. The longitudinal joints of the planks shall be tongued and grooved to a minimum depth of 12mm While the heading joints shall be square butt tube and shall be over the center line of the supporting joints. Heading joints in adjacent boards shall be placed over the same joints.

**Iron Screws:** Shall be of the slotted counter sunk type of length not less than the thickness of the plank plus 25mm subject to a minimum of 40mm and of designation No. 9 conforming to I:S. 451: 1961.

**Fixing:** The joints supporting the planks shall be checked and corrected to levels before fixing planks. The end boards shall be accurately fixed with the sides parallel and dose to the walls. Each adjoining board shall be carefully jointed and tightened into position and screwed, The boards shall be fixed to joints with two screws at each end and one screw at each of the intermediate joints in zigzag manner. The screws shall be counter sunk and holes filled with stopping approved by the Engineer-in-Charges.

The junction between timber flooring and adjacent flooring shall be formed by inserting stainless steel strip at the junction. The floor shall be placed in both directions and made perfectly even, true and smooth.

**Measurements:** The floor shall be measured in square meter, The length and breadth measured correct to a cm. of the superficial area of the finished work.

### Specification of Wooden Flooring:

#### Vapour barrier

- i) One layer of 0.2mm thick polyethylene sheet. Minimum lapping shall be 200mm at each direction joints shall be taped for 100mm at every 300mm to avoid displacement.
- ii) The 0.2mm thick polyethylene sheet shall be bent up by about 80mm at the bottom of wall.

#### Cushion layer

- iii) One layer of 3mm thick white colour non-cross linked expanded polyethylene Iron sheet, density: 25 kg/cum. Armour, Lapping is not acceptable at the joints. However, joints shall be taped for 100mm at every 300mm to avoid displacement.
- iv) The 3mm thick white colour non-cross linked expanded polyethylene from sheet must not be bent up at the bottom of walls.

**c) Fibre board plank with real hardwood top layer**

- i) 1200mm x 190mm x 9mm thick fibreboard plank or equivalent with real hardwood top layer.
- ii) With tongue and groove joint.
- iii) Expansion gaps shall be provided.

**d) Adhesive**

- i) The adhesive for tongue and groove joint of the fibreboard plank shall be white colour, imported adhesive approved by the Engineer-in-Charge. Local adhesive is not acceptable.

**e) Skirting**

- i) Skirting shall be about 50mm high.
- ii) Skirting shall be of laminated fibreboard / particleboard or real wood materials.
- iii) On particle board and gypsum board wall: skirting shall be nailed to the wall using 'headless' type nails at about 300mm spacing and patched up with colour putty, screws shall not be used.
- iv) On concrete wall and brick wall: skirting shall be nailed to the: Kail wood / or any other sub base' inserts using "headless' type nails at about 300mm spacing and patched up with colour putty, screws shall not be used. Holes on wall shall first be drilled and the floor deaned before laying the Vapour barrier.

**f) Transition profile and adaption profile**

Transition profiles and adaption profiles shall be of laminated fiberboard/ particleboard materials or natural wood materials,

**g) Colour sealant**

Colour sealant shall be imported as approved by the Engineer-in-Charge.

**h) Colour putty**

- i) Colour putty for floor application shall be imported as approved by the Engineer-in-Charge.
- ii) Colour putty for skirting application shall be either imported or local made.

**GLASS**

1. General

\* Clear and tinted float glass : It should have precise surface flatness and should be transparent and entirely distortion free.

\* It should allow clear through vision with no loss of transmittance.

\* It should have a naturally free finished surface excluding a sparkling and brilliant lusture.

\* Glass surface should resist scratches, dust and dirt etc.

## Physical Properties

Item	Values
Refractive index	Approx. 1.52
Reflective (vertical incidence) *1	Approx. 4% at each surface
Specific heat	0.2 k cal/kg deg C (0-50 deg C)
Softening temperature *2	720 ~ 730 deg C
Thermal conductivity	0.68 k cal/mhr deg C
Coefficient of liner expansion	8.5 ~ p x 10.6/deg C (normal temperature ~ 350 deg C)
Specific gravity	Approx. 2.5
Hardness * 3	Approx. 6 deg (mohs scale)
Young's modulus	730,000 kg / cm2
Poisson's ratio	0.25
Mean breaking stress *4	Approx. 500 kg/cm2
Weather resistant *5	No change

## Performance

Table of Glass	Standard Thickness (mm)	Visible rays		Solar Energy			Absorption	KCL /m 2 hr.	U-value		*3*4 shading coefficient
		Reflectance	Transmittance	Reflectance	Transmittance	Winter Nighttime *2 Kcl/m2 hr deg C			Summer Daytime *3 kcl/m2 hr deg C		
	2.0	8	92	8	87	5	593	5.68	5.04	1.02	
	3.0	8	90	8	85	7	582	5.64	5.03	1.00	
	4.0	8	90	8	83	9	572	5.59	5.03	0.98	
	5.0	8	89	7	81	12	562	5.54	5.02	0.96	
	6.0	8	89	7	79	14	554	5.50	5.01	0.95	
	8.0	8	88	7	75	18	536	5.41	4.99	0.92	
	10.0	8	87	7	72	21	521	5.32	4.96	0.89	
	12.0	8	86	7	69	24	506	5.24	4.93	0.86	
	5.0	6	64	6	64	30	490	5.54	5.23	0.83	
	6.0	6	60	6	60	34	471	5.50	5.23	0.79	
	8.0	5	52	5	52	43	436	5.41	5.23	0.73	
	10.0	5	45	5	45	50	405	5.32	5.22	0.67	
	12.0	5	39	5	39	56	378	5.24	5.20	0.62	
	5	6	65	6	64	30	491	5.54	5.22	0.83	
	6	6	61	6	60	34	472	5.50	5.23	0.80	
	8	5	53	5	52	43	437	5.41	5.23	0.73	
	10	5	46	5	45	50	406	5.32	5.22	0.67	
	12	5	40	5	39	56	379	5.24	5.19	0.62	

## INSULATING GLASS

### TECHNICAL DETAILS OF AN INSULATING GLASS

Description	U-Valve in watt/M2/deg C	Daylight Transmission %	Heat Transmission %	Reduced Noise in dB	Relative heat gain in
6mm clear	5.8	89	81	30	662
6mm + 6mm +12mm air gap	3.0	76	76	32	550

(both clear)					
6mm grey + 6mm clear + 12mm air gap	3.0	41	39	32	381
6mm bronze +6mm clear + 12mm gap	3.0	44	41	32	387

### Fire Resistance Glass

Fire resistance glass should be transparent, clear plate glass comprising a special sandwich construction made up of a series of layers of float glass laminated with a number of transparent intumescent inter layers.

It should act as an effective heat barrier and should provide full protection against the fire for the specified time.

### A - Performance

Type	Supply form	Glass thickness mm	Daylight trans. approx. %	Weight approx. kg/m <sup>2</sup>	Length tolerance mm	Thickness tolerance mm	U-value approx. W/m <sup>2</sup> K	Noise reduction approx. dB
Internal use : 30-10	Single pane	7	88	17	+ 2 upto 200cm edge length	± 1	5.6	33
60-10	Single pane	10	88	24		+ 1	5.5	35
External Use 30-20	Single pane	10	88	25		+2	5.4	36
30-20 GB	Single pane	14	85	32	+3 exceeding 200cm edge length	+ 2	5.3	36
30-25	D.G.U.	28	78	50		+2	3.0	38
60-20	Single pane	13	86	31		+ 1	5.3	36
60-25	D.G.U.	27	78	46		+2	5.0	38
30-40 roof glazing	D.G.U.	42	Depended on the coating	75	+3/- 1	+ 2	Depended on the coating	40

### WOODEN SURFACE

The woodwork to be painted shall be dry and free from moisture.

The surface shall be thoroughly cleaned. All unevenness shall rubbed down smooth with sand paper. Knots, if any, shall be covered with preparation of red lead made by grinding red lead in water and

mixing with strong glue sized and used hot. Appropriate filler material with same shade as paint shall be used where specified.

The surface treated for knotting shall be dry before painting is applied. After the priming coat is applied, the holes and indentations on the surface shall be stopped with glazier's putty or wood putty. The primer shall be prepared on site or shall be of approved brand and manufacturer as specified in the item. Paint shall be anti-corrosive bitumastic paint, Aluminium paint or other types of paint as specified in the description of the item. Stopping shall not be done before the priming coat is applied as the wood will absorb the oil in the stopping and the later is therefore liable to crack.

## **PAINTING WITH READY MIXED /SYNTHETIC ENAMEL PAINT**

### **PAINTING ON NEW SURFACE**

The surface, which has not been painted earlier, or the paint has been removed by paint remover, burning, caustic soda etc. shall be considered to be new surface.

### **PREPARATION OF SURFACE WOOD WORK**

The surface shall be cleaned and all unevenness removed as specified in wooden surface. Knots, if visible, shall be covered with a preparation of red lead. Holes and indentations on the surface shall be filled in with glazier's putty or wood putty and rubbed smooth before painting is done. The surface should be thoroughly dry before painting.

### **PLASTERED SURFACE**

The priming coat shall have dried up completely before painting is started. All dust or dirt that has settled on the priming coat shall be thoroughly wiped away before painting is started.

### **APPLICATION**

The specification described in Cement Paint shall be holding well as far as applicable. The number of coats to be applied will be as stipulated in the item. The painted surface shall present a uniform appearance and glossy/matt finish described in Schedule of Quantities free from streaks, blisters etc.

### **PLASTER OF PARIS PUNNING**

The POP punning shall be done as per nomenclature.

#### **Painting with plastic emulsions paint:**

Preparation of surface: The surface shall be thoroughly cleaned and dusted off. All rust, dirt, scales, smoke splashes, mortar droppings and grease shall be thoroughly removed before painting is commenced. The primer shall ordinarily not be painted until it has dried completely Trial patches of primer shall be laid at intervals and where drying is satisfactory, painting shall then be taken in hand, Before primer is applied, holes and undulations shall be filled up with plaster of Paris and rubbed smooth.

The primer shall be applied with brushes, worked well into the surface and spread even and smooth. The painting shall be done by crossing and laying off.

**Application** : The number of coats shall be as stipulated in the item. The paint will be applied in the usual manner with brush, spray or roller. The paint dries by evaporation of the water content and as soon as the water has evaporated the film gets hard and the next coat can be applied. The time of drying varies from one hour on absorbent surfaces to 2 to 3 hours on non-absorbent surfaces.

The surface on finishing shall present a flat velvety smooth finish. If necessary more coats will be applied till the surface presents uniform appearance.

## **TEXTURED COATINGS**

The Material used shall be Acrylic Quartz Plaster, The Acrylic will be a 100% pure Acrylic and not Acrylic Copolymer. The Acrylic shall be combined with the series of additives.

### **APPLICATION:**

Providing and applying crack free, flexible decorative, textured acrylic plaster consisting of Natural Stone, Quartz, Granules applied in the following manner: -

First coat acrylic quartz pigmented finish applied by acrylic Wool Roller. In the colour of the finish is same as that of the second coat.

Second coat and Final coat spray applied stone synthetic plaster. The final appearance and texture will be similar to natural stone.

### **Thickness of synthetic plaster : 2.5mm to 3.00mm**

Providing and applying crack free, flexible decorative, textured acrylic plaster consisting of Natural Stone, Quartz, Granules applied in the following manner: --

First coat acrylic quartz pigmented finish applied by acrylic wool Roller. In the colour of the finish is same as that of the second coat.

Second coat and final coat Trowel applied stone synthetic plaster. The final appearance aid texture will be similar to natural stone.

Thickness of synthetic plaster: 2.5mm to 3.00mm.

## **TECHNICAL DATA**

Tensile Strength	6000psi
Tensile Modulus	1.5x10 <sup>6</sup> psi
Flexural Strength	8000 psi
Flexural Modulus	1.2x10 <sup>6</sup> psi
Elongation	0.4% min.
Hardness	94
	56
Thermal Expansion	3.02x10 <sup>-5</sup> in./in/°C (1.80x10 <sup>-5</sup> in./in./°F)
Gloss (60° Gardner)	5-75 (Matte-highly polished)
Color Stability	No change

Wear and Cleanability	Passed
Stain Resistance: Sheets	Passes
Fungus and Bacteria Resistance	No attack
Boiling Water Surface Resistance	No visible change
High Temperature Resistance (500°F)	No change
Izod Impact (Notched Specimen)	0.28 ft – lbs./in. of notch
Impact Resistance: Sheets	No fracture – ½ lb. ball: ¼” slab – 36” drop ½” slab -144” drop ¾” slab – 204” drop
Point Impact: Bowls	No cracks or chips
Weather ability	No change
Specific Gravity	1.7
Water Absorption	Long term 0.4% (¾”) 0.6% (½”) 0.8% (¼”)
Toxicity	99 (Solid Colors) 66 (patterned colors)
Flammability (Class 1)	All colors
Flame Spread	< 25
Smoke Developed	<30

## **FURNITURE AND FURNISHING**

### **GENERAL :**

### **GENERAL REQUIREMENTS**

This section of the specification shall be read in conjunction with the drawings and other contract documents, and other sections of this specifications which shall be deemed to be complementary to one another, Carpentry and Joinery, and painting Sections The Contractor carrying out this work shall be responsible for providing all plant, tools materials and all things necessary for the proper execution, completion and maintenance of these works.

### **DIMENSIONS**

Figured dimensions shall be taken in preference to scale dimensions in all cases before commencing any work the Contractor shall verify all measurements on the Site,

### **SAMPLES**

A sample of every item of furniture, including its parts shall be submitted for approval before an order is placed or manufacturing commences, Approved samples shall be used as standard of finish and workmanship and shall be the part of tender quantity.

## **JOINTS AND ADHESIVES**

All joints shall be standard mortise and tenon dowel, dovetail, cross-halved, mitered tongue and grooved or rebated. Nailed butt joints will not be permitted. Where mortise and tenon joints are used tenons shall fit the mortises exactly. Lap joints with glue shall be permitted in wood skirting

## **FASTENINGS**

Screws, nails etc, shall be of standard iron or wire unless otherwise shown on Drawings. Screws and nails for outdoor furniture shall be of brass or other non-corrosive metal, Exposed fastenings shall match the finish of hardware.

Where screws show on a finished surface, they shall unless otherwise detailed, be sunk and the hole plugged with wood plug of the same wood and grain of the finished surface. Nails on finished surfaces shall be neatly punched and the hole filled with wood filler to match.

## **HARDWARE**

Hinges, Locks, Latches, Door tracks, Nail hides, etc. shall be as specified or an approved substitute equal to or better than specified.

## **METAL**

Where metal legs, frames and the like are used, these shall be welded, brazed, bolted or riveted as required, and on finished surfaces welding, brazing, and riveting shall be grounded so that no evidence of this is apparent on the final finish of the metal.

All legs of case or cabinet furniture whether of wood or metal, shall be equipped with nylon glides or castors unless otherwise shown on the drawings.

## **FINISH**

Finishes shall be fully in accordance with the drawings and schedules.

Where timber is in natural finish, pieces shall be matched for colour and grain before assembly. Where timber is stained the stain shall be matched throughout. Backs of wall hung case or cabinet furniture shall be treated with an approved brand of wood preservative.

## **UPHOLSTERY**

Where the upholstery fabric is patterned no upholstery fabrication is to commence until the Contractor has received clear instructions concerning the direction of the pattern and the method of its joining. Upholstery will be of first class workmanship with webbing, sag spring coiled spring, padding and filling as specified. Covering fabric will be sewn, tufted and scotch guarded corded as shown on the drawings or schedules.

## **CUSHIONS VENTS**

Cushion vents shall be installed at the back or underside of all seat cushion in sufficient number to allow air to escape easily and prevent from seams.

## **MOISTURE CONTENT OF TIMBER**

The moisture content of timber during manufacture, delivery to site, storage, site working. Assembly installation and at issue of certificate of completion shall, subject to confirmation by the Engineer-in-Charge! Consultant be  $\pm 2\%$  of the average equilibrium moisture content percent that **it** is expected to attain in service.

## **PROTECTION, DELIVERY AND STORAGE**

All timber shall be treated with preservatives and fire retardants before delivery to site.

All joinery to be painted shall be appropriately sealed with the specified primer to all faces before leaving its place of manufacture.

All joinery to be varnished/spirit polished shall be sealed with a minimum of one coat of specified varnish polish to all faces before leaving its place of manufacture.

All joinery and joinery timber shall be properly protected until its final delivery.

## **TIMBER**

Timber shall be softwood or hardwood and suitable for the purpose for which **it** is intended. It shall be thoroughly seasoned, free of defects which would effect strength or usability and shall be flat, straight, non-splitting and dressed on all sides, wherever soft wood' is to be used it means Kail wood or other approved equivalent wherever hard wood' is to be used, it means 1<sup>st</sup> class CP Teak wood (locally available)/steam beech/ maple/ rubber or as specified.

## **TIMBER FIXINGS**

The carpentry timber shall be fixed with nails spikes, bolts, screws, hangers, stirrups, anchors, ties or any other accessories which are suitable to develop the full strength of the member which they support to which they are supported to which they are attached, as directed.

## **FIXING**

Carpentry timber where fixed to solid masonry or concrete shall be secured with expansion bolts or other positive methods of mechanical fastening. Carpentry timber where fixed into hollow masonry shall be secured with toggle bolts and steel with bolts nuts and washers.

## **WOODEN PLUGS**

Fixing by means of wooden plugs will be permitted only where it is required.

## **ORGANIC PROTECTION**

The Contractor shall make his own investigation to guard against local sources of attack and damage and take all necessary precautions for protection.

All timber shall be protected with an organic solvent water repellent wood preservative to give a highly efficient protection against termite, spider, worm, all insect and fungus and rot attack and shall where exposed enhance the appearance of the timber. Colour of the product shall be such as to bring out the

natural colour of the respective timbers.

## **FIRE RETARDANTS**

Fire retardant treatment of timber where specified shall be applied **by** vacuum pressure impregnation and shall comply with the requirements of **ISI** Code and local fire requirements. The fire retardant effect shall be produced by the generation of water vapour and inert gases and the production of hared crystalline surface, which acts as a heat bather.

## **MELAMINE POLISH**

Timber works shall be finished **by** the application of two coats acid catalyzed clear lacquer (melamine) wherever it is indicated in the drawing specified. The finish shall be a stain, semigloss finish and shall be carried out as follows: -

The base shall be sand papered to the desired finish and coated with a colour tinge to give it shade. This shade shall be sealed with a coat of spirit finish.

After the base, first coat of lacquer shall be applied evenly by a soft cloth or by spray to give an even coat to the veneer surface

After the first coat has fully dried, the lacquered surface shall be rubbed down in the direction of the veneer grain with very fine glass paper and left completely smooth and clean before the second coat is applied.

When the second coat of lacquer is fully dry, the surface shall be rubbed down in the direction of veneer grain with very fine wire dipped in a petroleum-based wax to give lubrication.

Twenty-four hours after completion of this process the lacquered veneer surface shall be finished by burnishing with a soft cloth to an approved finish.

## **PLASTIC LAMINATE VENEER**

Plastic decorative laminated veneer sheeting shall be of the brand, catalogues number and colour indicted. The laminated veneer shall be 1.5mm thick on flat surfaces and 1.0mm thick on vertical surfaces unless otherwise approved.

Plastic laminates shall be veneered to mounting surface with an approved adhesive used in strict accordance with the manufacturer's instructions Rubber based adhesives shall not be used. Sheeting shall not be applied to timber with moisture content of more than 15% or at a temperature of less than 15° C (600 F). The sheeting shall be applied only to close grained plywood's so that the fire plywood edges are not faces with laminate. These joints shall be machined and sealed Joining of laminate shall be minimized by using longest available lengths where required and all butt joints shall be perfectly flush and sealed. Grain direction of wood grain laminated sheeting shall be as follows unless otherwise required by the Engineer-in-Charge/Consultant.

Lengthwise on horizontal surfaces.

Vertical on vertical surfaces.

Horizontal on edges of top surfaces & shelves.

No surface sanding of laminated plastics will be allowed.

Unless otherwise specified, all laminated plastics shall have a standard satin or furniture finish.

Samples of laminated plastics showing the surface texture and pattern shall be submitted for approval before fixing.

**PLYWOODS**

Plywood shall be a product of a balanced construction made up of plies assembled by gluing, the Chief Characteristics being the crossing of alternate plies to improve the strength properties and minimize movement in the plane of board.

Plywood shall be best quality close-grained plywood suitable for veneering, painting or bonding plastic laminate. It shall be a resin bonded. Exposed edges shall be lipped with an edge strip of solid teakwood, tongued and grooved and glued or as detailed.

The manufacturer and reference for plywood shall be subject to approval. The thickness shall be in accordance with the drawings.

**WHITE BOARD**

**TECHNICAL SPECIFICATION**

Test Item	Test Method	Result	Remarks
Pencil hardness	Pencil hardness	8H	JIS G3312
Gloss	60 deg Specular	90% & over	
Scratch	#000 Steel wool 1kg. 10 times	No scratch	
Abrasion resistance	Abrasion loss (mg) Rotational Frequency 2,000 CS — 10 1kg	12	Taber abrasion resistance test
Atmospheric Corrosion resistance (Accelerated weather Test, 100hrs)	Dew - cycle weather meter	Normal	
Water resistance (50°C x 100 hrs)	Change in gloss Erasability (By marker)	92.6 - 92.0% very good	Gloss retention 99.3%
Humidity resistance (50°Cx100hrs RH98%)	Change in gloss Erasability (By marker)	92.6 - 90.6% very good	Gloss retention: 97.8%
Impact resistance	DU pont impact ½” ox500gx50cm	Excellent	
Erasability	Commercially Available	Excellent	Ease of erasing marker stains

## **CEILING AND INSULATION**

### **FALSE CEILING**

Gypboard : 12.5mm thick gypboard ceiling surfaces in plain including G.I. suspenders forming a grid of intermediate channel at 1220mm centre to centre with ceiling sections fixed at 450mm centre to centre at right angle to the underside of intermediate channels with connecting clips complete as per India Gypsum Technical Manual including finishing with jointing compound and joint paper tapes and priming with two coats of drywall top coat and fixing of perimeter channel at both ends. Vertical edges to be provided & given plaster of paris cornice of approved design of 150x150mm using best quality plaster of paris after making necessary hacking/roughening including painting of entire Gypboard/POP cornice surface in desired shade of Nerolac/Asian/Dulux in acrylic emulsion as per detailed drg. no. 2. The rate shall also include cutting the Gypboard for light fixtures/A.C. diffusers etc. and providing necessary and additional frame work for fixing the same. Wherever perimeter channels are cut in this process, additional support shall be made for proper stability without any extra cost.

### **FALSE CEILING WITH PLAIN PLASTER OF PARIS CAST IN SITU**

Shall be made out of best available and approved quality of Plaster of Paris cast in situ fixed on GI frame work. Chicken wire mesh of approved quality shall then be fixed over GI strips of approved quality shall then be fixed over CI strips by means of screws and then the paste of Plaster of Paris shall be applied with the trowel in a minimum thickness of 6mm or more to give smooth and even surface of the ceiling.

Cutouts of maximum area 0.1 square meters for lights, fans or any other work shall be provided by the Contractor free of cost and area so reduced shall not be deducted in the measurement of the work.

**Measurements** : Length and breadth shall be measured.

### **ARMSTRONG CEILING SYSTEM**

Armstrong : 600mmx600mm Armstrong ceiling tiles Fine Fissured micro look with Armstrong stitched trulok 15 exposed grid system with 15mm wide T-section flanges, white colour 15mm grid to comprise main runners spaced at 1200mm centre to centre securely fixed to structural soffit by approved hangers at 1200mm maximum centre to centre and not more than 150mm from spliced joints. The last hanger at the end of each main hanger should not be greater than 600mm from adjacent wall. Flush fitting 1200mm long cross tees to be interlocked between main runners at 600mm centre to from 1200x600mm modules. Cut cross tees longer than 600mm require independent support. 600x600mm modules to be formed by fitting 600mm long flush fitting cross tees centrally between the 1200mm cross tees. Perimeter trim to be armstrong trulok wall angle or channel secured to walls at 450mm maximum centres. The rate shall include cutting of the tiles for light fixtures/A.C. diffusers etc. and providing necessary and additional frame work for fixing the same. Wherever channels are cut in this process, additional support shall be made for proper stability without any extra cost.

### **GYPSUM BOARD**

Gypsum Board is formed by enclosing and bonding together a core gypsum plaster (a calcium sulphate mineral) with or without fibre between two sheets of highly durable paper. The gypsum boards shall be non-resonant qualities. The gypsum boards shall be non-resonant, dimensionally stable and possesses flame retardant qualities. The boards shall conform to IS: 2095 and gypsum plaster shall conform to IS: 2547. The surfaces of the board shall be true and free from imperfection that would render the board unfit for use with or without decoration.

## TYPES

Gypsum plasterboards are classified according to their use.

### **GYPSUM WALL BOARD WITH REDUCED WATER ABSORPTION RATE**

These boards have additives in the core and/or the paper liners to reduce the water absorption rate. They may be suitable for special applications in buildings where reduced absorption properties are required to improve the performance of the board. Unless stated otherwise, decoration may be applied to the face.

### **GYPSUM WALL BOARD WITH IMPROVED CORE COHESION AT HIGH TEMPERATURES**

These boards have mineral fiber and / or other additives in the gypsum core to improve core cohesion at high temperatures. They have a face suitable for direct decoration

### **GYPSUM PLASTER BASE BOARD**

These boards have a face suitable to receive gypsum plaster and may be perforated during primary manufacture.

### **GYPSUM PLASTER BASE BOARD WITH IMPROVED CORE COHESION AT HIGH TEMPERATURES**

These boards have mineral fiber and/ or other additives in the gypsum core to improve core cohesion temperatures. They have a face suitable to receive gypsum plaster and may be perforated during primary manufacture.

## **PHYSICAL REQUIREMENTS:**

### **Dimensions**

The width, length and thickness of the boards shall be as given in Table 6. The lengths of the two longitudinal of the boards shall not differ more than  $\pm 3$ mm.per meter length of the diagonal.

### **Tolerance:**

The tolerance on dimension shall be as given below:

Type	Tolerance in mm on		
	Width	Length	Thickness
Gypsum Wall board	0 to —5	0 to —6	$\pm 0.6$
Gypsum Baseboard			
(a) Non- perforated	0 to 8	0 to —6 + 0.6	$\pm 0.6$
(b) Perforated	0 to—8	0— 10	$\pm 0.6$

## TRANSVERSE STRENGTH

Breaking load for gypsum plaster boards shall be in accordance with Table 5 given below:

### Breaking load of Gypsum Plaster Boards

Type of Board	Thickness mm	Breaking load, Transverse Direction N	Min. Direction mm N
(1)	(2)	(3)	(4)
Plaster Board	9.5	140	360
	12.5	180	500
	15.0	220	650
Base Board	9.5	123	180
	12.5	165	235

### Dimensions of Gypsum Plaster Boards

Type of Board	Width in mm	Length in mm	Thickness mm
(1)	(2)	(3)	(4)
Wall Board	600,900 And 1200	1800 to 3600 in steps of 100mm	9.5,12.5 and 15
Base Board	400 and 900	1200,1500 AND 1800	9.5 and 12.5

## LAMINATE

Laminate shall be of the brand, catalogue surface finish, colour as specified and approved by the Engineer-in-charge. Plastic laminates must not be applied to timber with moisture content of more than 12 deg a temperature of less than 16 degree C. The bonding agent shall be an approved adhesive, used in strict accordance with the manufacturer's instructions. Rubber based adhesives shall in no case be used.

## NAILS SPIKES & BOLTS

Nails, Spikes and bolts shall be of the best quality galvanized mild steel or wrought iron and lengths and weights approved by the Engineer-in-Charge/ Consultant. Nails shall comply with IS: 1959-1960 or equivalent approved quality sample. Bolts with BS: 916 equivalent approved quality samples. Brass-headed nails are to comply with BS: 1494. Brass screws where specified shall comply with BS: 1210. Wire staples shall comply with BS: 1494 or equivalent. The contact surfaces of dowels, tenons, wedges, etc. shall be glued with a surface with an adhesive complying with the requirements of one of the following IS. Specifications or such approved adhesive, CF brass/steel screws of Nettle fold make.

## GLUE

Where glued joinery and carpentry work is likely to come into contact with moisture, the glue shall be waterproof. The use of animal glues will not be permitted.

## **TIMBER**

Timber is to be cut to the required sizes and lengths as soon as practicable after the works are begun and stored under cover, so that the air circulates freely around it. Any portion that warps or develops shakes or other defects thereafter, are to be framed and finished in a proper and workman like manner. In accordance with the detailed drawings, wrought where required and fixed with all necessary metal ties, bolts, screws etc.

Templates boxes and moulds shall be accurately set out rigidly constructed so as to remain accurate during the time they are in use, Timber shall be wrought on all sides, free from large knots, splayed as required, plugged and fixed to walls, etc. at 1-‘6” centers with GI screws and fasteners. Wood plugs are to be cut on the twist. Patent wall plugs may be used in lieu of wood plugs with the approval of the Engineer-in-Charge/ Consultant.

The counters, shelving etc. shall be constructed of plywood as described and specified properly housed, grooved tongued, glued, blocked and screwed together, and entirely to the satisfaction of the Engineer-in-Charge/ Consultant,

## **JOINERY**

Joinery is to be prepared immediately after the placing of the contract, framed up, bonded and wedged up. Any portions that warp or develop shakes or other defects are to be replaced before wedging up. The entire work is to be framed and finished in a proper and workman like manner, in accordance with the detailed drawings, and fitted with all necessary metal ties, screws, glue etc. as required. Running bonded joints are to be cross-tongued with teak tongues and where ever 1.5” thick, double cross-tongued with teak tongues. Joiner’s work generally is to be finished with fine glass prepared surfaces unless otherwise specified. Should joints in joiner’s work open, or other defects arise within the period stated for defects liability period in the contract, and the cause thereof be deemed by the Engineer-in-Charge/ Consultant to be due to unseasoned timber or faulty or bad workmanship such defective joinery shall be taken down, refitted, redecorated and/or other replaced if necessary and any work disturbed shall be made good at the contractors expense. The Contractor shall be responsible for providing and maintaining any boxing or other temporary coverings required for the protection of dressed or finished work if left unprotected till the final handover. Contractor is to clean out all shavings, cut ends and other waste from all parts of the works before coverings or infillings are constructed.

The hardware throughout shall be of approved manufacturer and brand name, well made and equal in every respect to the samples to be deposited with the Employer/Engineer-in-Charge. The contractor may be required to produce and provide samples from many different sources before the Engineer-in-Charge/Consultant are able to make a decision and the contractor should allow in his rates for doing so, Aluminium fittings shall have a powder-coated stain chrome or anodized finish, 20-22 micron (mm.) thickness unless otherwise specified and shall be suitable for their intended purposes.

Screws are to match the finish of the article to be fixed, and to be round or flat headed or countersunk as required.

Cover up and protect the brass and bronze surfaces with thick grease or other suitable protective material, renew as necessary and subsequently clean away on completion.

## **GLAZING**

All glass to be of approved manufacture complying with IS3548-1966 or as per approved quality and sample, to be of the qualities specified and free from bubbles, smoke waves, air holes and other defects. Polished plate glass shall be glazing glass (G: G) quality. That for minors shall be Silvering quality

(S.Q.) conforming to IS 3438-1965 or as per approved sample and quality.

The compound for fixing glazing to metal is to be special non-hardening compound manufactured for the purpose and of a brand and quality approved by the Engineer-in-Charge/Consultant.

In cutting glass, proper allowance be made for expansion. Each square of glazing to be in one whole sheet.

On completion clean all glass inside and out, replace all cracked, scratched or broken panes and leave in good condition to the satisfaction of the Engineer-in-Charge/Consultant

For any location the largest possible size of glass is to be used i.e. with minimum joints, unless otherwise mentioned in the drawings. Locations of joints in glass are to be the entire satisfaction of Engineer-in-Charge/ Consultant.

## **PAINT AND POLISHING**

All material required for the works shall be of specified and approved manufacture, delivered to the site in the manufacturer's containers with the seals, etc., unbroken and are to be clearly marked with the manufacturer's name or trademark with a description of the contents and colour. All materials are to be stored on the site of works.

Spray painting with approved machines will be permitted only if written approval has been obtained from the Engineer-in-Charge/ Consultant prior to painting. No spraying will be permitted in the case of priming coats nowhere the soiling of adjacent surface is likely to occur. The nozzle and pressure to be so operated as to give an even coating throughout to the satisfaction of the Engineer-in-Charge/ Consultant. The paint used for spraying to comply with the specifications concerned and is to be specifically prepared by the manufacturer for spraying. Thinning of paint made for brushing will not be allowed.

Wood preservative: All unexposed surface of timber framing backs of door frames grounds etc. are to be treated with so lignum or other equal approved impregnating wood preservative. All woodwork is also to be treated with fire retardant paint and anti-termite treatment

All brushes, tools, pots kettles etc. used in carrying out the work shall be clean and free from foreign matter and are to be thoroughly cleaned out before being used with a different type or shade of material. All iron or steel surfaces shall be thoroughly scrapped and rubbed down with wire brushed and shall be entirely free from rust, mill scale, etc. before applying the priming coat.

Surfaces of new woodwork, which shall be painted, are to be cleaned down, knotted and stopped for the approval of the Engineer-in-Charge/ Consultant.

Surfaces of new woodwork, which shall be painted, are to be cleaned down to remove dirt, grease etc. Minor areas of defective paint shall be removed by scraping back to a firm edge and the exposed surface toughed in with primer as described and stopped with putty.

Where woodwork has been previously painted or polished and is to be newly polished, the existing finish shall be completely removed by scraping burning off or rubbing down as required.

Surfaces of previously painted metal which shall be painted are to be cleaned down and flatted down as described in surfaces of previously painted woodwork. Minor areas of defective paint and any rust and loose scale shall be removed completely by chipping, scraping and wire brushing back to the bare metal and toughed in with primer as described.

## **PROTECTION OF WORK**

The contractor shall be responsible for the temporary erection of doors and closing of openings necessary for the protection of the work during progress. He shall also provide and maintain any other temporary covering required for the protection of finished/unfinished woodwork that may be damaged during the progress of the work if left unprotected and at his own expenses.

## **MAKE GOOD DEFECTIVE WORK**

The contractor shall be responsible for the shrinkage or warping or any other defects, which may appear in any joinery work. All defective or damaged work shall be taken down and renewed or repaired to the satisfaction of the Engineer-in-Charge/Consultant without any extra charges.

## **FURNITURE**

All furniture shall be in accordance with the drawings and the sample piece as approved by the Engineer-in-Charge/Consultant. The Contractors shall first prepare a sample piece and the same shall be got approved from the Employers to their entire satisfaction. The contractor will be expected to do all the modifications to the sample for which no claim will be entertained. Glue used shall be of superior synthetic quality such as Fevicol etc. Wherever mitered joint are used dovetailing shall be introduced.

## **FALSE CEILING**

Neat cutting in false ceiling for provision of light fittings, AC supply and return grills shall be left and all the such openings shall be provided with additional frame work. The false ceiling shall be in complete level and edges, in perfect alignment. As per manufacturers specifications. IS: 2095-1982 and 2542-1981.

## **FLOORING**

It shall be laid with minimum possible joints with recommended adhesive in required quantity

### a) Carpet

The scope of work shall include;

Carpet delivery at site, safe storage, cutting to required sizes of rooms, laying and fixing in position.

- Providing adhesive to fix the carpet/underlay in position.
- Supplying and fixing of aluminum grippers as required.
- Laying of carpets/underlay including stitching, binding of edges if required, stretching, cleaning.
- Carpet shall be of the following Specifications:

Style:	Define Moment
Construction:	Level Loop
Dye Method:	Solution Dyed
Gauge:	1/8 IN
Pile Weight Tufted:	28 Oz/ sq Yard
Stitch per Inch:	6
Pile Height:	3.56 mm

Primary Backing:	Woven Polypropylene
Secondary Backing:	Woven Polypropylene
Width:	12 Feet or 3.66 Meter.
Static Control:	Permanent
Static Propensity:	Less than 2.7 KV
Flammability:	Class II
NBS Smoke Density:	Less than 450.

## **REJECTION/WASTAGE**

All rejections and wastage in process and in final stages will be to the contractors account.

## **PAINTING, OIL/ENAMEL/PLASTIC EMULSION ETC.**

Ready mixed oil paints, flat oil paint, plastic, emulsion paint, ready mixed synthetic enamel paint, Aluminium paint etc. shall be brought in original containers and in sealed tins. If for any reasons a thinner necessary, the brand and quality of the thinner recommended by the manufacturer or as instructed by the Engineer-in-Charge shall be used. The surface shall be prepared as specified and a coat of approved primer shall be applied. After 24 hours drying, approved or specified quality paint shall be applied evenly and smoothly. Filler puny coating may be given to give a smooth finish. Each coat shall be allowed to dry out thoroughly and then lightly rubbed down with sandpaper and cleaned of dust before the next coat is applied. The number of coats shall be as specified in the item and if the finish of the surface is not uniform additional coat as required shall be applied to get good uniform finish at no extra cost. After completion no hair panels endless of the moulding etc. cleaned off from stains when the final coat is applied the surface shall be rolled with a roller or textured to a special texture finish as approved by the Engineer-in-Charge as per sample to be prepared before start of work.

Spray coat plaster/paint to be applied over the prepared surface i.e. finished in POP. The coat to be applied as per the specification of the approved manufacturers.

### **Primer of following materials to be applied.**

- a) Wood work: White or pink wood primer
- b) Steel work: Red oxide zinc chromate Enter para.

## **VENETIAN BLINDS**

### **Head Channel:**

Head Channel is roll formed 20mm high x30mm wide U” shaped 0.56mm, galvanized steel strip with inside edges flanged. It is pretreated and powder coated in the nearest matching colour of slats. The Head channel is provided with snap in plastic end caps in nearest matching, colour. The Head channel houses Guardian TMTilter mechanism, crash proof cord locks, cradle and drum.

### **Guardian<sup>TM</sup> Tilter**

Guardian TM Tilter is for manual tilt of slats. The tilter is of 1mm thick Tomized steel (prevents rusting) body with a self disengaging, self lubricating synthetic worm and gear mechanism to prevent damage due to overdrive of the tilter and wand.

### **Cord Lock (Crash Proof)**

Cord Lock (Crash Proof) is of 1mm thick atomized steel and is securely attached to the head rail. It crash proof type with sufficient sensitivity to lock slats at desired height upon sudden release of cords. A revolving serrated cam gently hold cords against nickel-plated steel drum keeping the raised slats at the desired height.

### **Drum**

Drum is of 0.75mm tomized steel having two holes to anchor barbs of both ladder ends.

### **Cradle**

Cradle is of 0.75mm thick tomized steel having two holes with rolled edges to guide cords through bottom of head channel without abrasion. Cradle center drum on Ladder openings provide bearing support for tilt rod. It prevents weight of blind from being transferred to tilter & avoids additional resistance.

### **Tilt Rod**

Tilt Rod is 'D' shaped galvanized steel Rod with an average cross section of 7mm to achieve minimal torsional deflection.

### **Tilt Wand**

Transparent Acrylic wand with hexagonal cross section of 8mm across flat edges. It is attached with Guardian™ tilter with help of S hook & locking sleeve, It hangs vertically by its own weight and swivels easily from any convenient position.

### **Slats**

Slats are of Virgin Aluminum alloy (AA5086 with 3.5% to 4.5% magnesium) for maximum strength, minimum elongation and corrosion resistance. Higher percent of mg provides spring action i.e. greater resistance to Aluminum slats reducing damage. Painted slats are 25mm wide x 0.23mm thick. Slats are roll formed with an elliptical crown to ensure overlapping for perfect light control. The slats are coil coated with DUSTGUARD™ paint and are stove enameled. DUSTGUARD™ paint is an antistatic finish resulting in no static attraction of dust particles to reduce dust accumulation on slats by 50%.

### **Ladder**

Ladder is of braided polyester yarn. The vertical braids are designed for maximum tensile strength and minimum elongation. The horizontal braids consist of two cables woven with vertical braid. The ladder supports the slats and keeps them in correct position. Ladder is provided in nearest matching colours of slats.

### **Lift Cord**

Lift cord is 1.5mm diameter, braided high strength polyester fiber cord. Cord is flexible, have maximum strength, maximum abrasion resistance, breaking strength and minimum elongation. U is provided in nearest matching colour of slats.

### **Bottom Rail**

Bottom Rail is rolled formed 0.8mm thick galvanized steel section. It is pretreated and powder coated in the nearest matching colour of slats. The curved top surface matches the curvature of slats to ensure continuity of blind. The rail ends are provided with plastic end caps in nearest matching colours of slats.

### **Vogue Valance**

Vogue valance is provided in same colour of slats, fitted on Venetian blind headrail by valance clips to cover the head channel. It ensures continuity of blind for stylish decorative looks.

### **Installation Bracket**

Installation Bracket is made of steel sheet of thickness 1.2mm to prevent breaking and with levers for easy removal and installation of blind.

### **Steel Head Channel**

Steel Head Channel roll formed 25mm highx27mm wide "U" shaped 0.5mm, galvanized steel strip with inside edges flanged. It is pretreated and powder coated in 3 colours, light Grey, beige & white. The Head channel is provided with snap in Plastic end caps. The head channel houses drum, cradle assembly, filter and cord lock.

### **Slats**

Slats are made of virgin Aluminum/Magnesium alloy of width 25mm. The painted slats has thickness of 0.19mm Slats are roll formed with an elliptical crown to ensure overlapping for perfect light control. The alloy gives high strength and minimum elongation.

### **Tilter**

Tilter consists of an enclosed gear mechanism operated with a wand for opening and closing of slats.

Synthetic worm & gear is housed in clear plastic casing.

### **Cord Lock**

Cord lock consists of brass drum and cam in clear plastic casing. It is housed the headrail and provides locking arrangement of the cord and stops the slats at desired height as per the requirement.

### **Drum & Cradle**

Drum & Cradle is made of moulded high strength plastic. The drum has two holes to anchor barbs of both ladder ends. The drum & cradle assembly provides bearing support for tilt rod which avoids weight of the blinds being transferred to the tilter to prevent additional resistance.

### **Tilt Rod**

Tilt Rod is 'D' shaped galvanized steel Rod with an average cross section of 4mm to achieve minimal torsional deflection.

## **Wand**

Transparent Acrylic wand with hexagonal cross section of 8 mm across flat edges. It is attached with tilter with help of hook. It hangs vertically by its own weight and swivels easily from any convenient position.

## **Lift Cord**

Lift Cord is made of braided high strength polyester cord of diameter 1.5mm. It is flexible have minimum elongation stretch and maximum abrasion resistance.

## **Ladder**

Ladder is made of braided polyester yarn. It has two vertical braids and two horizontal braids woven at specified intervals. The ladder supports the slats.

## **Bottom Rail**

Bottom Rail is made of roll formed galvanized steel of thickness 0.7mm. The bottom channel is pretreated and powder coated in 3 colours, light Grey, beige & white and has plastic end caps. The curvature of the bottom rail matches the curvature of the slat.

## **VERTICAL BLINDS**

### **Headrail**

Headrail is of 25mm high x50mm wide extruded high strength Aluminum alloy section with wall thickness of 1.2mm. The section is anodized for smooth and corrosion resistance finishes and has the provision of fabric valance matching with louver fabric. It has rails on sides to further strengthen the section

### **End Control Unit (Planetary reduction gear box)**

End Control Unit state of art planetary reduction gearbox having the reduction ratio of 3.5:1 for a very smooth operation of the blind. This unit consists of a planetary gear fitted in the middle assembly and an end receiving gear attached to central sprocket unit,

### **Tilter Chain**

Tilter Chain is made of 4.5mm plastic beads moulded on 2.2mm thick polyester cord. The pitch of the beads is 6mm, The chain drives the sprocket fixed in the end control unit to rotate the louvers by 180. The pitch of the chain corresponds to the sprocket in perfect match for trouble free operation. It is provided in light grey, beige and white colours in nearest matching shade of blind.

### **Tilt Rod**

Tilt Rod is made of extruded Aluminum having 3 keyways. The tilt rod is fixed in the end control unit and drives the carrier gear mechanism to rotate the louvers. The average diameter is 5,8mm to achieve minimum torsional deflection.

### **Carrier (Runner)**

Carrier (Runner) is made of moulded plastic having anti friction additive. It consists of polymer housing with wheels mounted on sides & has a gear and worm mechanism with vertical worm fixed with a tongued polycarbonate stem to hold the louvers. The worm and gear mechanisms are driven by tilt rod fixed to end control unit to rotate louvers by 180. The mounted wheels on sides of casing move on rails of headrail section for resistance free stacking of louvers.

### **Spacer**

Spacer is made of moulded Derlin having anti friction additive. It helps in proper spacing of the runners and ensures overlapping in various sizes depending on the louvers width.

### **Louver**

Louvers are made of Polyester base fabric in varying widths of 50mm, 89mm, 100mm and 125mm. The louvers are available in 135 shades in 4 ranges Ultimate Royale, Select and Classic.

### **Bottom Mechanism (Weight & Chain)**

Bottom weight is made of powder coated galvanized steel sheet 1.7mm thick for maximum corrosion resistance. It is available in 50mm, 89mm, 100mm and 125mm depending on the width of the louver. Bottom chain is made of 2mm diameter plastic beads molded on polyester cord. It has equally spaced clear clips for attaching with bottom weight grooves. It is available in 50mm, 89mm, 100mm and 125mm depending on the width of the white colours in nearest matching shade of blind.

Bottom weights are clipped together by bottom chain to keep the louvers straight and prevent them from swaying.

### **Installation Bracket**

Installation Bracket consists of Galvanized steel 'L' bracket of thickness 3mm which is fitted with pressure clip made of spring stainless steel to hold the headrail.

### **Cord Weight**

Cord Weight made of ABS material hollow casing with a steel weight inside. The length of cord weight is 110mm & weights approx. 110gms.

### **Cord**

Cord is 2.2mm diameter, braided high strength polyester fibre cord, maximum abrasion resistance and minimum elongation. It is provided in light grey, beige and white colors in nearest matching shade of blind.

## LIST OF CODES

The materials and workmanship shall be in accordance with the requirement of the appropriate IS code wherever applicable together with any budding regulations or byelaws governing the works.

The following list is included for guidance only and the omission from the list does not relieve the contractor from compliance therewith

IS 1200	Mode of measurement.
IS 1:41	Code of practice for seasoning of timber.
IS 3462	Flexible PVC flooring.
IS 104	Specification for ready mixed painted, brushing, zinc chrome, priming.
IS I 37	Ready mixed paint, brushing, matt or egg-shell flat, Finishing, interior to Indian standard colour as required.
IS 427	Distemper, dry colour as required.
IS 428	Distemper, oil emulsion, colour required.
IS 5410	Cement paint, colour as required.
IS 341	Plastic emulsion paint as required.
IS 6241	Method of test for determination of stripping value of road aggregate.

### LIST OF APPROVED MAKES

S. No.	Description of Items	Approved Manufacturers
1.	PU Polish	Asian/ICI/MRF polycoat
2.	Antistatic Flooring	Armstrong/Gerflor/LG Floors
3.	Markeen	DCM or equivalent
4.	Ceiling Gypboard	India Gypsum
5.	Blinds	Vista Levolor/MAC
6.	Resin based Adhesive	Fevicol/Vamicol/ Equivalent
7.	Paint	ICI/Asian/Nerolac
8.	Handles	Cavalier/D Line/Dorma
9.	Putty	Shalimar/Berger/Asian
10.	Fire retardant Paint	Navair/Viper
11.	Texture paint	Spectrum/Oihos/Altech
12.	Glass Bricks	Saint Gobain/AIS/
13.	Door Closer	Dorma/Dlive/Sovec
14.	Brass hardware	Erl Behari/Hettich/Dorma/D Line
15.	Locks	Godrej/D Line/Yale
16.	Hardware	Erl Behari/Hettich/Dorma/D Line
17.	Aluminium hardware	Sigma/Everite/Arkay
18.	Carpet	Unite/Divine/Armstrong
19.	Source for Tempering Glass	Gold Plus/Gurind/Impact
20.	Foam and Rubber	MM Foam/Dunlop
21.	Laminate	Formica/Century/Metalan
22.	Glass	Saint Gobain/AISMode
23.	Ply and Board	Archid/Century/Euro
24.	Fabric	Floor & Furnishing/Seasons/Jagdish Store
25.	Hand made ceramic tiles	Raja/Bhaskar or equivalent
26.	Glass Wool	U.P. twiga/Lloyd/Equivalent
27.	Curtain tracks	Vista levolor/MAC/Somfy
28.	Mirror	Modiguard/Saint Gobain/A.S
29.	Veneers	Archid/Century/Euro
30.	Flush Door Shutters	Archid/Century/Euro
31.	Wooden Flooring	Nova Floors/Pergo/Euro
32.	Plastic Surfaces	Corian (Du-pont)/Equivalent
33.	Vitrified Tiles	Naveen/RAK/Nitco
34.	Stainless Steel Staircase Railing	Jindal/D-Line/Dorma
35.	Modular Furniture Chairs	Wipro/BP Ergo/Hayeworths

**T A B L E - I**  
**TABLE OF RECOMMENDED WIRING SYSTEM**  
**MAXIMUM PERMISSIBLE NUMBER OF 250V/650V GRADE**  
**SINGLE CORE COPPER CABLE**  
**THAT CAN BE DRAWN INTO RIGID STEEL CONDUIT**  
 [IS :732- 1963) with latest edition if any.

**Sizes of Cables**

NORMAL CROSS SECTIONAL AREA IN SQ.MM	NUMBER AND DIAMETER IN MM. OF WIRES	20 SQ. MM		25 SQ. MM		40 SQ. MM		50 SQ. MM	
		[S	B]	[S	B]	[S	B]	[S	B]
1.5 SQ.MM	1/1.4	(4	4)	(7	6)	(-	-)	(-	-)
2.5 SQ.MM.	1/1.8	(3	3)	(6	5)	(-	-)	(-	-)
4 SQ.MM.	1/ 2.24 OR 7/0.85	(3	2)	(6	5)	(-	-)	(-	-)
6 SQ.MM.	1 / 2.24 OR 7/0.85	(2	-)	(4	3)	(-	-)	(-	-)
10 SQ.MM.	1 / 3.55 OR 7 / 1.4	(-	-)	(3	2)	(5	3)	(-	-)
16 SQ.MM.	7 /1.7	(-	-)	(3	2)	(4	3)	(-	-)
25 sq.mm.	7/2.24	(-	-)	(-	-)	(3	2)	(5	4)

NOTE : The table shows the maximum capacity of conduits for simultaneous drawing of cables. The table applies to 250 V/650V grade cable. The columns headed by 'S' applies to runs of conduits which has distance not exceeding 4.25 metres between draw in boxes and which do not deflect from straight line by more than 15° The columns headed by 'B apply to runs of conduits which deflect from straight by an angle more than 15°.

**TABLE-II**

**TABLE OF RECOMMENDED WIRING SYSTEM MAXIMUM PERMISSIBLE  
NUMBER OF 250V/650V GRADE SINGLE CORE COPPER CABLE THAT CAN BE  
DRAWN INTO RIGID PVC CONDUITS.**

[IS:732:1963]

**SIZE OF CABLES**

Nominal cross sectional area (Sq.m.)	Number and diameter in mm of wire	20 Sq.mm	25 Sq.mm	32 Sq.mm	40 Sq.mm	50 Sq.mm
1 Sq.mm	1 / 1.12	7	13	20	—	-
1.5 Sq.mm	1 / 1.40	6	10	14	-	-
2.5 Sq.mm	1 / 1.80	5	10	14	—	-
4 Sq.mm	1 / 2.24	3	6	10	14	-
6 Sq.mm	1 / 2.80	2	5	8	11	-
10 Sq.mm	1/3.55	—	4	7	9	-
16 Sq.mm	7/1.70	—	2	4	5	-
25 Sq.mm	7 / 2.24	-	-	2	2	-

**TABLE – III**

**CURRENT CARRYING CAPACITIES**

Sr. No.	Size of conductor [Metric]	Size of conductor [B.S.S ]	Current carrying capacity	Size of EarthCont. Conductor
1	1.5mm <sup>2</sup>	3 / .036 "	15 Amp.	14SWG
2	2.5mm <sup>2</sup>	7 / .029 "	20Amp.	14SWG
3	4 mm <sup>2</sup>	7 / .036 "	28Amp.	14SWG
4	6 mm <sup>2</sup>	7 / .044 "	36 Amp.	14 SWG
5	10mm <sup>2</sup>	7 / .052 "	45 Amp.	12SWG
6	16 mm <sup>2</sup>	19/.044"	62 Amp.	10 SWG
7	25mm <sup>2</sup>	19/.052"	75 Amp.	8 SWG
8	35 mm <sup>2</sup>	19'.064"	97Amp.	6 SWG

## **LIST OF IS-STANDARDS.**

All the work shall be done as per the latest IS CODE, of practice. For easy reference some of the codes are given below, but it shall be the sole responsibility of the contractor to execute the work as per current IS CODES wherever any revision has taken place.

IS 9537-	RIGID STEEL CONDUITS FOR ELECTRIC WIRING.
IS 9537-	RIGID PVC CONDUIT FOR ELECTRIC WIRING.
IS 694-	WIRING CABLES UPTO 600V SYSTEMS.
IS 1554-	PVCAA CABLES (HEAVY DUTY) UPTO AND INCLUDING 1100V SYSTEMS.
IS 732-	CODE OF PRACTICE FOR ELECTRICAL WIRING INSTALLATIONS (SYSTEM VOLTAGE NOT EXCEEDING 650 VOLTS )
IS 2274-	CODE OF PRACTICE FOR ELECTRICAL WIRING installation (SYSTEM VOLTAGE EXCEEDING 650 VOLTS ).
IS 3043-	CODE OF PRACTICE FOR EARTHING.
IS 2309-	CODE OF PRACTICE FOR PROTECTION OF BUILDINGS AND ALLIED STRUCTURES AGAINST LIGHTNING.
IS 2516 PART-1	ALTERNATING CURRENT CIRCUIT BREAKERS FOR VOLTAGES NOT EXCEEDING 1000 VOLTS.
IS 2516 PART-2	VOLTAGES NOT EXCEEDING 11.000 VOLTS.
IS 2516 PART-3	VOLTAGES EXCEEDING 11,000 VOLTS.
IS 10028 PART II	CODE OF PRACTICE FOR INSTALLATION AND MAINTENANCE OF TRANSFORMERS.
IS 3646-	CODE OF PRACTICE FOR INTERIOR ILLUMINATION.
IS 8828-	MINIATURE CIRCUIT BREAKERS
IS 13032 -	MINIATURE CIRCUIT BREAKER DISTRIBUTION BOARDS FOR VOLTAGE UPTO AND INCLUDING 1000V AC
IS 2834-	CAPACITOR BANKS.
IS 9224-	HIGH RUPTURING CAPACITY FUSE LINKS.
IS 4067-	AIR BREAK SWITCHES FOR VOLTAGES UPTO 1000 V.
IS 2147-	LT PANELS AND CUBICLE BOARDS.
IS 4237-	GENERAL REQUIREMENTS FOR SWITCHGEAR AND CONTROL GEAR FOR VOLTAGES NOT EXCEEDING 1000V.
IS 2705-	CURRENT TRANSFORMERS.
IS 10118-	CODE OF PRACTICE FOR INSTALLATION AND MAINTAINENCE OF SWITCHGEAR.
IS 12640-	RESIDUAL CURRENT CIRCUIT BREAKERS.