

ECGC LTD.,

CHENNAI SOUTH BRANCH,

770 - A, VII Floor, Dewa Towers, Anna Salai, Chennai 600 002.

TENDER

For Interior Furnishing, Electrical, Air- conditioning and Related works for
Chennai South Branch premises at First floor, No.15, Second Main Road,
New Colony, Chrompet, Chennai – 600 044.

VOLUME - 1

TECHNICAL BID

CONDITIONS OF CONTRACT



No. 258, Tambaram - Velachery Road,
Selaiyur, Chennai 600 073.
Mobile : 98412 -81968

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NOTICE INVITING TENDER

Sealed tenders are invited on behalf of The Branch Manager, Chennai South Branch, ECGC Ltd., 770 – A, VII Floor, Dewa Towers, Anna Salai, Chennai 600 002, on item rate basis from competent contractors having sound technical and financial capacity to do interior furnishing, electrical, air – conditioning and related works for new premises of Chennai South Branch at Chrompet, Chennai.

Name of work	:	Interior furnishing, electrical, air-conditioning and related works for Chennai South Branch at Chrompet.
Issue of Tender Documents	:	May be downloaded from website www.ecgc.in or From the above mentioned Office From 18.05.2015 to 30.05.2015 Between 10.00 AM and 2.00 PM
Tender Document Fee	:	Rs. 500/- payable only by cash (Non-Refundable)
Earnest Money Deposit	:	Rs. 50, 000/- (Fifty Thousand Only) DD in favour of ECGC Ltd., Payable at Chennai
Last date and time for submission of filled in Tender Documents	:	05.06.2015 up to 2.00 PM
Opening of Tender	:	05.06.2015 AT 3.30 PM
Duration for completion of works	:	60 days (sixty days) from the date of issue of work order
Liquidated damages for any delay	:	0.5% per week to a maximum of 5%
Defects liability period (DLP)	:	Twelve Months
Validity of the tender	:	90 days
Sales Tax, VAT, IT, Service Tax, Octroi, Lead & Lift of materials, wastages and working in shifts etc.,	:	The quoted rates should include all costs

Note: ECGC is not bound to accept the lowest tender & reserves the right to accept or reject any or all the tenders without assigning any reasons whatsoever.

LIST OF DOCUMENTS TO BE SUBMITTED ALONG WITH THE TECHNICAL BID

1. Should be registered as civil/ interior contractors with Govt. of India organisations such as CPWD, MES, Railways or Govt. of India undertakings such as Banks, Insurance Companies, Engineering/ Industrial Organisations etc.,
(Copy of Empanelment with such organizations should be attached)
2. **STRUCTURE AND ORGANISATION**
(Details of the Organisation to be provided as per 'FORM - E')
3. Should be solvent to the extent of Rs. 22.50 Lakhs.
(Copy of latest solvency certificate issued by a commercial bank to be furnished. The certificate should have been issued not before 2014.)
4. Financial Information
(Financial information should be provided as per 'FORM - A')
5. Latest IT clearance certificate should be submitted
6. Should have completed during the last three years ending 31.12.2014
Three similar works each costing atleast Rs.20.00 Lakhs.
or
Two similar works each costing Rs. 25.00 Lakhs.
or
One similar work costing not less than Rs. 40.00 Lakhs.
(Work orders/ Completion certificate/ Performance certificates from the employers should be attached)
7. Should have adequate tools and equipments for proper execution of work in prescribed time.
(Details of tools and plants likely to be used in carrying out the work should be attached as per 'FORM - F')
8. Should have sufficient number of technical & administrative staff.
(List of staff should be attached as per 'FORM E-1')

INSTRUCTIONS TO TENDERERS

1.0 LOCATION : The site is located at first floor, No. 15, Second Main Road, New Colony, Chrompet, Chennai 600 044.

2.0 SCOPE OF WORK

The Interior furnishing, Electrical, Air - Conditioning and Related works as per Drawings, Specifications and Conditions of Contract and in conformity to the guidelines of Local Authorities / Statutory Bodies, Labour dept, etc.

3.0 SUFFICIENCY OF TENDER

3.1 Tenderers must get acquainted with the proposed work and study the tender drawings, designs, specifications, conditions of contract, schedule of quantities and other documents carefully before tendering. No request of any change in rates or conditions for want of information on any particular point shall be entertained after receipt of the tenders.

3.2 In case of any discrepancies or uncertainty concerning any thing contained in the tender documents, the tenderer shall obtain clarifications required from the Architect and quote his rates accordingly. No claim for additional payment will be entertained, if the tenderer fails to comply with this requirement.

3.3 No extra costs / rates consequent on any misunderstanding or otherwise shall be allowed at later stage.

3.4 Any printing or typographical errors / omissions in tender documents shall be referred to the Employer and their interpretation regarding applicable corrections shall be final and binding on Contractor.

3.5 ADDENDA:

Addenda to the tender document may be issued along with the tender to clarify the documents or to reflect modifications to the design or contract terms.

Each addendum issued by the Employer will be distributed to all to whom a set of tender documents has been issued. Each recipient will submit the same along with his tender duly signed in token of acceptance of these addenda. All addenda issued by the Employer shall form part of Tender Documents.

4.0 TENDERER TO VISIT THE SITE

4.1 The Tenderer must prior to submitting his tender inspect the site to ascertain the nature of site and it's surrounding, access thereto, sub-soil, the form and nature of the site, the quantities and nature of the work and materials necessary for the completion of the works, means of access to the site, the accommodation he may require, location, facilities for procurement and storage of materials, quality of materials according to specifications, working labour rates for the execution of the work. In general, he shall himself obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect his tender. The Tenderer shall be deemed to have inspected and have full knowledge of the site and drawings whether or not he actually inspects them once he submits the tender to the accepting authority.

4.2 The Tenderer shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for proper completion and maintenance of the works, till handing over and completion of defects liabilities period.

4.3 PROJECT ENGINEER:

The Successful tenderer shall, before receiving Work Order, get his Project Engineer and his team (whom he intends to post at site for full time Project Execution) interviewed and approved by the Employer.

5.0 SUBMISSION OF TENDER:

5.1 The Tender must be submitted in original and as per details given hereunder. Documents as required as per preset conditions given above shall be submitted along with volume 1 and The rates shall be filled in the Schedule of quantities given in **Volume II**, of the tender document.

5.2 Tender shall be submitted in two parts in separately sealed envelopes as described below:

Volume I: Technical and Commercial aspects of the offer and Tender Drawings, EMD and details listed in Clause No. 6.

Volume II: Priced Schedule of Quantities in Original and Duplicate.

The common envelope containing Volume I and Volume II of the offers shall be duly superscribed with the above titles and submitted at the time fixed for opening of tender.

5.3 Volume II of offer shall contain only the "Schedule of Quantities" and no conditions whatsoever. Any conditions / stipulated by the tenderer in Volume II will not be taken into consideration for evaluation of the tenders.

5.4 Tenderers are requested to quote strictly as per the terms and conditions, specifications, drawings and tender document and not to stipulate any deviations.

5.5 All pages of tender documents including any corrections, additions or deletions shall be initialed 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 Tenderer before submission of tender.

5.6 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 quantities 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 for all items. The tendered amount for the work shall be entered in the relevant page tendered and duly signed and sealed by the Tenderer.

5.7 In case of discrepancy between the rates given by the contractor in words and figures or in the amount worked out, the following procedure shall be followed.

- a) When there is a difference between the rates in figures and in words the rates which is lower of the two, shall be taken as correct.
- b) When the amount of an item is not worked out by the contractor or it does not correspond with the rates quoted by the contractor in figures as well as in words, the rate quoted in words shall be taken as correct.
- c) When the rate quoted by the contractor in figure and in words tallies but the amount is not worked out correctly, the rate quoted by the contractor shall be taken as correct and not the amount.
- d) In case there is a difference in rate indicated in the original and duplicate copies of the tender submitted by the tenderer, the rate indicated in the original copy will be applicable.

5.8 Corrections and Erasures:

Corrections and alterations in the entries of tender papers shall be signed in full by the Tenderer.

5.9 The tender shall contain the names, address and place of business of person or persons offering the tender and shall be signed by the Tenderer with his usual signature. Partnership firms shall furnish the full names of all Partners in the tender. It should be signed in the firm's name by all the partners or by duly authorized representative followed by the name and designation of the person signing. A copy of the partnership deed of the firm with names of all partners shall be furnished. Tender by a company or corporation shall be signed by an authorized representative, and a copy of Power of Attorney on their behalf shall accompany the tender.

5.10 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 as he signs in that language. The signatures should be attested in English by at least one witness.

5.11 Witness:

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

The witness shall under no circumstances be a Contractor who has himself tendered for the same work.

6.0 **INFORMATION REQUIRED ALONGWITH TENDER:**

The following details are required to be submitted along with tender:

- a) List of equipment proposed to be deployed for work.
- b) Site Organisation chart with bio-data of Resident Engineer and key personnel proposed to be deployed at site.
- c) Program of work substantiated by proposed resources of manpower and equipment.

- d) Power of Attorney in the name of persons who has signed the tender document.

7.0 TRANSFER OF TENDER DOCUMENTS:

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

8.0 EARNEST MONEY:

- 8.1** The Tenderer must pay the amount of Earnest Money as mentioned in the notice inviting tender in the form of Bank Guarantee / Bank Demand Draft payable to ECGC, Chennai. No interest on Earnest Money deposited by the Tenderer shall be allowed. The Tenderer should attach the bank guarantee / bank draft along with the tender failing which the tender will not be considered. No other mode of payment shall be accepted.

- 8.2** The Bank Guarantee for Earnest Money shall be issued in favour of ECGC at Chennai.

- 8.3** The Bank Guarantee for Earnest Money shall remain valid for 3 months from the date of submission of tender. The Earnest Money Deposit of unsuccessful tenderers shall be refunded within three weeks of award of contract to the successful tenderer or within one week of actual commencement of work, whichever is earlier and in any case not later than three months.

The Earnest Money Deposit of the successful tenderer shall be refunded on the acceptance by the Employer of the Contractor's Bank Guarantee towards Security Deposit.

The name of the work shall be as mentioned in tender documents.

The Bank Guarantee shall conform to the Proforma E in Appendix V.

9.0 VALIDITY OF TENDER:

Tenders submitted by Tenderers shall remain valid for acceptance for a period up to end of **90 days** from the date of submission of the tender. The Tenderers shall not be entitled to revoke or cancel his tender or to vary the tender given or any terms thereof, during the period of validity, without the consent in writing of Employer. If the tenderer seeks any modification / addition to his already quoted tender, the Employer shall, without prejudice to his other rights, reject the tender summarily and force the forfeiture of EMD submitted by the tenderer.

10.0 RIGHT TO ACCEPT OR REJECT TENDER:

- 10.1** The right to accept a tender will rest with the Employer who is not bound to accept the lowest or any tender and he reserves the right to reject any or all the tenders received without assigning any reasons.

- 10.2** The Employer also reserves the right to accept the whole or any part of the tender and the tenderer shall be bound to perform the same at the rates quoted. All tenders in which any of the prescribed conditions are not fulfilled or are incomplete in any respect or there are any corrections not duly signed by the tenderer are liable to be rejected.

10.3 For this purpose the tenderer shall quote rates for various items which will be self sufficient to meet their whole costs for executing any / every item. No demand for variations in rates for any item executed on the plea of the Client deciding to delete, alter or reduce the quantities prescribed in respect of other items.

10.4 The work may be awarded to one or more agencies by splitting the work at the entire discretion of the Employer. The quoted rates shall hold good for such an eventuality.

11.0 TIME SCHEDULE:

The time allowed for completing the works is 60 days from the date of Work Order / date of handing over site whichever is later. This period of 60 days includes the mobilization period of 10 days.

TIME IS THE ESSENCE OF THE CONTRACT and as such Tenderers shall submit a program (time schedule) for executing the entire project and shall furnish the details of their scheme indicating the proposed deployment of their machinery and resources.

12.0 SUFFICIENCY OF RATES:

The rates quoted shall include all costs, allowances, excise duty, customs duties and others like royalty, levies, Octroi and taxes including income tax, sales tax, works contract tax, service tax or any other charges including any enhancement in labour rates etc., which may become effective for any reason including those due to acts of Government / Statutory Bodies enacted from time to time by the State and / or the Central Government. Under no circumstances, shall the Employer be held responsible for compensation or making up the loss to the Contractor due to any increase in the cost of labour or materials, variation in exchange rates etc.

The rates quoted by the tenderers shall include all eventualities such as heavy rain, sudden floods etc., which may cause damage to the executed work or which may totally wash out the work, until the Completion Certificate is issued to the contractor. The Employer will not be responsible for such damage or wash-out of the construction work. The contractor shall have to claim any losses on such accidents from insurance policies which he shall take for this work.

No escalation of prices shall be permitted on any account.

13.0 SIGNING OF THE CONTRACT:

The successful tenderer shall be required to execute an Agreement in the proforma attached with this tender document within 10 days from the date of receipt of the letter of acceptance of tender. In the event of failure on the part of the successful tenderer to sign the agreement within the above stipulated period the earnest money deposited by him will be forfeited and the letter of acceptance of the tender shall be considered as cancelled.

FORM OF TENDER

ECGC Ltd,
Chennai South Branch,
770 - A, VII Floor, Dewa Tower,
Anna Salai, Chennai 600 002.

Dear Sir,

SUB: Invitation of Tender for Interior furnishing, Electrical, Air - conditioning and Related Works for the Chennai South Branch at First Floor, No. 15, Second Main Road New Colony, Chrompet, Chennai 600 044.

Having examined the plans, specifications, conditions and schedule of quantities and satisfying ourselves as to the location of the site and working conditions, I / We hereby offer to execute the above works at the respective item rates which I / We have quoted for different items in the Schedule of Quantities.

I / We herewith deposit Rs. _____ (Rupees _____ only) by crossed demand draft / Bank Guarantee drawn in favour of ECGC Ltd., Chennai drawn on a Bank dischargeable / payable at Chennai and Earnest Money Deposit for the due execution of the works of my / our tendered rates, together with any variations should the work be awarded to me / us.

In the event of this tender being accepted, I / We agree to enter into and execute the necessary contract as required by you. I / We do hereby bind myself / ourselves to forfeit the aforesaid Earnest Money deposit in the event of our refusal or delay in signing the Contract Agreement. I / We further agree to complete the work within the stipulated time specified in General Conditions of Contract.

I / We agree to keep our tender open for **90 (Ninety) days** from the date of opening of tender.

I / We enclose the completed tender documents duly signed under two separate sealed envelopes and the Earnest Money deposit Rs..... (Rupees only) by Bank Draft / Bank Guarantee No..... dated Issued by

Thank you.

Yours faithfully,

(To be signed by the Authorised Representative of
Tenderer who has the Power to do so)

Place:

Date:

Witness Signature:

Name:

Address:

Seal:

ARTICLES OF AGREEMENT

THIS AGREEMENT is made on this day of 2015 between ECGC Ltd., having its Chennai South Branch Office at Seventh Floor, Spencer Towers, Anna Salai, Chennai - 600 002. (hereinafter referred to as the "Employer") which expression shall include its successor, legal heirs and assignees of the first part.

AND M/s.....having its office at

.....
(Hereinafter referred to as the "Contractor") which expression shall include his successor, legal heirs and assignees of the second part.

WHEREAS the Employer has caused drawings and tender documents to be prepared by his Architect, M/s Srishti, The Creative People for the above said work,

AND whereas the Contractor has agreed to execute the work as per these drawings, specifications, conditions of contract conveyed via Employer's letter of acceptance vide dated

AND whereas the Employer has accepted the Contractor's offer as aforesaid for such sum as may be ascertained to be payable of the Bill of Quantities and this sum is estimated to be Rs..... (Rupee as per.....) hereinafter referred to as the said "Contract Agreement amount".

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1) In consideration of the said Contract Sum to be paid in periodic intervals of time and in the manner set forth in the said Conditions, the Contractor shall carry out and complete the Interior furnishing, Electrical, Air - Conditioning and Related works in terms and conditions herein contained and according to the notice inviting tender, general scope of work, general conditions of the contract, special conditions of contract, technical specifications, schedule of rates, drawings civil, structural and services and instructions given by the Architects and the supervision of and to the entire satisfaction of the Employer.

2) Contract Price, Taxes and Payment Terms:

Total contract price is Rs..... which is inclusive of cost of materials, labour, equipment, tools and tackles required for execution of the job and installation charges. Above price is inclusive of all taxes & duties including excise duty, sales tax, service tax/ VAT, works contract tax, income tax, royalties, Octroi etc. in respect of this contract.

Tax Deduction at Source for Income tax will be deducted by the Corporation before releasing any payment to the contractor

The VAT/WCT as applicable in the State of Tamilnadu should be included in the quoted rates no extra amount towards VAT/WCT would be paid by the corporation. The necessary tax deduction at source, as applicable rate would be initiated by the corporation before releasing any payment to the contractor. The Agency should have VAT/WCT Registration .No Bills will be paid without registration.

The service tax at the applicable rate shall be included in the quoted rate no extra amount towards service tax would be paid by Corporation. As regards Service Tax 40% of the total bill value would be considered towards the Service Tax Payable component over which the Service Tax rate (presently 12.36%) would be calculated to derive the total Service Tax liability . Out which the said liability would be deducted from the bill payable and paid by the corporation to the Department directly and balance 50% would be the liability of the contractor. However, Contractor should have Service Tax Registration. No bills will be paid without registration .

All interim payments will be made as per the site measurements on item Rate basis and certification of the Architect.

3) **Completion Period:**

Time is the essence of the Contract. The work is to be completed in all respects within 60 days from the date of receipt of the Work Order by the Contractor or handing over of the site whichever is later. If the Contractor fails to complete the job within the agreed time period, the Contractor will have to bear liquidated damages as per the relevant clause mentioned in the Contract Documents.

4) **Inspection of Site:**

The Contractor has inspected the site before submitting his tender and has satisfied himself as to the nature of the work to be executed on the site. Any difficulties which the Contractor may come across in the course of the work shall in no way relieve the contractor to claim or receive extra payment unless the Employer is of the opinion that such difficulties could not have reasonably be foreseen by the contractor and the Employer consents in writing to this effect.

5) **Supply of Material and Labour:**

The Contractor shall arrange all labour, materials, equipment, tools, tackles and everything necessary for the completion of the work. The Contractor will assume all responsibility for the safety, protection and accounting of all materials and equipment and the work during construction. All materials used by the Contractor shall be of the best quality conforming to the required specification mentioned in the tender document and will be subject to the approval of the Architect / Consultant / Employer.

All such materials not approved by Architect / Consultant / Employer shall be removed at once by the Contractor at his own expense. The Contractor shall also at his own expense arrange for carrying out any test of materials which the Architect / Consultant / Employer may from time to time require or if so desired by the employer.

6) **Defective Work/Materials:**

If any part of the work done by the Contractor is found to be defective in workmanship or if in the opinion of the Architect / Consultant that bad or inferior materials have been used, the Contractor shall at his own risk and cost demolish all such defective works and rebuild the same and / or replace the bad or inferior materials used within a time frame mentioned to the satisfaction of the "Architect / Consultant / Employer". The decision of the Employer / Architect / Consultant in this regard shall be final and binding on the Contractor.

In case of default of the contractor to remove the defective work and rebuild the same or replace bad or inferior materials as directed by the Employer, the Employer shall be entitled to employ anyone else to carry out the same at risk and cost of the Contractor and recover all expenses incurred in this regard from the contractor.

7) **Inspection of Work:**

During progress of the work the site engineer of the Employer and Architect shall be entitled at all times to have access to and inspect the work.

8) **Supervision:**

The Contractor shall provide one or more competent and technically qualified Project engineer duly and fully authorized to act on his behalf in all matters relating to the works to be carried out under this agreement and who shall at all times be present at the site of works and receive instructions on the progress of works, as per directions, explanations & instructions of Employer / Architect / Consultant.

9) **Compliance with Statutory Regulations & Work Rules:**

The Contractor shall be responsible for complying with the applicable laws / bye laws / Regulations in force from time to time and shall have to bear all statutory liabilities to the workers / personnel engaged for the job. Nothing will be paid extra in this regard. If any amount is paid by the Employer in this regard, the same amount shall be deducted from the Contractor's dues. The Contractor shall have to arrange insurance cover for the workers / personnel engaged by him for the job as stated in conditions of contract.

10) **Determination of Contract:**

In the event of Contractor failing to keep / adhere to agreed schedule of work, or in the event of the Contractor failing to comply with the provisions of this contract by default and / or negligence and / or suspension of work or in the event of Contractor failing to complete the work within the stipulated period, the Employer may determine this Agreement forthwith and employ, at the Contractor's risk and cost, another contractor or sufficient number of workmen to complete the work.

11) **Settlement of Disputes:**

In the event of any dispute or difference arise between the employer and contractor relating to interpretation and application of provisions of the contract, all such disputes / claims whatsoever which shall either during the continuance of the contract or afterwards on either between the parties to the contract or the respective representatives touching the construction / application of any provision / clause mentioned in the contract or any account or liability between the parties to the contract or as to any act or deed or omission of any party to the contract, in any way relating to these presents, shall be first at the discretion of the ECGC Ltd., attempted to be resolved in good faith by mutual discussions within 30 days of the dispute or question being raised failing which the same shall be settled by arbitration in accordance with provisions of Indian arbitration and Conciliation act 1996 and its further amendments in force on the date of this contract.

The Parties concerned shall designate an arbitrator on mutual consent / consensus. In the event of no consensus being arrived, an Arbitral Tribunal shall be constituted

comprising three Arbitrators, each party appointing one arbitrator and a third arbitrator to be appointed by the two arbitrators so appointed by the parties. The venue of the arbitration shall be exclusively at Chennai and any award passed by arbitrator or the arbitral Tribunal shall be final, conclusive and binding upon the parties and shall be deemed to have been made between parties themselves. The parties to the dispute shall share equally the cost of arbitration as intimated by the arbitrators.

IN WITNESS whereof the said contracting parties have set their hands and seals on the day and year first hereinabove witness

Witness Address

Employer

Witness Address

Contractor

DECLARATION

I/We have inspected the site for (interior furnishing work of ECGC at Chrompet, Chennai) of ECGC and I/We have made me/us fully acquainted with the local conditions in and around the sites of works and lay out drawings of works, drawings of each item etc. complete.

I/We hereby declare that I/We have carefully gone through the conditions laid down in the Notice inviting Tender, General notes, General Condition of Contract, Special conditions, Schedule of approximate quantities and rates, Form of Agreement, General Specification, Approved manufacturers/natural source of materials (ie. all parts of Technical bid), Technical Specification of schedule of quantities (ie. all parts of Price bid) and clearly understood all the same and on the basis of the same I/We have quoted our rates in the schedule of quantities (ie. Price-bid, Part II Tender document) attached with the tender documents.

I/We hereby declare that, in particular during execution of all works at site; it will be my/our sole responsibility to strictly adhere to/meticulously follow the General Specification, Approved manufacturers/natural source of materials, Technical Specifications of schedule of quantities, all drawings of layout and items. For any type of deviation (to any of above or subsequent instructions), it will be my/our responsibility to obtain the written instruction of the Engineer-in-charge for the same failing which it shall be deemed that I have carried out any such deviations at my own and I shall be duty bound to replace the all deviated material/works from the site at my/our cost as well as I shall be liable to be penalized by the employer as deemed fit and for all such losses made thereof, I/we shall not have any right to arbitrate in any manner.

I/We hereby declare that I/We shall obtain necessary drawings of items from employer in time and also shall uniformly maintain such progress as may be directed by the employer to ensure completion of same within the target date/time as mentioned in the tender document.

Signature and seal of Contractor/Tenderer

Date :

Witness:

1.

2.

NOTE: ALL TYPE OF TECHNICAL CLARIFICATIONS (IF ANY) SHOULD FORM A PART OF TECHNICAL BID ONLY. ANY CLARIFICATIONS SOUGHT AFTER OPENING OF THE TENDERS WILL NOT BE ENTERTAINED AT ANY COST

GENERAL CONDITIONS OF CONTRACT**1. DEFINITIONS / INTERPRETATIONS:**

In construing these Conditions and the Specifications, Schedule of Quantities and Contract Agreement, the following words, shall have the meanings herein assigned to them except where the subject or context otherwise requires:

- (a) **Employer** shall mean ECGC having its Chennai South Branch Office at Seventh Floor, Dewa Towers, Anna Salai, Chennai - 600 002. and shall include their heirs, legal representatives, assignees and successors.
- (b) **Contractor** shall mean the person or the persons, firm or company whose tender has been accepted by the Employer and shall include their heirs, and legal representatives, and permitted assigns.
- (c) The **Architect** shall mean M/s Srishti, The Creative People having office at 258, Velachery - Tambaram Road, Selaiyur, Chennai - 600 073, appointed by Employer for the said works.
- (d) The **Structural Consultant** shall mean office at retained by the Architect to design the total structural works on their own behalf and for the Employer, for the project.
- (e) **Works** shall mean the works to be executed and recorded in accordance with the Contract and shall include all extra, additional, altered or substituted works as required and recorded for the performance of the Contract.
- (f) **Site** shall mean the land and other places as shown in red colour on the site plan, on or under which the works are to be executed or carried out and other lands or places provided by the Employer for the purposes of this Contract.
- (g) **Contract Documents** means and shall include the Notice inviting Tender, the Articles of Agreement, the General Conditions of Contract, the Special Conditions of Contract, the Priced Schedule of Quantities, Specifications, and drawings pertaining to the works and all correspondence between the Employer and the Contractor starting from the offer and up to the signing of this contract agreement including minutes of meetings, record notes of discussions, clarifications issued on the tender documents etc. All sections of this Contract Document are to be read together.
- (h) **Drawings** shall mean the drawings describing the works, structural drawings, detailed drawings, shop drawings, land sketches prepared and used by Architect / Contractor / and other consultant etc. referred to in the Specifications, description of items etc. and any modifications of such drawings approved in writing by the Architect / Structural Consultant and such other drawings as may from time to time be furnished or approved in writing by the Architect and the Structural Consultant.
- (i) **Notice in Writing** or written notice shall mean a notice in writing, typed or printed characters, sent by the Employer or Architect (unless delivered personally or otherwise) proved to have been received by registered post to the last known private or business address or registered office of the Contractors and shall be

deemed to have been received by them when in the ordinary course of post it would have been delivered.

- (j) **Act of Insolvency** shall mean any Act of Insolvency as defined by the Presidency Towns Insolvency Act, or the Provincial Insolvency Act or any Act amending such original acts.
- (k) **Virtual Completion** shall mean that the works in the opinion of the Architect / Employer are complete or fit for the intended use of the Employer.

General:

- 1) Words importing persons include firms and Corporations. Words importing the singular only also include the plural and vice versa where the context requires.
- 2) Headings and marginal notes to these Conditions shall not be deemed to form a part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract.
- 3) The language of this contract shall be English. For convenience of contractor, if he desires to, can have his own translations of all documents to any other language. But for any misrepresentation arising out of such translations, the original English version only shall hold good as far as this contract is concerned.

2. SCOPE OF CONTRACT:

The Contractor shall carry out and complete the works in every respect in accordance with this Contract and with the directions of and to the satisfaction of the Architect / Employer. The Architect / Structural Consultant may in absolute discretion and from time to time issue further drawings and / or written instructions, details, directions and explanations which are hereafter collectively referred to as **Instructions** reflected either in the Minutes of Meetings or in any other form in regard to:-

- a. The variation or modification of the design, quality or quantity of works or the addition or substitution or omission of any work.
- b. Any discrepancy in or divergence between the Drawings or between the Schedule of quantities and / or Drawings and / or Specifications.
- c. The removal from the site of any material brought thereon by the Contractor and the substitution of any other materials thereof.
- d. The removal and / or re-execution of any works executed by the Contractor.
- e. The postponement of any work to be executed under the provisions of this Contract.
- f. The dismissal from the works of any person employed thereupon.
- g. The opening up for inspection of any work covered up.
- h. The amending and making good of any defects.

- i. Co-ordination of work with other agencies appointed by the Employer for due fulfillment of the total work.
- j. Deletion of any item of work from the scope of contract.

The Contractor, shall forthwith comply with and duly execute any work comprised in such Architect's / Structural Consultant's / Employer's Instructions provided always that verbal instructions, directions and explanations given to the Contractor or his representative upon the works by the Architect / Structural consultant / Employer shall, if involving a variation, be confirmed in writing by the Contractor within 7 days, and if not dissented from in writing within a further 7 days by the Architect / Structural Consultant / Employer such shall be deemed to be the Architect's / Structural Consultant's / Employer's Instructions within the scope of the Contract.

If Compliance with the Architect's / Structural Consultant's / Employer's Instructions involves any variation, such variation shall be dealt with under Clause No. 18b.

If the Contractor fails to comply with the Architect's / Structural Consultant's / Employer's Instructions within a fortnight after the receipt of written notice from the Architect / Structural Consultant / Employer requiring compliance with such instructions, the Employer through the Architect may employ some other agency to execute any work whatsoever which may be necessary to give effect to such instructions.

For the purpose of entering day to day instructions by the Architect / Structural Consultant / Employer, the Contractor shall maintain at his own cost, a "Site Instruction Book" in triplicate in which the instructions shall be entered by Architect / Structural Consultant / Employer.

3. DRAWINGS AND SPECIFICATIONS:

The Work shall be carried out to the entire satisfaction of the Architect / Employer and in accordance with the signed drawings, specifications and other Contract documents and such further drawings and details as may be provided by the Architect / Structural Consultant and in accordance with such written instructions, directions and explanations as may from time to time be given by the Architect / Structural Consultant / Employer.

No drawing shall be taken as in itself an order for execution unless, in addition to the Architect's / Structural Consultant's signature, it is marked "GOOD FOR CONSTRUCTION". No claim for payment for extra work shall be allowed unless the said work shall have been executed under the provisions of Clause 8 (Authorities, Notices, Patent Rights and Royalties), or by the authority, directions in writing of the Architect as herein mentioned.

One complete set of the signed Drawings, Specifications and Schedule of Quantities shall be furnished by the Architect / Structural Consultant to the Contractor. The Architect / Structural Consultant shall furnish, within such time as he may consider reasonable, one copy of additional drawings which in his opinion may be necessary for the execution of any work. Such copies shall be kept on the works, and the Architect / Structural Consultant or his representatives shall at all reasonable times have access to the same. All drawings and specifications shall be returned to the Architect by the Contractor before the issue of the Final Certificate. A copy of the Contract shall remain

in the custody of the Architect and shall be produced by him at his office as and when required by the Employer or by the Contractor.

Additional prints of drawings, if any, required by the Contractor may be supplied by the Architect / Structural Consultant but on the payment of charges.

4. SCHEDULE OF QUANTITIES:

4.1 The Schedule of Quantities unless otherwise stated shall be deemed to have been prepared in accordance with the standard procedure of quantity measurement, and shall be considered to be approximate and no liability shall attach the Employer for any error that may be discovered therein.

4.2 SUFFICIENCY OF SCHEDULE OF QUANTITIES:

The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the prices quoted by him in the Schedule of Quantities. The contractor's Rates and Prices shall cover all his obligations under the Contract necessary for the proper completion of the works.

4.3 ERRORS IN SCHEDULE OF QUANTITIES:

Should any error appear in the Schedule of Quantities, other than in the Contractor's prices and calculations, it shall be rectified, and such rectification shall not vitiate the Contract but shall constitute as a variation of the Contract and shall be dealt with as on authorized extra or deduction.

4.4 INSPECTION OF SITE AND SUFFICIENCY OF TENDER:

- (a) The Contractor shall inspect and examine the site and its surrounding and shall satisfy himself before submitting his tender as to the nature of the ground, and sub-soil, the form and nature of the site, the quantities and nature of the work and materials necessary for the completion of the works and means of access to the site, the accommodation he may require and in general, shall himself obtain all necessary information as to risk, contingencies and other circumstances which may influence or affect his tender.
- (b) The Contractor shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for proper completion and maintenance of the works.
- (c) No extra charges consequent on any misunderstanding or otherwise shall be allowed.
- (d) The Contractor shall, on the basis of his findings emerging from the study of the subsoil conditions, examine the foundation drawing furnished in the tender and shall be at liberty to submit his objections or suggestions of the proposed foundation as may be relevant to subsoil conditions found by him directly to Structural Consultant / Architect. The Contractor shall not be entitled to recover

the cost of ascertaining the ground and subsoil conditions at the site and such cost shall be deemed to be included in the rates tendered by the Contractor.

4.5 SCHEDULE OF QUANTITIES - NO CLAIM BECAUSE ACTUAL QUANTITIES DIFFER FROM PRELIMINARY STATEMENT:

A Schedule of probable quantities in respect of work and Specifications accompany these Conditions. The schedule of probable quantities is liable to alterations by omissions, deductions or additions at the discretion of the Architect.

The quantities of the various kinds of work to be done and materials to be furnished under this Contract which have been estimated and are set forth in the proposal or the Agreement or the lists of Contract Prices, are the best available, but may not be accurate in any or all particulars and are only for the purpose of comparing on a uniform basis the bids offered for the works under this Contract.

The Contractor agrees that neither the Employer nor the Architect nor any of the employees or agents hereof shall be held responsible if any of the said estimated quantities shall be found to be not even approximately correct in the construction of the works and that he will not at any time dispute or complain of such statement nor assert that there was any misunderstanding in regard to the character, size and type of work to be done or the kind or amount of the materials to be furnished or work to be done.

Further the Contractor shall make no claim for anticipated profits, for loss of profits or for damages because no work is ordered under certain items or because of differences between the quantities of the various kinds of work to be done or materials actually delivered and the estimated quantities set forth by the Employer or the Architect.

5. NOTICES:

The Contractor shall give all notices and pay all fees and royalties in connection with his constructional activities and shall comply with all Acts and Regulations for the successful completion of the Contract Works.

6. COMMENCEMENT OF WORK AT SITE:

The Contractor shall commence his work at site within a maximum period of 15 days from the date of receipt of Letter of Acceptance / Work Order issued by the Employer or handing over the site whichever is later. The contractor shall commence the work and shall regularly proceed with and complete the same on or before the date of completion stated here, in the contract, subject nevertheless to provision of extension of time.

7. CONTRACTOR TO PROVIDE EVERYTHING NECESSARY:

The Contractor shall provide everything necessary for the proper execution of the works according to the true intent and meaning of the Drawings, Specifications and Schedule of Quantities taken together whether the same may or may not be particularly shown or described therein, provided that the same can be inferred there from and if the Contractor finds any discrepancy in the Drawings or between the Drawings, Specifications and Schedule of Quantities he shall immediately refer the same in writing to the Architect, who after consultation with the employer / Structural Consultant shall decide which shall be followed, and his decision shall be final and binding.

The Contractor shall provide ground for himself and fresh water and power for carrying out of the works at his own cost. The Employer shall on no account be responsible for the expenses incurred by the Contractor for hired ground or fresh water obtained from elsewhere. If water from any source other than Municipal main is to be used for construction, the same shall be tested at the Contractor's cost and a report be submitted to the Architect for his approval, before such water is used for the works.

The rates quoted against individual items will be inclusive of everything necessary to complete the said items of work within the contemplation of the contract. Beyond the unit price no extra payment will be allowed for incidental or contingent work, labour and / or materials inclusive of all taxes and duties whatsoever except for specific items, if any, stipulated in the tender documents.

The Contractor shall provide and maintain all measuring and surveying instruments, including steel tapes, theodolites and dumpy levels at all times for properly carrying out the work and for the use of the Architect / Employer, including providing skilled attendants as required.

The Contractor shall supply, fix and maintain at his cost during the execution of any works, all the necessary centering, scaffolding, staging, timbering, strutting, shoring, pumping, fencing, hoarding, watching and lighting by night as well as by day required for the proper execution and protection of the public and safety of any adjacent roads, streets, cellars, vaults, pavements, walls, houses, buildings and all other erections, matters or things. The Contractor shall take down and remove any or all such centering, scaffolding, staging, planking, strutting, shoring etc. as occasion shall require or when ordered to do so, and shall fully reinstate and make good all matters and things described during the execution of the work, to the satisfaction of the Architect.

The Contractor shall at all times give access to workers employed by the Employer or any men employed on the buildings and to provide such parties with proper sufficient and if required special scaffolding, hoists and ladders and provide them with water and lighting and leave or make holes, grooves, etc., in any work, where directed by the Employer as may be required to enable such workmen to lay or fix pipes, electrical wiring, special fittings etc. The quoted rates of the tenderers shall include all these above mentioned contingent works.

8. AUTHORITIES, NOTICES, PATENTS, RIGHTS & ROYALTIES:

The Contractor shall conform to the provisions of all the statutes relating to the works, and to the Regulations and Byelaws of any local Authority, and of any Public Utility Companies or Authorities with whose systems the structure is proposed to be connected, and shall before making any variation from the drawings or specifications that may be necessitated by so conforming, give to the Architect written notice, specifying the variations proposed to be made and the reason for making them, and apply for instruction thereon. In case the Contractor shall, within 10 days receive such instructions to the contrary, he shall proceed with the work conforming to the provision or Regulations or Bye-laws in question.

The Contractor shall bring to the attention of the Architect all notices required by the said Acts, Regulations or Bye-laws to be given to any Authority by the Employer or the Architect / Structural Consultant and pay to such Authority, or to any public Officer, all fees that may be properly chargeable in respect of the works, and lodge the receipts with the Architect. All statutory fees, deposits, etc., paid by the contractor for permanent

works to be handed over to the Employer shall be reimbursed to him by the Employer against documentary proof.

The Contractor shall indemnify the Employer against all claims in respect of patent rights, royalties, design, trade marks of name or other protected rights in respect of any constructional plant, machinery or material used for or in connection with the works or temporary works and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. The Contractor shall defend all actions arising from such claims, and shall himself pay all royalties, license fees, damages, costs and charges of all and every sort that may be legally incurred in respect thereof and shall keep the Employer saved harmless and indemnified in all respects from such actions, costs and expenses.

9. **MATERIALS AND WORKMANSHIP TO CONFORM TO DESCRIPTION:**

All materials and workmanship shall, be of the respective kinds specified in the Schedule of Quantities and / or specifications and in accordance with the Architect's instructions. The Contractor shall upon the request of the Architect furnish him all invoices, accounts, receipts and other vouchers to prove that the materials comply therewith. The Contractor shall at his own cost arrange for and / or carry out any test of all materials which the contract provides for and Architect may require. The laboratories, either established by the Contractor on site or independent, shall be approved by the Architect. The Contractor shall submit the samples of various materials to Architect for approval well in advance of placing orders.

If the Contractor contends that any of the materials, goods or workmanship specified as aforesaid is unobtainable, he shall submit to the Employer his grounds for his contention, and thereupon the Architect shall decide whether the same is unobtainable in fact. If the Architect shall decide that any of the materials, goods or workmanship is in fact unobtainable, they shall issue an order in writing as to be substituted thereof and such order shall be deemed to be an order of variation.

10. **SETTING OUT:**

The contractor shall at his own expense set out the works accurately in accordance with the plans. The contractor shall be solely responsible for the true and perfect setting out of the works, and for the correctness of the position, levels, dimensions and alignment of all parts thereof. If at any time any errors shall appear during the progress or on completion of any part of the work or within a period of one year from the virtual completion of work, the contractor shall at his own cost rectify such errors if called upon to the satisfaction of the Architect / Employer. The contractor, if required, shall further set out the works to the alternative positions at the site until one is finally approved and no extra costs to this effect shall be entertained.

11. **REMOVAL OF ALL OFFENSIVE MATTERS:**

All soil, filth or other matter of an offensive nature taken out of any trench, sewer, drain, cess-pool or other place shall not be deposited on the surface, but shall be at once carried away by the Contractor and disposed off as per the rules and regulations of the Local Authorities concerned.

The Contractor shall keep the foundations and works free from water and shall provide and maintain at his own expense electrically or other power-driven pumps and other

plant to the satisfaction of the Employer / Architect for the purpose until the building is handed over to the Employer. The Contractor shall arrange for the disposal of water so accumulated to the satisfaction of the Employer and local authorities and no claims will be entertained afterwards if he does not include in his rates for the purpose.

12. OPENING UP WORKS:

The Contractor shall give due notice to the Employer / Architect whenever any work is to be buried in the earth, concrete or in the bodies of walls or otherwise becoming inaccessible later on, in order that the work may be inspected and correct dimensions taken before such burial, in default whereof the same shall at the opinion of the Employer / Architect be either opened up for measurement at the Contractor's expense or no payment be made for such materials. Should any dispute or differences arise after the execution of any work as to measurements etc., or other matters which cannot be conveniently tested or checked, the notes of the Employer / Architect shall be accepted as correct and binding on the Contractor.

13. CONTRACTOR'S SUPERINTENDENCE & REPRESENTATIVE ON WORKS:

The Contractor shall give all necessary personal superintendence during the execution of the works and as long thereafter as the Architect may consider it necessary until the expiration of the "Defects Liability Period" stated in Clause 23. The Contractor shall meet the Employer / Architect or his representative whenever required if so informed by the Employer / Architect.

The Contractor shall maintain and be represented on site, at all times while the work is in progress, by a responsible and efficient Engineer-in-charge approved by the Architect and who must thoroughly understand all the trades entailed and be constantly in attendance, while the men are at work. Any directions, explanations, instructions or notices given by the Architect to such Engineer-in-charge shall be deemed to be given to the Contractor and shall be binding as such on the Contractor. The Engineer-in-charge shall be thoroughly conversant with English Language and should be able to read, write and speak English.

14. DISMISSAL OF CONTRACTOR'S EMPLOYEES:

The Contractor shall on the request of the Architect / Employer immediately dismiss from the works any person employed thereon who may, in the opinion of the Architect / Employer, be unsuitable or incompetent or non-co-operative or who may misconduct himself and such person shall not be re-employed or allowed on the works without the permission of the Architect / Employer. Such discharges / dismissal shall not be the basis of any claim or compensation or damages against the Employer / Architect or any of their officers or employees. The decision of Architect / Employer shall be final and binding on the Contractor. The dismissed person shall be replaced by a person acceptable to Architect / Employer.

15. ACCESS TO WORKS:

The Architect / Structural Consultant / Employer and any person authorised by them shall at all reasonable times have free access to the works, and to the workshops, factories or other places where materials are being prepared or constructed for the Contract and also to any place where the materials are lying or from which they are being obtained. The Contractor shall give every facility to the Architect / Employer and

their representatives for inspection and examination and test of the materials and workmanship. No person unless authorized by the Architect or the Employer, except the Representatives of Statutory Public Authorities, shall be allowed on the works at any time. If any work is to be done at a place other than the site of the works, the Contractor shall obtain the written permission of the Architect for doing so.

15.1 ACCESS FOR INSPECTION:

The Contractor shall provide at all times during the progress of the works and the maintenance period proper means of access, ladders, gangways etc. and the necessary attendants to move and adapt the same as directed for the inspection or measurement of the works by the Architect or his representatives.

15.2 SITE SUPERVISION

The Contractor shall afford the Architect / Employer every facility and assistance for examining the works, materials, checking and measuring, time and materials.

The Architect shall jointly record the measurements with Contractor's representative for all items of works.

The Architect / Employer shall have the power to give notice to the Contractor or his Engineer-in-charge about the non-approval of any work or materials and such works shall be suspended or the use of such materials should be discontinued until the decision of the Architect in consultation with Structural Consultant / Employer, if required, is obtained. The work will from time to time be visited by the Architect / Structural Consultant / Employer but such examination shall not in any way exonerate the Contractor from the obligation to remedy any defects which may be found to exist at any stage of the work or after the same is completed. Subject to the limitations of this clause, the Contractor shall take instructions only from the Architect / Employer or the Structural Consultant as the case may be. The contractors shall take total responsibility for the execution of work / items of work by using quality materials and providing best of workmanship to fulfill the true intent of the Contract documents.

16. ASSIGNMENT OR SUB-LETTING:

The work included in the Contract shall be executed by the Contractor and the Contractor shall not directly or indirectly transfer, assigns or sublet the Contract in full or any part thereof or interest therein, nor shall he take a new partner, without the written consent of the Architect / Employer. No undertaking by the new party shall relieve the Contractor from the full and entire responsibility of the Contract or from active superintendence of the works during their progress.

17. APPROVAL OF SUPPLIERS:

For all supplies, the names of manufactures / brands have to be got approved by the Architect / Employer, after getting the respective samples first approved by the Architect as the case may be. All materials will be of tested quality and as per relevant Indian Standards. In addition to the Test Certificates, mandatory tests will also be done on them by the Contractor at an approved laboratory at his cost immediately as well as at regular frequency laid down in the relevant Indian Standards.

18. a) VARIATIONS NOT TO VITIATE CONTRACT:

The Contractor shall when directed in writing by the Architect to omit from or vary any works shown upon the drawings or described in the specifications or included in the Priced Schedule of Quantities, carry out such directions. But the Contractor shall not make any alterations in the provisions of the Contract without such authorization or direction in writing from the Architect.

No claim for an extra shall be allowed unless it has been executed by the authority of the Architect as herein mentioned. Any such extra is hereinafter referred to as an authorized extra. No variation, i.e. additions, omissions or substitutions shall vitiate the Contract.

The rates of items not included in the Priced Schedule of Quantities shall be promptly submitted by the Contractor for the Architect's approval and shall be settled by the Architect in accordance with the provisions of Clause 18b hereof.

b) VARIATION TO BE APPROVED BY EMPLOYER:

The Contractor shall submit through the Architect a statement of variations giving quantities and rates duly supported by Contract rates of comparable items, analysis of rates, vouchers etc. The rates on final acceptance by the Employer shall form a part of the contract.

In the event such extra / variation items totally differ in specification / character, rates for such items will be worked out based on prevailing market rates for the ingredients that go into making of such items and finalized by the Architect in consultation with the Employer. Such rates shall however be not eligible for consideration of Price Adjustment Clause, if any.

19. a) MEASUREMENT OF WORKS:

The Architect shall from time to time intimate the Contractor that he requires the works to be measured and the Contractor shall forthwith attend or send a qualified agent to assist the Architect's representative in taking such measurements and calculations and to furnish all particulars or give all assistance required by him.

Should the Contractor omit to attend or neglect or omit to send such agent, then the measurements taken by the Architect or approved by him shall be taken to be the correct measurements. The works shall be measured according to the Mode of Measurements stated in the Preamble to Schedule of Quantities / specifications. The measurement shall wherever not mentioned in the tender be taken in accordance with the Indian Standard of "**Method of Measurement of Building Works (I.S. 1200)**" and its latest revisions, if any. Measurements in part or full may be checked by the Employer / Architect as the case may be for each trade, and for this the Contractor has to render all necessary assistance and cooperation.

The Contractor or his Agent may at the time of measurement take such notes and measurements as he may require.

All authorized extra works, omissions and all variations made without the Architect's knowledge, but if subsequently sanctioned by the Employer in writing, shall be included in such measurements.

b) MEASUREMENT TO BE RECORDED BEFORE WORK IS COVERED UP:

The Contractor shall take joint measurements with the Architect / Employer before covering up or otherwise placing beyond the reach of measurement, any items of work. Should the Contractor neglect to do so, the same shall be uncovered at the Contractor's expense or in default thereof, no payment or allowance shall be made for such work or the materials with which the same was executed.

20. PRICES FOR EXTRAS ETC. - ASCERTAINMENT THEREOF:

The Contractor may, when authorized, and shall, when directed in writing by the Architect with the approval of the Employer, add to, omit from, or vary the works shown upon the Drawings, or included in the Schedule of Quantities, but Contractor shall make no addition, omission or variation without such authorization or direction. A verbal authority or direction by the Architects shall, if confirmed by them in writing within seven days, be deemed have been given in writing.

No claim for an extra shall be allowed unless it shall have been executed under provisions of Clause hereof or by the authority of the Architect with the concurrence of the Employer as herein mentioned. Any such extra is herein referred to as authorized extra and shall be made in accordance with the following provisions:

- (a) i. The net rates or prices in the original tender shall determine the valuation of the extra work, where extra work is of similar character and executed under similar conditions as the work priced therein.
- ii. Rates for all items, wherever possible, should be derived out of the rates given in the Priced Schedule of Quantities.
- (b) The net rates or prices of the original tender as accepted by the Employer shall determine the value of the items omitted, provided if omissions vary the conditions under which only remaining items of works are carried out, the prices for the same shall be valued under sub-clause (c) hereof.
- (c) For extra items/substitute items where the description of items is different from that of any tendered item, the following method shall hold good.

Where the extra item works are not of similar character and/or executed under conditions as aforesaid or where the omissions vary the conditions under which any remaining items of works are carried out or if the amount of any omission or addition relative to the amount or the whole of the Contract works or to any part thereof shall be such that in the opinion of the Architect the net rate or price contained in the Priced Schedule of Quantities or for any item of the works involves loss or expenses beyond that reasonably contemplated by the Contractor is by reason of such omission or addition rendered unreasonable or inapplicable, the Architect with the approval of the Employer shall fix such other rate or price as in the circumstances he shall think reasonable and proper, on the basis of actual rate analysis, cost of work involved plus 15% (Fifteen Percent) towards Contractor's overheads and profits, which shall be final and binding on the Contractor. No escalation shall be entertained on such extra items.

- d) The Contractor shall submit claims for Deviated items and Extra items in approved formats.

21. MATERIALS BROUGHT TO SITE:

When any materials intended for the works have been placed at site by the Contractor, such materials shall not removed there from (except for the purpose of being used in the works) without the written authority of the Architect, when the Contractor have received payment in respect of any Certificate in which the Architect has stated that he has taken into account the value of such unfixed materials on the works, such materials shall become the property of the Employer, and the Contractor shall be liable for any loss or damage to any such materials.

22. REMOVAL OF IMPROPER WORK AND MATERIALS:

The Architect / Employer shall, during the progress of the works, have power to order in writing from time to time the removal from the work within such reasonable time or times as may be specified in respect of any materials which in the opinion of the Architect / Employer are not in accordance with the specifications or instructions, substitution of proper materials, removal and proper re-execution of any work executed with materials or workmanship not in accordance with the drawings and specifications or instructions and the Contractor shall forthwith carry out such order at his own cost.

In case of default on the part of the Contractor to carry out such order, the Employer shall have the power to employ and pay other agencies to carry out the same; and all expenses consequent thereon, or incidental thereto, shall be deducted by the Employer from any money due or that may become due to the Contractor. No certificate which may be given by the Architect shall relieve the Contractor from his liability in respect of unsound work or bad materials.

23. DEFECTS LIABILITY & PERFORMANCE GUARANTEE:

Any defect, shrinkage, settlement unsound construction or other faults which may appear either in the work executed or in materials used within the "Defects Liability Period" stated in the Appendix hereto arising in the opinion of the Architect from materials or workmanship not in accordance with the Contract shall, upon the directions in writing of the Architect and within such reasonable time as shall be specified therein, be amended and made good by the Contractor, at his cost unless, the Architect in consultation with the Employer shall decide that he ought to be paid for such amending and making good, in case of default by the Contractor the Employer may employ and pay another agency to amend and make good such defects, shrinkage, settlements or other faults and all damages, loss and expenses consequent thereon or incidental thereto shall be made good and borne by the Contractor. Such damage, loss and expenses shall be recoverable from the contractor by the Employer or may be deducted by the Employer upon the Architect's certificate in writing from the amount retained with the Employer vide Clause 33 (Certificate and Payment) or any money due or that may become due to the Contractor or the Employer may in lieu of such amending and making good by the Contractor, deduct from such money a sum, to be determined by the Architect, equivalent to the cost of amending such works, and in the event the said amount retained under Clause 33 (Certificate and Payment) and /or the other sums payable to the Contractor being insufficient, recover the balance from the Contractor.

24. CERTIFICATE OF VIRTUAL COMPLETION OF WORKS:

The Contractor shall report in writing to the Architect, in the form of a Certificate as per Proforma 'D' annexed hereto as and when the works are completed in all respects. The

Architect shall after the verification of the works and in consultation with Employer issue to the Contractor a certificate to be called "Virtual Completion Certificate", a copy whereof shall be submitted to the Employer to enable him to take possession of the completed works. The Defects Liability period shall commence from the date of issue of such certificate.

25. **CONTRACTOR'S LIABILITY AND INSURANCE:**

(a) **CONTRACTORS ALL RISK POLICY:**

From commencement to completion of works, the Contractor shall take full responsibility for the care of the work and for taking precautions to prevent loss or damage to the work to the maximum extent possible and shall be liable for any damage or loss that may arise to the works or any part thereof from any cause whatsoever including causes of fire, lightning, explosion, earthquake, storm, hurricane, floods, inundation, subsidence, landslides, rock slides, riots (excluding civil war, rebellion, revolution and insurrection) or any latent defect or damage and shall at his own cost repair and make good the same so that at all times the work shall be in good order and condition and in conformity in every respect with the requirements of the Contract.

For the purpose of this condition, this expression "From commencement to completion of works" shall mean the period starting with the date of issue of Work Order or date of handing over of site whichever is later and ending with issue of Virtual Completion Certificate.

- (b) Without limiting the obligations and responsibilities under this condition, the Contractor shall insure and keep insured the works from commencement to completion, as aforesaid, for the full contract value including Price Variation Adjustment if any, against the risk of loss or damage from any cause whatsoever including the causes enumerated in the foregoing Clause (a). In the event of there being a variation in the nature and extent of the works, the Contractor shall from time to time increase or decrease the value of the insurance correspondingly. The entire premium for the insurance shall be borne and paid by the Contractor.

The said insurance shall also provide cover for the removal of debris of the loss or damaged works. The said insurance shall be in the joint names of the Employer and the Contractor, Employer's name being mentioned first in the policies and the Contractor shall deposit with the Employer the said policy or Policies within 15 days from issue of Work Order. All monies payable by the insurer under such Policy / Policies shall be recovered by the Employer only and may be paid to the Contractor or any other agency of Employer's choice in installments for the purpose of rebuilding or replacing or repairing the works and / or goods destroyed or damaged as the case may be.

(c) **OTHER INDEMNITIES:**

- (1) a. The Contractor shall at all times indemnify and keep indemnified the Employer against all losses, claims, damages or compensation including under the provisions of the payment of the Wages Act 1936, Minimum Wages Act 1948, Employer's Liability Act 1938, Workman's Compensation Act 1923, the Maternity Benefit Act 1961, the Shops and Establishments Act 1947, Industrial

Disputes Act 1947, and Contract Labour (Regulation and Abolition) Act 1970 and Employees State Insurance Act 1948, Motor Vehicles Act 1988 or any modifications thereof or under any other law relating thereto and rules made there under from time to time or as a consequence of any accident or injury to any workman or other person in or about the work whether in the employment of the Employer or Contractor or not, and also against all costs, charges and expenses of any suit, action or proceedings whatsoever out of such accident or injury or combination of any such claims.

(1) b. **WORKMAN'S COMPENSATION POLICY:**

Before commencing the work, the Contractor shall without limiting his obligations and responsibilities under this condition, insure against any loss of life or injury to any personnel in the employment of Contractor / Sub-contractor / nominated Sub-contractor. For this purpose, insurance shall be taken by the Contractor / Sub-contractor. Such insurance shall be taken to include both employees/workmen covered by the Workman's Compensation Act 1923, as well those employees / workmen not covered by the said Act. Separate insurance policies may be taken for employees / workmen covered by Workman's Compensation Act 1923, and employees / workmen not covered by the said Act. The entire premium shall be paid by the Contractor. Policy / Policies taken under this para for the personnel in employment with the Contractor / Sub-contractor may be in their Employer's names of the Contractor / Sub-contractor / nominated Sub-contractors. In the event of any loss or injury to personnel in employment with the Contractor / Sub-contractor / nominated Sub-contractors, the Employer and Contractor shall recover directly from the Insurance Company and ensure that payment of the same is made to the affected parties including the Employer. The policy in original shall be deposited with the Employer.

(2) **THIRD PARTY LIABILITY:**

The Contractor shall at all times indemnify and keep indemnified the Employer against all losses and claims for injuries or damage to any person or any property whatsoever which may arise out of or in consequence of the construction and maintenance of the work and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect of or in relation thereto. Before commencing the execution of the works, the Contractor shall without in any way limiting his obligations and liabilities under this condition, insure at his cost and expense against any damage or loss or injury which may be caused to any person or property including the employees and directors of the Employer / Architect and Consultants and their property by or in the course of the execution of the works. Such insurance to be known as the Third Party Liability Insurance shall be to a sum of Rs. _____ lakh per accident and not limited on the number of such accidents. The Insurance policy to be so obtained by the Contractor shall be deposited by the Contractor with the Employer within fifteen days of its issue by the Insurer.

- (d) The Contractor shall provide the Employer with documentary evidence from time to time, that he has taken all the insurance policies mentioned in the foregoing paragraphs and renewed them if required and that he has paid the necessary premium for keeping the policies valid till the works are completed and handed over to Employer.

- (e) The contractor shall ensure that similar insurance policies are taken out by his Sub-contractors or nominated Contractors, if any. The Contractor shall be responsible to the Employer or to any other person for any claim or loss resulting from the failure of the Sub-contractors or nominated Sub-contractors to obtain such insurance policy. While taking the insurance policies the Contractor should indicate clearly to the insurance companies that policies issued shall cover their Sub-contractors and nominated Sub-contractors also.
- (f) If the Contractor and/or his Sub-contractor or nominated Sub-Contractor, if any, shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the Contract, then in any such case, the Employer may, without being bound to effect and keep in force any such insurance policy pay such premium or premium, as may be necessary for that purpose from time to time and deduct the amount so paid by the Employer from any money due or becoming due to the Contractor or recover the same as a debt due from the Contractor.
- (g) All insurances be effected by the Contractor, and/or his Sub-contractors, or nominated Sub-contractors, if any, shall be taken only with an Insurance Company approved by the Employer.
- (h) Without prejudice to any of his obligations and responsibilities under this condition, the Contractor shall, within 30 days from the date of the Work Order and thereafter at the end of each quarter submit a report to the Employer in Proforma 'C' annexed hereto the detailed information on the Insurance Policies as Prescribed in the said proforma together with relevant documentary evidence.
- (i) No work shall be commenced by the Contractor unless and until he has obtained the insurance or insurances required to be obtained by him under or by the foregoing clauses and no work shall be carried out or continued by the Contractor unless and until such insurance is current and valid at that time. All the receipts in original along with two photo copies thereof, for the payment of the premium shall be furnished by the Contractor to the Employer. The original receipts will be returned to the Contractor after verification. The Employer reserves the right for payment for works done subject to fulfillment of this condition and shall instruct the Architect accordingly.
- (j) In the event of any claim for insurance becoming due on account of any eventuality covered by the respective insurance policy / policies, the Contractor shall reinstate the installation, replace the materials or equipment or pay compensation to the affected personnel / Employees without waiting for settlement of the claim from insurance company.
- (l) If the Contractor shall not perform and observe any of the duties and obligations devolving upon him hereunder, and such omission or breach by the Contractor shall involve the Employer in any liability tortuous or otherwise and / or loss or damage, the Employer shall be entitled to the restitution of such loss or damage and shall be entitled to recover the amount of restitution from any monies due to the Contractor from the Employer under this Contract or any other Contract.

26. **COMPLETENESS OF CONTRACT:**

The various parts of the Contract are intended to be complementary to one another; but should any discrepancy appear, or any misunderstanding arise as to the import of

anything contained therein, the explanations of the Architect shall be final and binding. The correction of any errors or omissions of the Drawings and Specifications may be made by the Architect, when such correction is necessary to bring out clearly the intention which is indicated by a reasonable interpretation of the drawings & specifications as a whole.

27. TIME OF COMPLETION:

TIME IS THE ESSENCE OF THIS CONTRACT:

The Contractor shall make all efforts to complete the work in time. Any delays, actual or expected, shall be made up by increasing manpower inputs and working in more than one shift, without any extra cost.

The entire work is to be completed in all respects within the stipulated period given in APPENDIX TO GENERAL CONDITIONS OF CONTRACT. The work shall be deemed to be commenced fifteen days from the date of WORK ORDER or date of handing over of site, whichever is later.

The work shall not be considered as complete until the Architect has certified in writing about virtual completion and the Defects Liability Period shall commence from the date of such certificate.

PROGRESS OF WORK:

During the period of construction the Contractor shall maintain proportionate progress on the basis of a Program Chart to be submitted by the Contractor immediately before commencement of work and agreed to, by the Employer / Architect. The Contractor shall also include planning for procurement of scarce material well in advance and reflect the same in the Program Chart so that there is no delay in completion of the project.

28. DELAY AND EXTENSION OF TIME:

If in the opinion of the Architect the works be delayed (a) by Force Majeure or (b) by reason of any exceptionally inclement weather or (c) by reason of proceedings taken or threatened by or dispute with adjoining residents, or neighbouring property owners or Public Authorities arising otherwise than through the Contractor's own default or (d) by the works or delays of other Contractors or tradesmen engaged or nominated by the Employer or the Architect and not referred to in the Schedule of Quantities and / or Specifications or (e) by reason of the Architect's instruction or (f) by reason of civil commotion, local combinations of workmen or strike or lock-out affecting any of the building trades or (g) in consequence of the Contractor not having received in due time necessary instructions from the Architect for which he shall have specifically applied in writing or (h) from causes which the Employer may consider as beyond the control of the Contractor or (i) in the event the overall scope of work is increased due to changes in drawings and specifications leading to an increase in cost of more than 30% of the original Contract Amount, Extension of time will be granted for a reasonable period on receipt of a written request from the contractor with all supporting documents.

29. LIQUIDATED DAMAGES FOR DELAYED COMPLETION:

- (a) If the Contractor fails to complete any or all the works by the date/s named in Clause 27 (Time of Completion) or within any extended time under Clause 28

(Delay and Extension of Time) then the Contractor shall pay or allow the Employer the sum to be worked out at 0.5% of contract value per week to be recovered as Liquidated Damages (and not by way of penalty) for the delay, beyond the said date or extended time, as the case may be, during which the works shall remain unfinished and such liquidated damages may be deducted from any monies due or which may become due to the Contractor. The maximum amount of Liquidated damages shall be decided 5 % of contract value. The contractor shall be bound to extend validity of Insurance Cover till such period of completion as may be considered necessary at their cost.

- (b) Liquidated damages shall also be similarly levied for failure to attain intermediate milestones, if applicable as follows:-

The absolute maximum amount of liquidated damages shall be 5% of the Contract Value.

30. FAILURE OF CONTRACTOR TO COMPLY WITH ARCHITECT'S INSTRUCTIONS:

If the Contractor after receipt of written notice from the Architect / Structural Consultant with prior Consultation of Employer requiring compliance with such further drawings and / or instructions to remove or alter, fails within seven days to comply with the same, the Architect with prior consent of the Employer may employ other persons to execute any such work whatsoever as may be necessary to give effect thereto and all costs incurred in connection therewith shall be recoverable from the Contractor by the Employer on a certificate by the Architect as a debt to be deducted by him from any monies due or to become due to the Contractor.

31. SUSPENSION OF WORKS:

The Architect may in an extreme case and in prior consultation with the Employer suspend works if the quality or safety of the works is likely to be compromised due to heavy rains, natural calamities, etc. The Architect may grant such extension of time with the approval of the Employer as may be justified by such a delay in works. The Contractor shall not be entitled to any compensation on account of such delay.

32. DETERMINATION OF CONTRACT:

If the Contractor except on account of any legal restraint upon the Employer preventing the continuance of the works, or on account of any of the causes mentioned Clause 28 (Delay and Extension of time) or in the case of a certificate being withheld or not paid when due, shall suspend the works, or in the opinion of the Architect, shall neglect or fail to proceed with due diligence in the performance of his part of the Contract or if he shall more than once make default in the respects mentioned in Clause 22 (Removal of improper work and materials), the Employer through the Architect shall have power to give notice in writing to the Contractor requiring that the works be proceeded with in a reasonable manner and with reasonable dispatch. Such notice shall not be unreasonably given and must signify that it purports to be a notice under the provisions of this clause and must signify the act or defaults on the part of the Contractor upon which it is based. After such notice has been given, the Contractor shall not be at liberty to remove from the site of work, or from any ground contiguous thereto, any plant or materials belonging to him which have been placed thereon for the purpose of the works, and the Employer shall have lien upon such plant and materials to subsist from the date of such

notice being given until the notice shall have been complied with. If the Contractor shall fail, for 7 (seven) days after such notice has been given to proceed with the works as therein prescribed, the Employer may enter upon & take possessions of the works and of all such plant and materials thereon intended to be used for the work, and the Employer shall retain and hold a lien upon all such plant and materials until the works have been completed under powers hereinafter conferred upon him.

If the Employer shall exercise the above power, he may engage any other person to complete the works and exclude the Contractor, his agents and servants, from entry upon or access to the same, except that the Contractor or any person appointed in writing may have access at all reasonable times during the progress of the works to inspect, survey and measure the works. Such written appointment or a copy thereof shall be delivered to the Architect before the person so appointed comes on to the works, and the Employer shall take such steps as in the opinion of the Architect may be reasonably necessary for completion of the works, without undue delay or expenses, using for that purpose the plant and materials above mentioned in so far as they are suitable and adaptable to such use. Upon the completion of the work the Architect shall certify the amount of the expenses properly incurred consequent on and incidental to the default of the Contractor as aforesaid and in completing the works by other persons. Should the amount so certified as the expenses properly incurred be less than the amount which would have been due to the Contractor upon the completion of the works by him, the difference shall be paid to the Contractor by the Employer. Should the amount of the former exceed the later the difference shall be paid by the Contractor to the Employer.

The Employer shall not be liable to make any further payment or compensation to the Contractor for or on account of the proper use of the plant for the completion of the works under the provision hereinbefore mentioned other than such payment as included in the Contract. After the works shall have been so completed by persons other than Contractor, under provision hereinbefore contained, the Architect shall give notice to the Contractor to remove his plant and all surplus materials as may not have been used in the completion of the works from the site. If such plant and materials are not removed within a period of 14 days, after the notice has been given, the Employer may remove and sell the same, holding the proceeds, less the cost of the removal and sale, to the credit of the Contractor. The Employer shall not be so responsible for any loss sustained by the Contractor from the sale of the plant in the event of the Contractor not removing it after notice.

33. CERTIFICATE & PAYMENT:

All bills shall be prepared by the Contractor in the form prescribed in APPENDIX - II. Normally one interim bill shall be prepared fortnightly subject to a minimum value for interim certificate as stated in these documents. The bills in proper forms must be duly accompanied by detailed measurements in support of the quantities of work done and must show deductions for all previous payments, retention money etc.

The Employer, based on a certificate from the Architect and after a cursory study of the interim bill shall release approximately 70% of his assessed gross value of the bill as an adhoc payment within one week of the presentation of the bill together with required documentation.

The Architect after detailed scrutiny of the interim bill shall certify correct payment within 10 days from the date of receipt of interim bill from the Contractor subject to

submission of documentation as required. The Employer shall make payment within 10 days of receipt of the Architect's certificate.

The amount stated in an interim certificate shall be the total value of work properly executed and 75% of invoice value of Contractor's materials brought to site for permanent incorporation into the work up to the date of the bill less installments previously paid under these conditions, provided that, such certificate shall only include the value of said material and goods as and from such time as they are reasonably, properly and not prematurely brought to or placed adjacent to the work and then only if adequately protected against weather or other causalities.

The cost of materials supplied by the Employer shall be recovered from Contractor's bills as per Clause 29 of Special Conditions of Contract.

Should any decorative works or painting be deferred on the instruction of the Architect under Clause 28 (Delay and Extension of Time), payments for such decorative work or painting shall be made up to 90% on completion and the balance at the expiration of 6 months from that date. The issue by the Employer of any certificate during the progress of the works or after their completion shall not have effect as a Certificate of satisfaction or relieve the Contractor from his liability under Clause 22 (Removal of Improper Work and Materials) and within the extent and period provided by the Statute of Limitations.

The Architect shall have the powers to withhold any Certificate if the works or any parts thereof are not carried out to his satisfaction.

The Architect may make any correction in any previous certificates which shall have been issued by him.

The Contractor shall submit interim bills only after working out the appropriate measurements jointly recorded with Architect at site in a register and showing the register to Architect. This is not only to regulate the correctness of the quantity but also to facilitate expeditious clearing of the bills.

If any part / reduced rate are proposed by the Contractor (recommended by Architect) the same should be brought out in an annexure to the Bill.

The Employer may carry out test checking of measurement as and when required.

The Contractor shall be paid 75% of the value of the materials brought and stacked at site as secured advance on materials on a Certificate issued by the Architect, in regard to quantity and in conformity with the Contract Specifications. No advance shall however be paid for perishable materials. On payment of 75%, the property in goods shall vest in the Employer and the Contractor will keep it in his custody indemnifying the Employer against any damage, loss, theft or mishap attributable to their storage.

The Final Bill shall be certified for payment by Architect within one month of submission of the bill supported by proper documentation and after full compliance of the Contract requirements for all technical submittals.

Payments upon the Architect's Interim and final certificates shall be made as far as practicable within a period named in the Appendix as "Period of Honouring of Interim Certificates" after such Certificates have been delivered to the Employer. The acceptance of payment of the final bill by the Contractor would indicate that he will have no further claim in respect of the executed work.

The items in the Bill shall be listed separately in 3 categories:

- (a) Tender items
- (b) Deviated items
- (c) Extra items

Contractor shall, without fail, submit along with his Interim Bills / Final Bill the test certificates to the Structural Consultant / Architect for concrete, steel and cement as also chemical analysis for basic materials like fine and coarse aggregates, cement, construction water, reinforcement steel, etc. all in conformity with latest relevant I.S. Codes as also concrete cube test results for the concrete poured at site.

Such test certificates and results shall be presented to and certified for acceptance by the Structural Consultant in consultation with the Architect before submission along with Interim Bills / Final Bill.

Together with As-Built drawings the Contractor shall also submit all operating and maintenance manuals and full details of all materials used in the works with suppliers' / manufacturer's names before the final payment is certified.

Interim Bills / Final Bill received without the test certificates / results duly approved by Architect / Structural Consultant shall be returned to the Contractor for the reason of the same being not submitted duly.

All the interim payments shall be regarded as payments by way of advance against the final payment only and not as payments for work actually done and completed, and shall not preclude requiring removal or rectification of bad, unsound, and imperfect or unskilled work to be removed and taken away and reconstructed, or re-erected or be considered as an admission of the due performance of the contract, or any part thereof in any respect or the accruing of any claim, nor shall it conclude, determine or affect in anyway the power of the Employer 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.

34. NOTICES:

Notices of the Employer to the Architect / Structural Consultant or the Contractor may be served personally or by being left at or sent by registered post to the last known place of abode or business of the party to whom the same is given or in the case of the Contractor by being left on the works. In the case of company or Corporation, notices may be served at or sent by registered post to the registered office of the Company or Corporation. Any notice sent by registered post shall be deemed to be served at the time when, in the ordinary course of post, it would be delivered.

35. TERMINATION OF CONTRACT BY THE EMPLOYER:

If the Contractor being an individual or a firm, commits any "Act of insolvency" or shall be adjudged as Insolvent or being an incorporated Company shall have an order for compulsory winding up or applies for voluntary winding up or subject to the supervision of the Court and of the Official Assignee or the Liquidator in such acts of insolvency or winding up shall be unable within seven days after notice to him requiring him to do so, to show to the reasonable satisfaction of the Employer /

Architect that he is able to carry out and fulfill the Contract, and to give security therefore, if so required by the Employer / Architect.

Or if the Contractor (whether an individual, firm or incorporated Company) shall suffer execution to be issued, or shall suffer any payment under this Contract, to be attached by or on behalf of any of the creditors of the Contractor.

Or shall charge or encumber this Contract or any payments due or which might become due to the Contractor there under.

Or shall assign or sub-let the Contract without obtaining the prior consent in writing of the Employer or shall suffer any payment under this contract to be attached by or on behalf of any of the creditors of the contractor.

Or if the opinion of the Employer the contractor,

- (i) has abandoned the Contract, or
- (ii) has failed to commence the works, or has without any lawful excuse under these conditions suspended the progress of the works for seven days after receiving from the Architect written notice to proceed, or
- (iii) has failed to proceed with the works with such due diligence and failed to make such due progress as would enable the works to be completed within the time agreed upon, or
- (iv) has failed to remove materials from the site or to pull down and replace work for seven days after receiving from the Architect written notice that the said materials or work were condemned and rejected by the Architect under these conditions, or
- (v) has neglected or failed persistently to observe and perform all or any of the acts, matters or things by this Contract to be observed and performed by the Contractor, or
- (vi) has to the detriment of good workmanship or in defiance of the Architect's instructions to the contrary sublet any part of the Contract.

then in any of the said cases the Employer may notwithstanding any previous waiver, after giving seven days notice in writing to the Contractor, determine the Contract but without thereby affecting the powers of the Employer or the obligations and liabilities of the Contractor, the whole of which shall continue in force as fully as if Contract had not been so determined and as if the works subsequently executed had been executed by or on behalf of the Contractor (without thereby creating any trust in favour of contractor). Further, the Employer, may enter upon and take possession of the work and all plant, tools, scaffoldings, sheds, machinery, steam and other power utensils and materials lying upon the premises or the adjoining lands or roads and seal the same as his own property or may employ the same by means of his own servants and workmen carrying on and completing the works or by employing any other contractors or other persons to complete the works, and the Contractor shall not in any way interrupt or do any act, matter or things to prevent or hinder such other contractor or other person or persons employed for completing and finishing or using the materials and plant for the works.

When the works shall be completed or as soon thereafter as convenient, the Employer / Architect shall give a notice in writing to the Contractor to remove his surplus materials and plant and should the Contractor fail to do so within a period of 14 days after receipt thereof by him the Employer shall sell the same by public auction and shall give credit to the Contractor for the amount realized after deducting there from the costs of removal and sales by the Employer for the values of the said plant and material so taken possession of by the Employer and the expense or loss which the Employer shall have been put to in procuring the works to be completed and the amount, if any, owing to the Contractor and the amount which shall be so payable shall thereupon be paid by the Employer to the Contractor, or by the Contractor to the Employer, as the case may be. On termination of the Contract, the Contractor shall forthwith remove himself and his workmen from the works site.

36. PHOTOGRAPHS OF WORKS CARRIED OUT:

The Contractor shall every month supply at his own cost two copies of minimum 8 Nos. 8" x 5 1/2" colored photographs of the works carried out from time to time as per the instructions of the Architect. In the event of any dispute or termination of Contract either by the Employer or the Contractor as provided for in the aforesaid **Clause 35**, the Contractors shall arrange to obtain photographs of the works completed up to the date of such termination of Contract.

37. FORECLOSURE OF CONTRACT IN FULL OR IN PART:

If at any time after acceptance of the tender the Employer shall decide to abandon or reduce the scope of the works for any reason whatsoever and hence not require the whole or any part of the works to be carried out he shall inform the Contractor in writing to that effect and the Contractor shall have no claim to any payment or compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

38. NOTICES TO LOCAL BODIES:

The Contractor shall comply with and give all notices required under any law, rules, regulations, or bye-law of Parliament, State Legislature or Local Authority relating to works. The Contractor shall before commencing the execution of work issue a certificate to the Employer / Architect that he has obtained all the permissions Registrations and give all the notices as are required to be obtained or given under law particularly blasting permission, Police permission etc.

39. TOTAL SECURITY DEPOSIT:

The Contractor shall within 7 days of receiving the WORK ORDER submit a security deposit of 2% of the contract value in the form of a Bank Guarantee in an approved format at which stage the Bank Guarantee submitted in lieu of E.M.D. shall be returned. On acceptance of the Bank Guarantee by the Employer, the Earnest Money Deposit shall be refunded to the Contractor.

In addition an amount equal to 8% of the value of each bill will be recovered as retention amount. This together with the S.D. of the 2% totaling to 10% referred to above will constitute the Total Security Deposit on virtual completion of work the employer shall

refund 50% of the total S.D. The remaining 50% will be refunded after completion of the Defect Liability Period.

40. **WATER AND ELECTRICITY:**

- (a) The contractor should make his own arrangements for required water supply, drainage (including temporary drainage of subsoil dewatering as required by Authorities) etc., at the work site during the currency of contract at their own expenses.
- (b) In the event of non-availability of power from Utility Companies, the Contractor shall make arrangements for installing D.G. Set(s) of adequate capacity at his own cost. Responsibility for getting temporary power for construction shall remain with the Contractor. Consumption charges will be payable by the Contractor. Temporary power connection shall be in the Employer's name. Deposits to the Electric Supply Company shall be paid by the Contractor and shall be reimbursed to him based on actuals on production of supporting vouchers / receipts for the same.

The Contractor will take into account approximate power required for other services contractors who will be given metered power at one point each and who would pay for their consumption charges. In case of disagreement between the Contractor and other agencies the Architect's / Employer's decision shall be final.

41. **DIMENSIONS:**

Figured dimensions are in all cases to be followed and in no case should they be scaled. Large scale details take precedence over small scale drawings. In case of discrepancy, the Contractor is to ask for an explanation before proceeding with the work.

42. **PROGRAM OF WORK:**

The Contractor shall, along with his bid, submit a schedule for completion of work, either in the form of a CPM Net Work or in the form of a Bar Chart, showing how he purposes to complete the works. This program shall be prepared in sufficient detail and shall indicate, among other things, the following details on a month-to-month basis (for each month).

- (a) Quantity of work under each major item of work that would be carried out.
- (b) Amount of resources that would be deployed (e.g. shuttering materials, skilled / unskilled labour, equipment etc).
- (c) Schedule of delivery of materials to site.
- (d) Cash Flow with approximate value of work contemplated to be completed each month.
- (e) Schedule and manner in which details or materials (to be issued by the Employer if any) are required from the Consultant/Employer.
- (f) Time periods allowed for other agencies works.

- (g) Various milestones to be achieved.

The program, suitably amended after discussions with the Architect shall become binding on the Contractor. However, during the execution of the project, should it become necessary, in the opinion of the Architect to reschedule some of the activities, the Contractor shall do so at no extra cost and / or without any other claim.

Acceptance of a bidder's tender does not necessarily imply acceptance of the schedule submitted and the Architect / Employer reserves to himself the right to modify / amend this schedule to suit the overall project schedule and the Contractor shall adhere to these revisions / modifications at no extra cost to the Employer.

43. STORES AT SITE:

A godown of adequate capacity for storage of cement and other materials shall be constructed by the Contractor at his own cost as well as a yard with fencing for necessary storage / stacking at site. Materials which are likely to deteriorate by the action of the sun, rain or other elements etc, shall be duly protected from damage by weather or any other cause. All such stores and yards, shall be cleared away and ground left in good and proper order, on completion of this Contract unless otherwise expressly mentioned herein.

44. FACILITIES FOR WORKING ON SITE:

The Contractor shall provide and maintain at his own cost, Sanitary and Social facilities for workmen as specified as per Model Rules for health and sanitation given in Clause 57.

45. FACILITIES TO SUB-CONTRACTORS AND OTHER CONTRACTORS:

- (a) The Contractor is to allow for general attendance upon Sub-contractors; including the free use of plant and scaffolding (and the provision of any special scaffolding required) and is to allow their operatives use of latrines, W.C's., Mess Rooms, Shed and covered space for plant or storage of materials etc.
- (b) The Contractor shall at his own cost (unless otherwise specified) give full facilities and co-operation to other Contractors employed by the Employer and for affording them reasonable opportunity for introduction and storage of their materials and the execution of their works and for properly connecting and co-ordinating their works with the work of other Contractors. The decision of the Architect on any points of dispute between the various Contractors shall be final and binding on all parties concerned.

The Contractor shall:

- i. Give control lines and level B.M's as instructed by Architect for other contractors working on site.
- ii. Provide electricity and water at reasonable rates to be jointly decided by Architect.
- iii. Provide hoist and crane facility if available for lifting of materials at times convenient to main Contractor and at prices and terms to be mutually agreed.

- iv. Adjust the work schedule and site activities in consultation with Architect and other Contractors to suit the overall schedule.
- v. Co-ordinate with other contractors for leaving inserts, making chases, alignment of services on site etc.
- vi. Co-ordinate site operations and sequence of construction closely with other Contractors in consultation with the Architect.

46. TESTING OF WORKS AND MATERIALS AND PREPARATION OF SAMPLES:

The Contractor shall arrange at his own cost to test materials and / or portions of the works as instructed by Architect to ISI standards at his own cost, in order to prove their quality and soundness. If after any such test, any work or portions of the works are found to be defective or unsound, the Contractor shall pull down and re-erect the same or take corrective measures as directed by the Architect at his own cost.

Samples of various materials shall be submitted by the Contractor for approval prior to ordering out the same. Wherever necessary the Contractor shall, at his own cost, prepare mock ups / samples to indicate the workmanship. Apart from adhering to any special provision made in the specifications regarding submission of samples the Contractor shall within 90 days of his receipt of Order to commence the work, provide to the Architect samples along with detailed literature of all materials he purposes to use in the building irrespective of the fact that a specific make / material might have been stipulated. If certain items proposed to be used are of such nature that samples can not be presented or prepared at the site, detailed literature / test certificate of the same shall be provided instead to the satisfaction of the Architect. Before submitting the samples and literature the Contractor shall satisfy himself that the material / equipment for which he is submitting the samples / literature meet with the requirement of the specification. The Architect shall check the samples and give his comments and / or approval to the same. Only when the samples are approved in writing by the Architect, the Contractor shall proceed with the procurement and installation of the particular material / equipment. The approved samples shall be signed by the Architect / Consultants for identification and shall be kept on record of site until the completion and the acceptance of the work and shall be available at the site for inspection / comparison at any time. The Contractor shall keep with him a duplicate of such samples.

For items of work where the samples are to be made at the site the same procedure shall be followed. All such samples shall be prepared at a place where they can be left undisturbed until the completion of the project.

Any delay that might occur in approving of the samples for reasons of its not meeting with the specifications or other discrepancies, inadequacy in furnishing samples of best quality from various manufacturers and such other aspects causing delay on the approval of the materials / equipment etc., shall be to the Contractor's account. In this respect the decision of Architect shall be final. On delivery of the supplies of materials / equipment for permanent works at the site, the Contractor shall specifically arrange to get the supply inspected by the Architect and compared with the approved sample and his approval obtained before using the same in the work.

Tests on materials shall be carried out as per specifications. Tests on materials not specifically mentioned in the specifications shall be carried out as per relevant I.S. Codes of Practice and as directed by Architect / Employer.

47. COVERING UP OF WORKS:

The Contractor shall cover up and protect the works from the weather and shall suspend all wet operations during weather which, in the opinion of Architect, will be detrimental to the works.

48. TREASURE TROVE:

Should any treasure, fossils, minerals, or works of art or antiques be found during excavation or while carrying out the works, the same shall be the property of the Employer. The Contractor shall give immediate notice to the Architect of any such discovery and shall hand over any such treasure to the Employer on demand.

49. CLEARING THE SITE OF WORKS ON COMPLETION:

The Contractor shall clear site of works as per the instructions of the Architect. The site of works shall be cleared of all men, materials, sheds, etc., belonging to the Contractor. The site shall be delivered in a clean and neat condition as required by the Architect within a period of one week after the job is completed. In case of failure by the Contractor, the Employer under advice of the Architect will have the right to get the site cleared at the risk and cost of the Contractor to the satisfaction of the Architect.

50. AS BUILT DRAWINGS / TECHNICAL LITERATURE:

The Contractor shall submit one set of reproducible and CD's and four sets of As-Built drawings to Architect at his own cost. The Contractor shall also submit 2 copies of detailed catalogues and technical literature and maintenance manuals of all materials / equipment used in the works together with the names and addresses of suppliers / manufacturers.

51. KEEPING THE AREAS AND ACCESS ROADS CLEAN:

The Contractor shall be required to maintain the site and the building areas in a neat and clean condition at all times to the satisfaction of the Architect. The Contractor shall especially take care to keep areas free from getting water logged, from concrete / mortar dippings, bricks, steel, shuffling materials or any other material / rubbish.

The Contractor shall also be required to maintain all access roads to the site and within the site and keep them free from all obstructions, material droppings etc., to the satisfaction of the Architect and local authorities.

Debris shall be removed from the site on a regular basis. No debris shall be thrown loose from upper floors. The Contractor shall provide chutes for transporting debris vertically.

52. SITE SURVEY:

On award of the works, the Contractor shall immediately survey the complete site and record the existing ground levels with the Architect with reference to benchmarks

specified by Architect and submit the report in duplicate. No extra payment shall be made for this work.

53. **IDLE LABOUR:**

Whatever the reasons may be no claim for idle labour, additional establishment cost of hire and labour charges of tools and plant would be entertained under any circumstances.

54. **SIGN BOARDS:**

The Contractor shall put up a sign board in an approved location and to an approved design showing name of the Project, Employer, Architect, Consultants and self and providing space for names of other Contractors and Specialised Agencies (5 spaces).

No extra payment shall be made on account of these Sign Boards.

55. **OBTAINING INFORMATION:**

No claim by the Contractor for additional payment will be entertained which is consequent upon failure on his part to obtain correct information as to any matter affecting the execution of the works, nor will any misunderstanding or the obtaining of incorrect information or the failure to obtain correct information relieve him from any risks or from the entire responsibility for the fulfillment of the contract.

56. **SAFETY RULES:**

56.1 **The Contractor shall follow the latest editions of Safety Codes hereunder:**

IS: 3696 - Part I	-	Safety Codes for scaffolds and ladders Scaffolds
IS: 3696 - Part II	-	- Do - Ladders.
IS: 4130 - Part III	-	Safety Code for demolition work
IS: 4014 - Part II	-	Code of Practice for steel tubular scaffolding- Safety regulation

The following safety regulations shall also be followed. In case of discrepancy between the codes and the following regulations, the more stringent of the two shall apply.

56.2 **Scaffolds:**

- i) Suitable scaffolds shall be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except in the case of short duration work which can be done safely from ladders. When a ladder is used, it shall be of rigid construction made either of good quality wood or steel. The steps shall have a minimum width of 450mm and a maximum rise of 300mm. Suitable hand holds of good quality wood or steel shall be provided and the ladder shall be given an inclination not steeper than 1/4 : 1 (1/4 horizontal to 1 vertical).
- ii) Scaffolding or staging more than 4m above the ground floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly bolted, braced or otherwise secured, at least 1m 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 as may be necessary for the delivery of materials. Such scaffolding or staging shall be fastened to prevent it from swaying from the building or structure.

- iii) Working platforms, gangways and stairway shall be so constructed that they do not sag unduly or unequally and if the height of the platform, gangway or stairway is more than 4m above ground level or floor level, they shall be closely boarded and shall have adequate width and be suitably fenced as described in (ii) above
- iv) Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of persons or materials by providing suitable fencing or railing whose minimum height shall be 1m. Wherever there is open excavation in ground, it shall be fenced by suitable railing and danger signals installed at night.
- v) Safe means of access shall be provided to all working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m in length while the width between said rails in hung ladder shall in no case be less than 290mm for ladder up to and including 3m in length. For longer ladders this width shall be increased at least 20mm for each additional meter of length.
- vi) A sketch of the ladders and scaffolds proposed to be used shall be prepared and approval of the Architect obtained prior to construction.

56.3 Excavation & Trenching:

- i) All trenches, 1.25m or more in depth shall at all times be supplied with at least one ladder for each 3m in length or fraction thereof. The ladder shall be extended from the bottom of the trench to at least 1m above the surface of the ground. Sides of trenches which are 1.5m or more in depth shall be stepped back to give suitable slope or securely held by timber bracing and open or closed type of shoring so as to avoid the danger of sides collapsing. The excavated material shall not be placed within 1.5m of the edges of the trenches or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances undermining or undercutting shall be done. All dewatering to keep the foundation dry and the sides safe and stable against collapse should be done in a proper manner.
- ii) The Contractor shall take all measures on the site of the work to protect the public from accidents and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any persons for injury sustained owing to neglect of the above precautions.

56.4 Demolition:

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

- i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
- ii) No electric cable or apparatus which is likely to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.

- iii) All practical steps shall be taken to prevent danger to persons employed from the risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so over-loaded with debris or materials as to render it unsafe.

56.5 Personnel Safety Equipments:

- i) All necessary personnel safety equipment as considered adequate by the Architect 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.
- ii) All personnel of the Contractor working within the plant site shall be provided with safety helmets. All welders shall wear welding goggles while doing welding work and all metal workers shall be provided with safety gloves. Persons employed on metal cutting and grinding shall wear safety glasses.
- iii) Adequate precautions shall be taken to prevent danger from electrical equipment.
- iv) Workers employed on mixing asphaltic materials, cement and lime mortar shall be provided footwear and protective goggles.
- v) Those engaged in white washing and mixing or stacking of cement bags or any materials, which is injurious to the eyes shall be provided with protective goggles.
- vi) Stone breakers shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
- vii) 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 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.
- viii) 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. Whenever men above the age of 18 are employed on the work of lead painting, the following precautions should be taken:
 - a) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.
 - b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint dry rubbed and scraped.
 - c) Overalls shall be supplied by the Contractor to the workmen and adequate facilities shall be provided to enable the working painters to wash during the cessation of the work.

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

56.6 Hoisting Machines:

- i) Use of hoisting machines and tackle including their attachments anchorage and supports shall conform to the following standards or conditions:
 - (a) These shall be of good mechanical construction, sound material and adequate strength and free from patent defects and shall be kept in well repaired and in good working order.
 - (b) Every rope used in hoisting or lowering materials or as means of suspension shall be of durable quality and adequate strength and free from patent defects.
- ii) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 years shall be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
- iii) In case of every hoisting machine and of every chain ring hook, shackle, shovel and pulley block used in hoisting 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. In case of a hoisting machine having variable safe working load, each 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.
- iv) Motors, gears, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with such means as will 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 energised, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary, should be provided. The workers should not wear any rings, watches and carry keys or other material which are good conductors of electricity.

56.7 General

- i) Adequate washing facilities should be provided at or near places of work.
- ii) These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place of work spot. The person responsible for compliance of the safety code shall be named therein by the Contractor.

- iii) To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the Contractor shall be open to inspection by the Labour Officer, Architect and Employer.
- iv) Notwithstanding the above clauses there shall be nothing in these to exempt the Contractor from the operations of any other Act or Rule in Force in the Republic of India.

57. E - MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS.

57.1 Application

These rules shall apply to all building and construction works.

57.2 Definition

- (i) 'Work Place' means a place at which, at an average 50 workers is employed in connection with construction work.
- (ii) 'Large work place' means a place at which average 500 or more workers are employed in connection with construction work.

57.3 First Aid

- (i) At every work place, there shall be maintained in a readily accessible place first aid appliance including an adequate supply of sterilised dressings and sterilised cotton wool. The appliance shall be kept in good order and in a large work place they shall be placed under the charge of a responsible person who shall be readily available during working hours.

57.4 Drinking Water:

- (i) In every work place sufficient supply of cold water fit for drinking shall be provided and maintained at suitable places easily accessible to labour.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply or storage shall be at a distance of not less than 15m from any latrine, drain or other source of pollution. Where water has to be drawn from an existing well which is within the proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and water proof.
- (iv) A reliable pump shall be fitted to each covered well, the trap door shall be kept locked and opened only for clearing or inspection which shall be done at least once a month.

57.5 Washing & Bathing Places:

- (i) Adequate washing and bathing places shall be provided, separately for men and women.

- (ii) Such places shall be kept in clean and drained condition.

57.6 Scale of Accommodation in Latrines & Urinals:

(i) Latrines and Urinals shall be provided within the precincts of every work place in an accessible place and the accommodation, separately for each of them shall not be less than the following scale.

No. of seats

- | | | |
|-----|--|-----------|
| (a) | Where the number of persons does not exceed 50 | 2 |
| (b) | Where the number of persons exceeds 50 but does not exceed 100 | 3 |
| (c) | For every additional 100 | 3 per 100 |

In particular cases, the Engineer shall have the powers to vary the scale where necessary.

57.7 Latrines & Urinals for women:

If women are employed, separate Latrines & Urinals screened from those for men and marked in vernacular in conspicuous letters 'For women only' shall be provided on the scale laid in Rule 57.6. Those for men shall be similarly marked 'For men only'. A poster showing the figure of a man or a woman shall also be exhibited at the entrance of latrines for the respective sex. There shall be adequately supply of water close to the Latrines & Urinals.

57.8 Latrines & Urinals:

All Latrines shall be provided with septic tanks or leach pits in case of small units. All the latrines shall be kept in good sanitary condition.

57.9 Construction of Latrines:

The inside walls shall be constructed of masonry or some suitable heat resisting non-absorbent materials and shall be cement washed inside and outside at least once a year. The dates of cement washing shall be noted in a register maintained for this purpose and kept available for inspection. Latrines will not be of a standard lower than bore-hole system and should have at least thatched roofs.

57.10 Disposal for Excreta:

Unless otherwise arranged by the local sanitary authority, arrangements for the proper disposal of excreta shall be made by septic tank or leach pit duty approved by the Engineer and in conformity with the requirements of local public health authorities.

57.11 Provision of Shelter during Rest:

At every work place 2 sheds shall be provided free of cost one for meals and the other for rest separately for men and women for the use of labour. The height of the shelter shall be not less than 3.5m from the floor level to the lowest part of the roof. The sheds should be roofed with the least thatch and mud flooring will be provided with a dwarf wall around not less than 750mm. Sheds should be kept clean and the space should be on the basis of at least 0.50 square meters per head.

57.12 Canteen:

A cooked food canteen on a moderate scale shall be provided for the benefit of workers wherever it is considered expedient.

57.13 The above rules shall be incorporated in the contracts and in notice inviting tenders and shall form an integral part of the contract.

APPENDIX TO GENERAL CONDITIONS OF CONTRACT

Clause no.

39.	(a)	Earnest Money Deposit	-	1% of the total contract price
	(b)	Security Deposit	-	2% of the total contract price
	(c)	Retention Amount	-	8% of gross value of each bill
23.		Defects Liability Period	-	12 Months from the date of virtual completion.
6.		Date of Commencement	-	10 days from the date of issue of Work Order or date of handing over site whichever is later.
27.		Date of Completion	-	60 days from the date of issue of Work Order or date of handing over site whichever is later.
29.		Liquidated Damages for Delay	-	0.5% per week of the Contract Value for intermediate and final deadlines subject to maximum total of 5% of Contract value.
33.		Frequency of Interim Certificate	-	Fortnightly
33.		Minimum Value of work for the issue of Interim Certificates	-	Rs. 9.00 Lakhs
33. (i)		Period of honouring Interim Certificate by Employer	-	10 days from the date of receipt of Bill from Architect.
33.		Period of honouring Final bill	-	One month from the date of receipt of Bill from Architect.

Signature of Contractor: Witness:

**PROFORMA 'B1'
MEASUREMENT SHEET**

Running Bill No. _____

Name of the Work _____

Name of the Contractor _____

Sr. No.	Item	Qty. as per contract	Unit	No.	L	B	H	Qty. of Present Bill

NOTE: Quantity in Present Bill shall be carried forward in Interim Bills

**PROFORMA 'B2'
INTERIM BILL**

Running Bill No. _____

Name of the Work _____

Name of the Contractor _____

Sr. No.	Item	Unit	Qty. as per Contract	Qty. up to previous bill	Qty. of Present Bill	Total Qty.	Unit Rate	Gross Amount

Total cumulative Gross Amount of Bill Rs. _____

Gross Amt. of the present Bill = Gross Amt. of all bills to this date - Gross Amt. up to previous bill

PROFORMA 'C'

(See Clause 25(h) of General Conditions)

CONTRACTOR'S LIABILITY AND INSURANCE SUMMARY

Name & Number of Insurance Policy with description	Value of Insurance	Validity Period	Loss or damage to work (covered under Policy) or any part thereof and all materials at site from any cause whatsoever
1.	2.	3.	4.

a)

b)

c)

Damage, loss or injury to any property of the Employer's or Consultant's or his agent's and servant's	Claims under the Workman compensation Act 1923, the Minimum Wages Act 1948 & Contract labour (Regulation and Abolition) Act 1970	Remarks
5.	6.	7.

a)

b)

c)

NB: Details of further policies taken if any and the loss or damage if any under that policy may please be indicated separately at appropriate places.

Signature of Contractor

Address:

Witness:

PROFORMA 'D'

REPORT OF VIRTUAL COMPLETION

(See Clause 24 of General Conditions)

Draft of letter to be written by the Contractor to the Architect in connection with the Virtual Completion Certificate as per Clause 24 of General Conditions of Contract

From

To

Dear Sirs,

Sub: Virtual completion of the work of

Ref: Agreement No..... Dated:

Having executed the work in terms of the Contract, we hereby certify and affirm that we have virtually completed the contracted works.

We hereby certify that the work has been executed wholly to our satisfaction and with the materials and workmanship in accordance with the contract.

We do certify further that we have executed the work in accordance with the applicable laws and without any transgression of such laws.

Thanking you,

CC: - ECGC

Yours sincerely

.....S.R.O - 1
.....CHENNAI

.....
Contractor

PROFORMA 'E'
FORMAT OF BANK GUARANTEE IN LIEU OF EARNEST MONEY DEPOSIT

Address of Institution

Whereas (Name of Institution) _____ (hereinafter called "the Employer") have issued bid documents for Interior furnishing, Electrical, Air - Conditioning and related works for their Proposed (Name of Work) _____ having their registered office at _____ (hereinafter called the Bidder).

And whereas under the terms and conditions of the said bid documents, the Bidder is required and has undertaken to furnish a Bank Guarantee of Rs. _____ (Rupees _____ only) as Earnest Money Deposit as contained in the said tender document.

We _____, having our registered office at _____ and branch office at _____ (hereinafter called "the Bank") hereby unconditionally and irrevocably undertake to the Employer immediately upon receipt of the first written demand such amount or amounts as may be demanded by the Employer from us under this Guarantee not exceeding a sum of Rs. _____ (Rupees _____ only) in aggregate without demur or reference to the Bidder and agree that the Employer's demand shall be final and binding on the Bank under all circumstances.

We hereby affirm that we are the Guarantor and responsible to you on behalf of the Bidder up to an aggregate sum of Rs. _____ (Rupees _____ only) such sum or sums being payable in Indian currency and we undertake to pay on your first written demand and without any demur and / or condition, and sum or sums within the aggregate limit of Rs. _____ (Rupees _____ only).

We agree that no change or addition to or modification of the terms of the tender or of the works to be performed there under or of any of the tender documents which may be made between you and the bidder shall in any way release the Bank from any liability under this Guarantee, and we hereby waive notice of any such change, addition or modification.

We further agree that the Employer shall have the right to invoke a claim up to the last date of the validity of this Bank Guarantee and that the Employer shall remain the sole judge of the validity and amount of the claim and the Bank agrees not to contest any claim.

We further agree that any change in the Bidder's constitution or their liquidation or dissolution shall not discharge the Bank's liability under this Guarantee.

We further agree that the right of the Employer to make a claim shall not be vitiated by any dispute raised or pending with any Statutory Authority, arbitrator tribunal or any other body or person.

It is agreed that the Employer's claim shall remain valid even if the employer has not issued a prior notice or has not proceeded against a Contractor before making such claim.

This Guarantee is confirmed and irrevocable and shall remain valid up to and including _____ and shall remain valid up to such extended period which may be mutually agreed to.

Unless a demand or claim under this Guarantee is made on the Bank in writing on or before _____ the Bank shall be discharged from all liability under this Guarantee.

SPECIAL CONDITIONS OF CONTRACT**1. INTERPRETATION OF CONTRACT DOCUMENTS:**

The various sections of tender / contract documents are intended to be complementary to one another.

In case of a discrepancy in the description of a subject between different sections, the following guidelines shall generally apply.

- (a) Special Conditions of Contract shall override General Conditions of Contract.
- (b) Particular Specifications shall override General Specifications.
- (c) For the sole purpose of determination of rates and prices, the Schedule of Quantities including its Preamble shall override Specifications and drawings.
- (d) Detailed drawings shall override General layout and general arrangement drawings.

Irrespective of these general guidelines the Contractor shall bring any discrepancy he notices immediately to the attention of the Architect and shall follow Architect's instructions accordingly.

2. INFORMATION TO BE SUPPLIED BY THE CONTRACTOR:

Before commencing the works the Contractor shall supply the Architect for his approval:

- i) Drawing showing the general arrangement of his temporary works, offices, access roads & other temporary facilities, he proposes to put up at the site.
- ii) General arrangement of all constructional plant and equipment, he purposes to deploy at site and also the planned locations.
- iii) Arrangements and methods of execution including all devices whatsoever for the construction of the whole of the works.
- iv) The Power of Attorney, name and signature of his authorized representative who will be the project in charge for the execution of the work.
- v) A list of technically qualified persons employed by him for the execution of the work.
- vi) Any other item of specific relevance to the contract if requested by the Architect.

3. WORK PERFORMED AT CONTRACTOR'S RISK:

The Contractor shall take all precautions necessary and shall be responsible for the safety of the work and shall maintain all safeguards, including providing guards, proper lights, signs, temporary passages, or other protection necessary for the purpose. All works shall be done at the Contractor's risk, and if any loss or damage shall result from fire or from other causes, the Contractor shall promptly repair or replace such loss or

damage free of all expenses to the Employer. The Contractor shall be responsible for any loss or damage to materials, tools or other articles used or held for use in connection with the work. The work shall be carried on and completed without damage to any work or property of the Employer or of others and without interference with the operation of existing machinery or equipment, if any.

4. APPOINTMENT OF ENGINEERS:

The Contractor shall appoint at the site as the project in charge a senior graduate Engineer well experienced to the satisfaction of the Architect / Employer and shall continue him in such appointment at least up to three months after the grant of the Virtual Completion Certificate to him. The Architect / Employer shall be entitled to approve or disapprove without assigning reasons the appointment of such Engineer proposed by the Contractor. This condition shall be reckoned as being the essence of the contract and its breach shall make the Contract revocable at the option of the Employer. The project in charge shall be assisted by a number of other Engineers and Supervisions in the respective disciplines as required for the smooth and satisfactory execution of the work.

The Engineer so appointed shall co-ordinate the execution of the work by Contractors of other trades in general and shall perform the following functions in particular:

- (1) The Engineer shall have adequate knowledge about the various services involved in the job, to appreciate the importance of various interface activities to be performed by the Main Contractor in the desired sequence so as not to hold up the work of the services Contractors as regards commissioning and testing of their respective services.
- (2) The Engineer-in-charge of coordination shall be responsible for providing all the necessary support required to be given by the main Contractor by virtue of the Contract to the Engineers pressed into service by the various services Contractors for the purpose of commissioning and testing of their respective services.
- (3) The Engineer should preferably have past experience of shouldering similar responsibilities to appreciate the importance of this final critical phase of the Project where utmost co-ordination is required for cutting down the delays in successful commissioning of the entire facility.

5. CONSTRUCTION DRAWINGS:

The Contractor shall intimate a realistic schedule for issue of drawings with the Architect. The Architect will try to stick to the schedule. Silence on the part of the Contractor in this regard will be construed to mean that he has all the information that he needs for ordering out materials and for contractual purposes. Unless specifically asked for in writing, delays later claimed by the contractor on account of late issue of drawings will not be construed as reason for delay in the execution of the work.

Apart from clarifications sought during the periodic visits to site by the Architect / Structural Consultant's representative, the contractor shall obtain all clarifications on the Architect's or Structural Consultant's drawings from their offices located in Chennai.

6. FENCING:

The Contractor shall provide at his own cost fencing with G.I. Sheets approximately 2500mm high with necessary vertical and horizontal supports, all around the periphery of the plot, based on the corner boundary stones fixed by the Municipal Authorities. The Employer shall be entitled to put up advertisements as they desire along this fencing and the entire revenue from such advertisement belongs to the Employer. At the end of the job the fencing with the G.I. Sheets shall become the Contractor's property and he shall have to remove the same at his own cost.

7. WAGES OF LABOUR EMPLOYED BY THE CONTRACTOR:

The Contractor shall pay minimum wages fixed by the State Government from time to time or wages higher than these minimum wages to all labour employed by him as per the Labour Laws. Wages as applicable for the construction work as per norms stipulated by the Central Government or any other statutory body as applicable. No violation of such statutory laws and rules shall be permissible.

All wages shall be paid in full and without any deduction whatsoever at the approved rates and for full time actually worked during the wage period. Officers of Architect or an Officer of the Employer as may be authorized in that behalf shall have power to exercise supervision over the labour employed by the Contractor, and for such other purpose any of these officers may inspect the wage books, muster books and other labour records of the Contractor. In the event of the report of such Officer/s showing that the proper rates of wages are not being paid, or that in any manner whatsoever the dealings between the Contractor and his labour are not satisfactory, the Architect / Employer shall pass such orders upon the report as he considers desirable, and those orders shall be final and binding upon the Contractor. The Contractor shall indemnify and keep indemnified the Employer against any claim arising from failure of the Contractor to comply with such labour laws.

8. REPORTING OF ACCIDENTS TO LABOUR:

Without prejudice to the responsibility of the Contractor under the Insurance Clause in the General Conditions, the Contractor shall be responsible for the safety of persons employed by him on the works and shall report serious accidents to any of them, however and wherever occurring on the works, to the Architect and Employer.

9. SITE OFFICE / STORES AND LABOUR HUTMENTS AT SITE:

The Contractor shall not be allowed to put up any hutment/temporary structure for accommodating his labour/staff at site. He shall be required to make these arrangements elsewhere at his own cost. The Contractor may only put up site office and stores within the plot and this site office will be used by the Employer / Architect's representative whenever they visit the site for inspection purposes.

Adequate toilet facilities shall be provided as directed connected to septic tank / soak pit.

The site office premises shall be demolished, material carted away and the site cleared as directed, on completion of the works contracted for. The Contractor shall allow in his price for re-locating the offices to suit the construction activities on site.

9.2 SITE FACILITIES:

Along with his bid, the Contractor shall submit a sketch showing the establishments he purposes to construct on site such as, cement godown, Contractor's office / stores, material storage yard, fabrication yards, etc.

When in the opinion of the Employer, facilities provided as above have to be shifted and relocated in the interest of progress of work or to facilitate other agencies' works the Contractor shall immediately comply with the Employer's instruction and arrange to shift the above facilities as directed. Failure of the Contractor to comply with the Employer's instruction within the specified time shall empower the Employer to arrange to get this shifting done through other agencies at the risk and cost of the Contractor and deduct the expenses thereof from the monies due to the Contractor.

10. TELEPHONES:

The Contractor shall maintain a land-line / Mobile telephone facility at site at his own cost and shall pay all bills for calls and maintenance. He shall also allow free use of the telephone to the Employer / Architect / Structural Consultant for phone calls in connection with the work, if required.

11. DISPLAY OF NOTICES / MAINTENANCE OF RECORDS AS PER APPLICABLE LAWS:

The Contractor shall display all permissions, licenses, registration certificates and other statement required to be displayed under various labour laws and other legislations applicable to the works at the site office and also maintain the requisite register/ record factually and up to date and keep them ready for inspection by the concerned authorities like labour officer etc /and also make available the same to the Architect /Employer for inspection.

12. REFERENCE POINTS:

The Contractor is to construct and maintain approved bench marks and sight rails in order that lines and levels may be accurately checked at all times.

13. TYPOGRAPHICAL OR CLERICAL ERRORS:

The Architect / Structural Consultant's clarifications on partially omitted particulars or typographical or clerical errors shall be final and binding on the Contractor.

14. INDEPENDENT CONTRACTOR:

The Contractor agrees to perform this Contract as an independent Contractor and not as a Sub-contractor, agent or employed of the Employer.

15. INDEBTEDNESS AND LIENS:

The Contractor agrees to furnish the Employed from time during the progress of the work as requested verified statement showing the Contractor total outstanding indebtedness in connection with the work covered by the Contract.

Before final payment is made, the Employer may require the Contractor to furnish the Employer with satisfactory proof that there are no outstanding debts or liens in

connection with the Contract. If during the progress of the work, the Contractor shall allow any indebtedness to accrue to Sub-contractors or other and shall fail to pay or discharge the same within five (5) days after demand, then the Employer may withhold any money due to the Contractor until such indebtedness is paid , or apply the same towards the discharge thereof.

16. SETTLEMENT OF DISPUTE BY ARBITRATION

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the eighty-fourth day after the day on which he received such reference the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Works with all due diligence and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided, in an amicable settlement or an arbitral award.

If either the Employer or the Contractor be dissatisfied with any decision of the Engineer, or if the Engineer fails to give notice of his decision on or before the eighty-fourth day after the day on which he received the reference, then either the Employer or the Contractor may, on or before the seventieth day after the day on which the said period of 84 days expired, as the case may be, give notice to the other party, with a copy for information to the Engineer, of his intention to commence arbitration, as per Indian Arbitration act 1996, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and no arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notice of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the seventieth day after the day on which the parties received notice as to such decision from the Engineer, the said decision shall become final and binding upon the Employer and the Contractor.

17. WORK TO CONTINUE DURING THE PENDANCY OF THE ARBITRATION:

The Contractor shall continue with construction works with due diligence and speed so as to complete the same within the period agreed upon, notwithstanding any dispute or different or question is referred to arbitration. The works shall not be delayed on account of any such reference made to the Arbitrators.

18. LIEN ON SUMS PAYABLE TO THE CONTRACTORS:

Any sums of money due and payable to the Contractor including any deposits returnable to them under this Contract may be withheld or retained by the Employer,

against any claim from the Employer against the Contractor in respect of any sums of money due under this Contract or any other contract made by the Contractor with the Employer, but limited to the amount of Employer's claim and the Employer shall always have a lien upon the money so withheld or retained as such by the Employer until appropriated towards such claim. The Contractor shall not be entitled to claim any interest or damages whatsoever on such retained or appropriated sum.

19. ADDRESS FOR SERVICE:

All letters and Notices under or pursuant to these presents shall be hand delivered against acknowledgement or sent by Registered Post with Acknowledgement Due at the respective addresses mentioned below. Any change in the addresses shall be duly intimated by the concerned Party to all others.

- 1) **Address of Employer:**
The Branch Manager,
Chennai South Branch,
ECGC Ltd.,
Seventh Floor, Dewa Towers,
770 - A, Anna salai,
Chennai - 600 002
- 2) **Address of the Architect:**
Srishti, The Creative People,
258, Tambaram - Velachery Road,
Selaiyur,
Chennai - 600 073.
- 3) **Address of the Contractor:**

20. WORK ON HOLIDAYS:

No work shall be done on Sundays or other holidays that may be notified by the Employer without the specific sanction of the Employer.

21. WORK AT NIGHT:

If the Contractor is required to work at night in order to complete the work within the Time Schedule, the Contractor shall provide and maintain at his own cost sufficient lights to enable the work to proceed satisfactorily without danger. Approaches to the site also shall be sufficiently lighted by the Contractor. No extra payment will be made for night work. Prior intimation and approval should also be taken from Employer.

22. INDIAN STANDARD CODES:

All relevant I.S. Codes of practice applicable to this contract whether expressed specifically or not, and adopted as per standard engineering practices shall be the latest

version with their amendments / revisions. The Contractor shall keep and maintain copies of the latest editions of relevant I.S. Codes at the work site and make them available to Architect when required.

23. ISSUE OF EXTRA CONSTRUCTION DRAWINGS:

Architects will supply 2 sets of drawings to the Contractor for construction.

If the contractor requires extra prints of drawings for construction, he can take photocopies.

24. FIRE PRECAUTIONS:

- i. The Contractor shall provide suitable arrangements for fire fighting at his own cost. For this purpose, he shall provide requisite number of fire extinguishers and adequate number of buckets some of which are to be always kept filled with sand and some with water. These equipments shall be provided at suitable prominent and easily accessible places and shall be properly maintained.
- ii. The fire precaution measures taken by the Contractor may be subject to periodic inspection by Architect / Local Authorities and any deficiency or unsafe condition shall be corrected by the Contractor at his own cost and to approval of the Architect and the relevant Authorities.

These fire prevention inspections shall include but not be limited to the following:-

- a. Proper handling, storage and disposal of combustible materials, liquids and wastes.
- b. Work operations which can create fire hazards.
- c. Access for fire fighting equipment
- d. Type, size, number and location of fire extinguishers or other fire fighting equipment.
- e. Inspection and maintenance records for extinguishers.
- f. Type, number and location of containers for the removal of surplus materials and rubbish.
- g. General housekeeping.

25. GUARANTEE:

In case of guarantees specified for certain periods for due performance of materials and specialist items of work, the Contractor shall be a co-guarantor with the Specialist Agency or supplier offering such a guarantee and shall offer such co-guarantee in a format approved by the Employer.

26. OCCUPATION CERTIFICATE:

Whilst the Occupation Certificate and payment of all fees on completion shall be the Employer's responsibility, the Contractor shall be responsible for assisting the Employer / Architect in obtaining the Certificate.

27. VARIATIONS IN SCOPE OF WORK AND INDIVIDUAL QUANTITIES OF ITEMS OF WORK:

If the overall contract sum varies by more than $\pm 25\%$ or individual quantities for items, the rates quoted by the contractor shall be subject to revision.

LETTER OF TRANSMITTAL

To
 The Branch Manager,
 Chennai South Branch,
 ECGC Ltd.,
 770 - A, Seventh Floor, Dewa Towers,
 Anna salai, Chennai - 600 002

Sub: Interior furnishing, Electrical, Air - Conditioning and Related works for New Premises of Chennai South Branch At First Floor, No. 15, Second main Road, New Colony, Chrompet, Chennai 600 044.

Sir,

Having examined the details given in pre-qualification Web-Notice and PQ document for the above work, I/We hereby submit the PQ documents (issued / downloaded form web) and other relevant information.

1. I/We hereby certify that all the statements made and information supplied in the enclosed forms A to G and accompanying statements are true and correct.
2. I/We have furnished all information and details necessary for pre-qualification and have no further pertinent information to supply.
3. I/We submit the requisite certified solvency certificate and authorize the Branch Manager, ECGC Ltd., to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize The Branch Manager, ECGC Ltd., to approach individuals, employers, firms and corporation to verify our competence and general reputation.
4. I/We submit the following certificates in support of our suitability, technical know-how & capability for having successfully completed the following works.

Sl. No	Name of work	Certificate from

Enclosures:

Seal of applicant

Date of Submission:

Signature(s) of applicant(s)

FORM - A

FINANCIAL INFORMATION

- I. Financial Analysis - Details to be furnished duly supported by figures in Balance Sheet / Profit and Loss Account for the last five assessment years ended 31.03.2014 duly certified by the Chartered Accountant, as submitted by the applicant to the Income-Tax Department (Copies to be attached).

	YEARS		
	2011-12	2012-13	2013-14
(i) Gross Annual turn-over in Construction Works:			
(ii) Profit (+) or Loss (-)			
(iii) Financial Position:			
Cash			
Current Assets			
Current Liabilities			

Please enclose:

- I. Income Tax Assessment orders/IT Returns submitted for the last 3 years.
- II. Solvency Certificate from Bankers (Scheduled bank) of Applicant.
- III. Audited Balance Sheet and P&L Account for the last 5 years.

SIGNATURE OF APPLICANT(S)

**DETAILS OF ALL WORKS OF SIMILAR CLASS COMPLETED DURING THE LAST
THREE YEARS ENDED 31.12.2014**

SL.	Name of work/ Project	Owner or sponsoring organisations	Scope of work *	Cost of work (Rs.in Lakh)	Date of commencement as per contract	Stipulated date of completion Actual date of completion	8	Arbitration pending/ in progress with details **	Name and address/ Tel No. of officer to whom reference may be made	Remarks
1	2	3	4	5	6	7	8	9	10	11

* Pertaining to civil, electrical, interior, furnishing & allied works

** Indicate gross amount claimed and amount awarded by the Arbitrator

SIGNATURE OF APPLICANT(S)

PROJECTS UNDER EXECUTION OR AWARDED

SL.	Name of work/ project & location	Owner or sponsoring organisations	Cost of work (Rs. Lakh)	Date of commencement (as per contract)	Stipulated date of completion	Upto date percentage progress of work	Slow progress and reasons thereof	Name & address/ Tel No. Of officer to whom reference may be made	Remarks (Indicate whether any show cause notice issued or arbitration initiated during the progress of work)
1	2	3	4	5	6	7	8	9	10

SIGNATURE OF APPLICANT(S)

STRUCTURE AND ORGANISATION

- 1 Name and address of the applicant

- 2 Telephone No./Fax No./E-Mail address

- 3 Legal Status (attach copies of original document defining the legal status)
 - (a) An Individual
 - (b) A proprietary Concern
 - (c) A Firm in partnership
 - (d) A Limited Company or Corporation.

- 4 Particulars of registration with various Government bodies (Attach attested photo-copy)
 - (a) Registration Number.
 - (b) Organisation / Place of Registration.

- 5 Names and Titles of Directors and officers with designation to be concerned with this work with Designation of individuals authorized to act for the organisation.

- 6 Was the applicant ever required to suspend works for a period of more than six months continuously after commencement of works? If so, give the name of the project and give reasons thereof.

- 7 Has the applicant or any constituent partner in case of partnership firm/Company, ever abandoned the awarded work before its completion? If so, give the name of the project and give reasons thereof.

- 8 Has the applicant or any constituent

partner in case of partnership firm/
Company, evern been debarred /
black listed for tendering in any
organisation at any time? If so, give
details:

- 9 Has the applicant or any constituent partner in case of partnership firm or any Director in case of a Company or any criminal proceedings presently pending, ever been convicted by a court of law? If so, give details.

- 10 In which field of Civil, interior, Furniture and Furnishing works, you can claim specialisation and interest.

- 11 Any other information considered necessary but not included above.

SIGNATURE OF APPLICANT (S)

**DETAILS OF KEY TECHNICAL AND ADMINISTRATIVE PERSONNEL EMPLOYED BY
THE FIRM/ COMPANY**

SL.	Designation	Total Number	Names	Qualification	Professional Experience	Length of continuous service with employer
1	2	3	4	5	6	7

Note: additional information about Technical consultant, if any, may be submitted on separate sheet.

SIGNATURE OF APPLICANT(S)

FORM 'F'

**DETAILS OF TOOLS, PLANT AND EQUIPMENT LIKELY TO BE USED IN CARRYING
OUT THE WORK**

Sl. No	Name of the Equipment/ Instrument	No.S	Capacity or Type	Age	Condition	Ownership Status			Current Location	Remarks
						Presently Owned	To be purchased	Leased		
1	2	3	4	5	6	7	8	9	10	11
1										
2										
3										

SIGNATURE OF APPLICANT(S)

TECHNICAL SPECIFICATIONS FOR INTERIOR WORKS

Unless specified otherwise and whether specified in the schedule of quantity or not, the contractor shall adhere to following general specification/ guideline for the items of schedule of quantities.

1 All plywood shall be conforming to MR GRADE and IS 303. The plywood so manufactured shall be of Garjan core, shall stand guarantee for borer resistant, termite resistant, Moisture resistant and resistant.

2 All solid core flush door shall be conforming to BWR GRADE and IS 2202:1991 (Part I : Fifth revision). The solid core flush door so manufactured shall be of Garjan core, shall stand guarantee for borer resistant termite resistant, Moisture resistant and fungus resistant and shall stand to tests confirming to IS 4020:1998 (Parts 1 to 16)

3 All block boards (only to be used for door shutters of cupboard having height more than three feet) shall be conforming to BWR GRADE and Is 1659:1990 (Third revision, Amendment No. 3). The block board so manufactured shall be of Garjan core, shall stand guarantee for borer resistant, termite resistant, Moisture resistant and fungus resistant and shall stand to tests confirming to IS 4020:1998(Parts 1 to 16)

4 All laminate (provided on all exposed surface) shall be conforming to IS : 2046-1995 and shall be of 1.5 mm in approved regular shade/of 1.00 mm in approved premium shade and shall be fixed in combination of multiple color, shades as approved.

5 All types of painting to be in two coats of over the leveled and smooth surface so prepared with two/ all required coats of lupum, putty and primer of specified grade for such surface preparations. All inside surfaces of drawers, shutters etc. shall be treated as internal surface.

6 Godrej locks of instructed type shall be provided to all door, storage units, drawer etc.

7 All storage/ side units shall be fixed with box hinges and the drawers shall slide on telescopic channels and all inside surfaces of these shall be fixed with 0.8 mm thick laminate whether specified in the schedule of quantity or not.

8 The design pattern indicated in the tender drawings is tentative only and the final design pattern and the shades of the laminate to be used shall be decided at the site by the Engineer in charge.

9 12mm thick soft boards shall be used for display board only, duly covered with upholstery costing in a range of Rs. 100.00 to Rs. 125.00 per meter of cloth.

10 All type of work stations i.e. the officer/ clerical tables, counters, work stations etc shall have a foot rest of polished M.T.W. Of 4" x 1.5" size and a stand for CPU, made with 19mm ply and fixed on adjacent sides. All inside surfaces of these shall be fixed with 0.8mm thick laminate whether specified in the schedule of quantity or not.

11 Wherever specified the working tops shall be laid with float glass cut to shape and edges polished. The position of wire managers shall be cut to shape precisely.

12 Provisions shall be made within the partitions/ Tables/ counters work places wherever necessary to enable conduit for electrical and LAN cabling.

13 Colour pattern on the walls and the ceiling shall be decided by the Engineer in charge.

14 Keyboards of approved quality to be used.

15 For any type of deviation (to any of above or subsequent instructions), contractor has to

procure/ obtain the written instruction of the Engineer-in-charge for the purpose otherwise shall not do.

16 Any discrepancy in the site conditions shall be brought to the notice of the Engineer in charge.

17 The contractors shall visit the site and understand themselves the site conditions, the possible working hours and the resources available, etc., before quoting for the tender.

18 The height of the full height partitions shall be considered only till the false ceiling height, irrespective of the fact that the framework has to be fixed to the RCC slab.

19 Average height shall be considered for the surface area measurements of multi-level partitions, storage units and soft boards

20 If the site being working premises, work shall carried out in a phased manner, after the office hours and on holidays. The premises shall be left clean for the daily functioning. No additional cost shall be considered for this factor.

TECHNICAL SPECIFICATIONS FOR ELECTRICAL WORKS

1. GENERAL:

Withstanding the definition of wiring in I.E.E. regulations, or elsewhere, wiring shall so far this contract is concerned, include all work items / accessories in the complete wiring circuit from tapping the point in the sub main or distribution board to the following:

The switch /ceiling rose or connector / socket outlet / bell push / bookplate / call bells, buzzers.

i) The following shall be deemed to be included in the point wiring:

1. Circuit wiring from the relevant distribution board.
2. Switch and ceiling rose / connector
3. Wire as required up to lamp holder in the case of wall brackets, bulk circles and all other fittings, fan regulators and looping inside switch boards.
4. Bushed PYC conduit of suitable size where cables pass through walls and ceiling below ceiling level to 1.5M above upper floor level.
5. Earth wire from 3 pin socket to the respective distribution board.
6. Continuous run of earth wire on complete lighting, fan wiring, to respective distribution board.
7. All wood or metal boards and boxes, sunk or surface type including those required for mounting fan regulators and switches (excluding those under distribution boards and main control switches)
8. Round blocks for housing connectors / ceiling rose.
9. All fixing accessories such as clips, nails, screws, or rawl plugs, wooden plugs etc., as required.

ii). SIZES OF WIRES:

All wires shall be PYC insulated single core copper stranded conductor as specified and shall be 250 / 1100 V grade. The smallest conductors for lighting and circuits shall be 1.5 Sq. mm. and 2.5 Sq. mm. of copper respectively using the following colour codes as per standard practices.

Phase - 1	Phase - 2	Phase - 3	Neutral	Earth
R	Y	B	N	
Colour-Red	Yellow	Blue	Black	Green.

iii). FITTINGS WIRES:

The use of fittings wires shall be restricted to the internal wiring of light fittings. The sub circuit leads shall terminate in ceiling roses or connectors from which they will be carried into the fittings.

iv). Connections to the switches, sockets etc., wherever possible shall be through crimped pin type plugs.

(v). FLEXIBLE CORDS:

For sort connections to appliances, fans and pendants shall be 250 / 440 V grade (3 or 4 core) with tinned copper wires, insulated, twisted and sheathed with strengthening cord. The colour of sheath shall be to Architect's approval.

2. WIRING IN CONDUITS: [FOR EXTERNAL WORK UNDER SUSPENDED CONDITIONS ONLY]

2.1. CONDUITS

- a) Rigid steel conduits shall be of heavy gauge welded black enamelled of 16 SWG sheet up to 40mm dia. and 14SWG sheet above 40mm dia. with threaded type accessories and when laid shall free from edges and burrs.
- b) All rigid non-metallic conduits shall confirm to IS 2509 / 1973 & IS 9537 (part3) / 1983 either threaded or plain type and shall be used with corresponding accessories.

2.2. SIZES:

Shall be selected in accordance with IS codes depending upon the size and number sizes to be drawn, the minimum dia. being 19mm / 20mm.

2.3. JOINTS IN CONDUITS:

Conduit pipe shall be joined by means of screwed couplers and screwed accessories only. In long straight runs of conduit inspection type of couplers (for surface conduits) or running threads with couplers and jam nuts with bared threaded portion suitably protected by anti-corrosive paint shall be provided. Threading shall in all cases be sufficiently long enough [from 11mm to 27mm] long to accommodate pipes to full threaded portions of couplers or accessories. Cut ends of conduits pipes shall have no sharp edges nor any buffers left, to avoid damage to the insulations of conductors while pulling them through such pipes and all such ends shall be neatly protected by approved bushes of proper size, of P.V.C. or of well seasoned TW, painted or of porcelain, bakelite or rubber.

2.4. PVC CONDUIT CONNECTIONS: [ALL OTHER CONCEALED WORKS ARE WITH PVC CONDUITS]

PVC conduits shall be joined by means of screwed or plain couplers depending on whether the conduits are screwed or plain. Where there are long runs of straight conduit, inspection boxes shall be provided at intervals as approved by the Architect. The threads of pipe and sockets shall be free from grease and oil and shall be thoroughly cleaned before making the screwed / plain joints. Proper jointing materials as recommended by manufacturers of these conduits shall be used for jointing of PVC pipes. Use PVC couplers and connectors for PVC pipe connections and terminations in boxes. All the joints shall be watertight.

Junction boxes and running joints shall be provided at suitable places to allow for subsequent extensions if any, without undue dismantling of conduit system. Diagonal run of conduits shall be avoided as far as possible. Junction between conduit and adaptable boxes, back outlet boxes, switch boxes and the like must be provided with entry spouts and smooth PVC bushes. Joints between conduits and iron clad distribution boards and control gear shall be effected by means of conduit couplers into each of which will be coupled smooth PVC bush from the inside of box or case. Conduit system shall be erect and straight as far as possible. Traps where water may accumulate from condensation are to be avoided, and where unavoidable suitable provision for draining the water shall be made. All jointing methods shall be subject to the approval of Architects.

Separate conduits shall be provided for the following system.

1. 15 Amps Power outlets for air conditioning, heaters, refrigerators and such appliances
2. 5 Amps outlets and lighting system

3. Fire alarm system / Telephone system
4. Equipment wiring

2.5. BENDS IN CONDUIT:

Wherever necessary, bends or diversions may be achieved by means of bends / or circular inspection boxes with adequate and suitable inlet and outlet screwed joints. In case of recessed system, each junction box shall be properly secured and flush with the finished wall surface, so that the conductors inside the conduits are easily accessible. No bends shall have reading less than 2 1/2 times the out side diameter of the conduit. Heat may be used to soften the PVC the conduit for bending. Caution should be exercised in using the PVC conduits in location where ambient temperature is 50 Celsius or above. Use of PVC conduit in places where ambient temperature is 60 Celsius or above is prohibited.

PVC conduits shall not be used in outdoor exposed system. G.I. pipe conduits shall be used for outdoor system.

2.6. FIXING OF CONDUITS:

Conduits and junction boxes shall be kept in position while the walls, slabs and floors are under construction/ renovation and proper hold-fasts shall be provided. Conduits shall be so arranged as to facilitate easy drawing of wires through them. Adequate junction boxes of approved shape and size shall be provided. Where conduits cross expansion joints in the building, adequate devices shall be used to take care of any relative movement. All conduits shall be installed in such a manner that no damage occurs due to other pipe net works. A conduit shall not come in contact with any wooden members unless otherwise specified. Conduit stubs in floors / slabs shall be kept as short as possible above the finished floor level in order to avoid any damage on them. After conduits, junction boxes, outlet boxes, and switch boxes are installed in position, their outlets shall be properly plugged or covered so that water, mortar, insects or any other foreign matter does not enter into the conduit system.

Exposed conduits shall be fixed by means of space bar saddle at intervals not more than 1000mm in normal and 500mm from both sides of fitting or accessories. The saddles shall be of 3 mm X 19 mm galvanized mild steel flat, properly treated with primer and painted, securely fixed to support by means of nuts and bolts and brass machined screws as required. Conduits shall be laid in a neat and organized manner as directed and approved by the Architect.

Conduit runs shall be planned so as not to conflict with any other service pipes lines / ducts.

Where exposed conduits are suspended from the structure they shall be clamped firmly and rigidly to the hangers of design to be approved by the Architect. Where hangers are to be anchored to reinforced concrete members, appropriate inserts and necessary devices for their fixing shall be left in position at the time of concreting. Making holes or openings in the concrete will generally not be allowed. In case of unavoidable situations prior permission of the Architect shall be obtained.

Conduits in chases shall be avoided. Where unavoidable, conduits shall be fixed in chases by means of staples not more than 600 mm apart and the chase filled with cement mortar 1:4. Cutting of horizontal chases in walls is prohibited.

2.7. PROTECTION:

To minimize condensation or sweating inside the conduit pipes, all outlets of conduits system shall be adequately ventilated as directed and approved by Architect. All screwed and socketed connections shall be adequately made fully water tight by the use of proper jointing materials i.e. 'Tropolin' for PVC conduit and white lead for metal conduit.

2.8. OUTLETS:

All outlets for fittings, switches etc., shall be boxes of suitable metal of 'surface or flush' mounting type. Wall thickness shall not be less than of 16g covered with a sheet 1/8" (3mm) thick perfect or 3mm thick decorative laminated hylam as may be specified, in front giving minimum clear depth of 75mm. All MS boxes, irrespective of sizes, shall have a fully threaded stud welded inside, for earth termination.

2.9. CONDUCTORS:

All Conductors used in conduit wiring shall unless otherwise specified be stranded. No single core cable of nominal cross-sectional area greater than 16 sq. mm. shall be enclosed alone in a conduit and used for alternating current.

2.10. INSPECTION BOXES:

Suitable inspection boxes, with ventilating holes in the covers shall be provided in a conduit wiring, at spacing not more than 12 meters apart or two solid 90 degree bends or equal to permit periodical inspection and facilitating removal of wires if necessary.

2.11. ERECTION AND EARTHING OF CONDUIT:

The conduit of each circuit or section shall be completed before conductors are drawn in. The entire system of conduit after erection shall be tested for mechanical and electrical continuity throughout and permanently connected to earth confirming to the requirements specified under section 12 (below). Earthing by means of special approved type earthing clamps efficiently fastened to conduit pipe in a workman like manner for perfect continuity between each wire. And conduits crossing gas or water pipes, and others, which are liable to mechanical damage, they shall be adequately protected.

2.12. GUIDE WIRE:

Suitable fish or pull wire shall be drawn in all conduit before they are embedded. Steel conduits, even if galvanized, run in under-floor screed shall be painted with a heavy coat of emulsified bitumen.

3.0. WIRING IN CONCEALED CONDUIT

3.1. Conduits buried in concrete in structure shall be put in position and securely fastened to the reinforcement and the system got approved by the Architect / Structural Consultant before the concrete is poured. Proper care shall be taken to ensure that the conduits are neither dislocated nor choked at the time of pouring concrete. Suitable fish or pull wire shall be drawn in all conduits before they are embedded.

3.2. MAKING OF CHASE:

The Chase in the wall is neatly made and be of ample dimensions to permit the conduit to be fixed in the manner desired. In the case of building under renovation, chase shall be provided in the wall, ceiling, etc., at the time of renovation and shall be filled up neatly after erection of conduit and brought to the original finish of the wall, ceiling etc.

3.3. The conduit pipe shall be fixed by means of staples or saddles not more than 500mm apart. Fixing of standard bends or elbow shall be avoided as far practicable and all curves maintained by bending the conduit pipe itself with radius long enough to permit easy drawing in of conductors. All threaded joints of conduit shall be treated with approved preservative compound to secure protection against rust.

3.4. INSPECTION BOXES:

Suitable inspection boxes shall be provided as at 9.2 (Flush mounted).

3.5. TYPES OF ACCESSORIES TO BE USED:

All outlets such as switches, wall sockets, etc. may be either flush or of surface mounting type.

3.6. The outlets box shall be same as in Clause 9.2 ante and shall be mounted with the wall. The metal box shall be efficiently earthed with conduit by the stud vide 9.2.

4.0. WIRING IN SURFACE CONDUITS:

4.1. Conduit pipes shall be fixed on the approved heavy gauge metal saddles, Properly secured to walls or ceilings through suitable teakwood plugs (or other approved varieties) with round or cheese circle screws for rust proof material, at intervals of not more than 500 mm on straight runs, with saddles not more than 300 mm on either side of couplers or bends or similar fittings, from such fittings. The conduits shall be run neatly parallel or at right angles to walls and painted in different colours to distinguish light, power and telephone lines. Inspection boxes shall be provided as at.

6.0. ARMoured AND UN-ARMoured PVC CABLE ON SURFACE:

a) This system of wiring is suitable for providing sub-mains for low / medium voltage installation. All such cables used shall confirm to the relevant I.S. Specification.

b) FIXING ON WALL / CEILING:

PVC insulated, steel tape or wire armoured and PVC-sheathed cable on walls, ceiling etc., shall be run on proper wooden / MS cleats with GI saddles placed at such distance apart as to neatly and adequately support the cable all along the run. The wooden cleats shall be secured on the wall / ceiling by flat circle screws to rawl / Phil plugs.

c) PASSING THROUGH WALL:

A teakwood box or extending through the whole thickness of the wall shall be buried in the wall and the cable shall be carried so as to allow 12mm clear space on the three sides of the cable or the cable shall be carried in an approved bush of well seasoned teakwood duly painted, or other approved material. The cable shall in no case be buried directly in masonry or plaster.

d) LAYING:

The cables shall be uncoiled from the drum and laid in straight length so as to avoid sharp bends, turns or twists on the conductor. The cables should be laid along wall / ceiling in the best workman like manner, so as to give a neat appearance. Excessive sharp bends to the cable shall be avoided.

e) STRIPPING OF OUTER COVERING:

While cutting and stripping the outer covering of the cables, care shall be taken to see that the sharp edge of cutting instrument does not damage the PVC insulation of the conductors. The insulation shall be stripped off near the connection terminals as far as possible taking care again to see that the conductor is not damaged.

f) END TERMINATION:

The connecting terminals of the armoured and Un-armoured cable shall be terminated on the iron clad

main switch / distribution board etc., by using proper size brass / alloy supporting glands. In case of armoured cables, the armoured cables shall be supported into the gland and connected to the earth as per standard / conventional practice. Terminations at both ends shall be made with cable lugs.

7.0. EARTHING:

a) Except for equipment provided with double insulation, all non-current carrying metal parts of electrical installations are to be earthed properly. All metal conduits, cable sheaths, switchgear, distribution fuse boards, etc., shall be bonded together and connected to an efficient earth electrode.

Medium Voltage energy consuming plant and equipment shall have two separate and distinct connections to the earth.

In the case of MV /L T panels, 2 nos. of earth bus bars of copper or aluminium of suitable section shall be run on the back side of the panel and earth bus bars and the individual switches shall be interconnected by means of copper or 01 wire of suitable gauge as specified.

b) EARTHING CONDUCTOR:

Earthing conductor shall be of higher conductivity copper or Al or any other suitable approved material to give equivalent conductivity and shall not less than half the largest current carrying conductor or 14 SWG (7 / 00.029) but subject to an upper limit of 65 sq.mm. For equipment exceeding 750 KVA the size shall be as per IS.1886-1961.

c) INSTALLATION:

The buried earthing leads will be protected from mechanical injury by 12mm Al pipe recessed in wall and floor where considered necessary and 'carried up to the earth electrode. It shall be fixed over its entire length with clamps, saddles, staples, etc. The earthing lead shall be securely bolted and soldered to the electrode with bolts and washer of the base metal. The earthing lead shall be securely connected at the other end to the main board and all its mountings and looped to all other iron clad switches and distribution boards.

d) ELECTRODE:

The construction of earth electrode shall be in accordance with relevant IS code. The electrode shall be surrounded by alternate layers of charcoal or coke and salt. Watering arrangement with 12mm GI pipe and funnel shall be provided, the latter being housed in chamber of inner size 300 mm X 300 mm. The resistance of earth electrode shall not exceed 1 Ohms; that of each continuity path from any point with electrode shall not exceed 1 Ohm and that of earthing connection 0.1 Ohm.

8.0. UNDERGROUND CABLES:

a) HIGH / MEDIUM / LOW TENSION:

Cables should be double tape / wire armoured over lead covering and paper insulated as specified in the schedule of work. All joints of cables should be in joint boxes and filling in of the compound shall be done as per IS specifications using best quality of materials. In case of the PYC insulated armoured cables, joining will be done with approved quick setting epoxy compound with suitable jointing kit. The jointing work should be carried out by a competent authorized cable joiner.

b) TRENCH:

All underground cables shall be laid in suitable trenches which shall not be less than 450mm wide and 750 mm below ground level in the case M.V. and L.T. And 1200 mm below ground level in the case of H.T. Wherever necessary suitable propping and shoring shall be done to avoid caving in of the adjoining

walls. Where the cables cross other services lines such as water / sewer lines or drains through walls into buildings, adequate protection should be made to prevent accidental exposure and / or damage to the cables.

c) SPACING BETWEEN CABLES:

Where more than one cable is laid in the same trench the actual space between the cables should be normally be 250 mm apart leaving a clear distance of 150 mm from the cable and the trench walls.

d) LAYING OF CABLES:

Before the cables are laid, a 75mm layer of sand base is to be provided for cushioning. The cables after being uncoiled from the rollers, and before laid into a trench, should be drawn in straight length. After the cable is laid a 230mm wide duct is to be formed with two well burnt brick laid on the edge one on either side of the cable and bridged by a well burnt brick laid flat on the top supporting bricks on edge, with sand filled in and around the cable. The trench is then filled with excavated earth, laid in layers, watered and consolidated, the surplus earth being disposed off.

Cable markers with 3mm thick plates of suitable size, with 40mm X 40mm X 6mm supporting vertical MS angle iron welded to plate duly painted in two coats, for protection against corrosion, or with 50mm thick RCC slab of suitable size, making done with details of cables and depths at which cables are laid, duly painted on them, shall be provided at ground level after being suitably embedded in cement concrete (1 :3:6) blocks of 200mm X 200mm X 200mm and spaced at distances of about 30 mts. Centre to centre and in every change in direction.

When more than one cable is to be laid, the width of the trench will be suitably increased and cables laid side by side confirming to specifications as above. In such case there shall be a separate brick duct for every cable. In case the cables cannot be laid side by side at one level they may be laid in tier formation in same trench. In this case, after the first 75mm of sand cushioning, the first tier of cable is laid and sand filled in the trench for full width to form a bed of 230 mm above this tier. After this, second cable is laid and the process repeated the top most tier being at least 450 mm below the ground level. The top cable shall be suitably covered with bricks as detailed for the single tier above. When laying with cables, care should be taken to see that the paper insulated cables are bent, straightened slowly, sharp radius being avoided. The minimum safe bending radius for single core cable is 20 diameters, and for multi core cables 10 diameters. and for armoured cable 12 diameters, the diameter being the overall diameter of the cable. Where the cables are required to cross the roads water / sewer lines etc., they should normally be taken through pipe sleeves at least 100mm in diameter, which may either of stoneware, steel or spun reinforced concrete. For more than one cable the diameter should not be less than 150 mm. Steel pipe shall be used where it is not possible to obtain sufficient depth to withstand impact from traffic.

e) Rate for cables shall include costs for all operations described above unless otherwise separately provided for elsewhere.

f) CABLE INSIDE BUILDING:

Cable laid inside the building should be properly protected and be carried either in ducts with suitable covers of slabs or chequered plates or fixed to walls by clamps, brackets or cable trays.

g) TESTING OF CABLES:

High voltage tests should be undertaken to ensure that no damage has occurred during the laying operation and that the joints are in order. Cable of 1.1 K V suitable for low and medium voltage should withstand for 15 minutes, 3,000 volts Direct Current applied between the conductor and sheath. In the absence of high pressure testing equipment it is sufficient to test for 1 minute with 1000 volts. If the test results are to be found not satisfactory, the Contractor shall arrange for having this set right at his cost, including removal of rejected materials, relaying etc.

9.0. RECEPTION AND DISTRIBUTION OF MAIN SUPPLY:**9.1. SWITCH CONTROL AT POINT OF COMMENCEMENT OF SUPPLY:**

9.1.1. There shall be a circuit breaker or a linked switch on each live conductor of the supply of mains at the point of entry. The wiring through the installation shall be such that there is no breakage in the neutral wire in the form of a switch or fuse unit. The neutral shall also be distinctly marked as provided in the Indian Electricity Rules 1956.

9.1.2. The main switch gears shall be easily accessible and shall be situated as near as practicable to the termination of service line.

9.1.3. On the main switch gear, where the conductors include an earthed conductor of two wire system or an earthed conductor of two wire system or an earthed neutral conductor of a multi-wire system or a conductor which is to be connected there to an indication of a permanent nature shall be provided to identify the earthed neutral conductor in accordance with the Indian Electricity Rules 1956.

9.2.1. LOCATION:

- a) Open type switch boards shall be placed only in dry situations and in well ventilated rooms and they shall not be placed in the vicinity of storage batteries and exposure to chemical fumes.
- b) In a damp situation, or where inflammable or explosive, dust, vapour, or gas, is to likely to be present the switch boards shall be totally enclosed or made flame proof as may be necessary in the particular circumstances.
- c) A switch board shall be installed so that its bottom is 1250mm above a floor, unless the front of the switch board is located in a position to which only authorized persons have access.
- d) Switch boards shall not be erected above gas stoves or sinks or within 2500mm of any washing unit in the washing rooms of laundries, or in bathrooms, lavatories, or kitchen or toilets.
- e) Switch boards if unavoidably fixed in places likely to be exposed to weather, water or abnormally moist atmosphere, outer casing shall be provided with glands or bushings or adapters to receive screwed conduits according to the manner in which cables are run.

9.2.2. MOUNTING:

Iron / metal clad switch gear shall be preferably be mounted on any of the following boards:

a) HINGED TYPE METAL BOARDS:

For small switchboards for mounting iron / metal clad switch / gear metal board shall be used. Metal board shall consist of a box made of metal sheet of less than of 16g. thickness and shall be provided with a hinged cover to enable the board to be swung open for the examination of the wiring at the back. The joints shall be welded. The boards shall be securely fixed to the wall by means of rag bolts and shall be provided with locking arrangements and earthing stud. All wires passing through the metal board shall be properly bussed. Alternatively, metal boards may be made of suitable size or channel iron frame work suitably mounted on front with 3mm thick MS plates and on back with 1.588 mm MS sheet. In the case of PVC sheathed system of wiring, the top and bottom members may be replaced by 25.4mm teakwood batten. Except for the above change all other details shall be applicable for the alternative also. Besides, the front sheet shall be provided with suitable hinges.

There shall be a clear distance of 31.75 mm between the front sheet shall be provided with suitable hinges.

A teakwood board of thickness not less than 6 mm will be provided at the back, if so specified.

b) FIXED-TYPE METAL BOARDS:

These shall consist of angle or channel iron frame fixed on the wall or on the floor. There shall be clear distance of 1000mm in front of the switchboard. A working distance of 1000 mm behind the switchboard is preferable. If there is any attachment of bare connections at the back of the switchboard, Rule 51 (1) c of Indian Electricity Rules, 1956 shall apply. The detailed dimensions and design of metal boards and angle iron frame work for switch gears, including the position of the various mountings, which shall be symmetrically and neatly arranged for arriving at the overall dimensions shall be prepared and submitted before hand and shall have been prior approval of the Architects.

9.2.3. Where so specified in the schedule of quantities or elsewhere switch boards shall be recessed into the wall with front fitted with hinged panel of 16 guage M.S. Sheet or 3mm thick decorative laminated Hylam Sheet in M.S. angle iron frame with locking arrangement, the outer surface of the doors being flush with the walls. Ample room shall be provided at the back for connection and at the front between the switchgear mountings and the door. Steel work shall be painted one coat with synthetic enamel paint of approved make and colour over an anti-corrosive primer.

9.2.4. ARRANGEMENT OF APPARATUS / MOUNTINGS:

- a) Equipment which is on the front of a switch Board shall be arranged that an inadvertent personal contact with live parts is unlikely during tier manipulation of switches, changing of fuses or like operations.
- b) No apparatus shall be project beyond any edge of the panel. No fuse body shall be mounted within 25mm of any edge of the panel and no holes other than the holes by means of which the panel is fixed shall be drilled closer than 12mm from any edge of the panel.
- c) Various live parts, unless they are effectively screened by substantial barrier of non-hygroscopic non-inflammable insulating materials shall so spaced that an arc cannot be developed and maintained between such parts and earth.
- d) The arrangement of the apparatus shall be such that they shall be readily accessible and their connections to all instruments and apparatus shall be easily traceable.
- e) In every case in which switches and fuses are fitted on the same pole, the fuses shall be so arranged that they cannot be live when their respective switches are in ' off ' position.
- f) No fuses other than fuses in the instrument circuits shall be fixed on the back of or behind a switch board panel or frame.

9.2.5. MARKING OF APPARATUS

- a) When a board is connected to voltage higher than 250v all the terminals or leads of the apparatus mounted on it shall be marked in the following colours to indicate the different poles or phases to which the apparatus or its different terminals may have been connected.

Three Phases	-	Red, Blue and Yellow
I Neutral	-	Black
- b) Where four wire three phase wiring is done, the neutral shall preferably be in one colour and each of the other three wires in another colour.
- c) Where a board has more than one switch, each switch shall be marked to indicate which section of the installation it controls. The main switch shall be marked as such and when there is more than one

main switch in the building, each switch shall be marked to indicate which section of the installation it controls.

- d) All marking required under this clause shall be clear and permanent.

9.3. MAIN AND BRANCH DISTRIBUTION BOARDS:

9.3.1. Unless otherwise specified main and distribution fuse boards shall be iron clad / metal clad type or any type so described in these specifications, subject to approval of the Architects.

9.3.2. Main distribution boards shall be provided with a switch or any circuit breaker on each pole of each circuit, a fuse or a phase or a live conductor and a link on neutral or earth conductor of each circuit. The switches shall always be linked.

9.3.3. Branch distribution boards shall be provided with a fuse or a circuit breaker on the live conductor of each circuit an earthed neutral conductor shall be connected to a common link and capable of being disconnected individually for testing purposes. A spare circuit of the same capacity shall be provided on each branch distribution board. Lights and fans may be wired on a common circuit. As regards power sub-circuits the outlets shall be provided according to the load design of these circuits, but in no case there shall be more than two outlets on each circuit. Where there are special requirements like air-conditioning such outlets should be wired on separate circuits with a control such IC switch / miniature circuit breaker.

9.4. CIRCUIT LIMITATIONS:

Sub-circuits shall not have more than a total of ten points of lights, fan and socket outlets or a load of 800 watts, whichever is less. If a separate fan circuit is adopted the number of fans in a circuit shall not be more than ten.

9.5. INSTALLATION OF DISTRIBUTION BOARDS:

- a) The distribution boards shall be located as near as possible to the center of the load they are intended to control.
- b) These switches (as per clause 9.2) shall be fixed on a suitable stanchion or wall and shall be accessible for replacement of fuses.
- c) These shall be of either iron / metal-clad type or all insulated type. But if exposed to weather or damp situations, they shall be of the waterproof type and if installed where they are exposed to explosives, dust, vapour or gas, they shall be of the flame proof type.
- d) Where two or more distribution fuses, boards feeding low pressure circuits are fed from supply at medium voltage these distribution boards shall be:
- 1) Fixed not less than 2000 mm apart or
 - 2) Arranged so that two cannot be opened at the same time viz. they are interlocked and the metal case is marked "Danger - 440 Volts" or
 - 3) Installed in a room or enclosure accessible to only authorized persons.
- e) All distribution boards shall be marked "Lighting" or "power" as the case maybe and also marked with pressure and number of phases of supply. Each shall be provided with circuit list, giving details of circuit which it controls, and the current rating of the circuit and size of the fuse element.

9.6. WIRING OF DISTRIBUTION BOARDS:

- a) In wiring a branch distribution board, the total load or the consuming devices shall be divided as far as possible evenly between the number of ways in the board leaving the spare circuit for future extension.
- b) All connections between pieces of apparatus or between apparatus and terminals on board shall be neatly arranged in a definite sequence following the arrangement on the apparatus mounted thereon, avoiding unnecessary crossing.
- c) Cables shall be connected to terminals only by soldered lugs / crimped lugs unless the terminals are of such form that they can be securely clamped without cutting cable strands.
- d) All bare conductors shall be rigidly fixed in a such manner that a clearance of at least 25 mm is maintained between the conductors and any terminal other than the insulating material.
- e) In a hinged board, the incoming and outgoing cables shall be neatly bunched and shall be fixed in such a way that the door shall be capable of swinging through an angle of not less than 90 degrees.
- f) If required [in the schedule of quantities], a pilot lamp shall be fixed and connected through an independent single pole switch and fuse to the bus bars of the board.
- g) All main and branch distribution boards shall be provided with earth bus bars as described in clause 12 ante.

10. PASSING THROUGH WALLS / CEILINGS:

When the conductors pass through walls / ceilings, any one of the following methods shall be employed. Care shall be taken to see that wires pass freely through protective pipe or box and that wire pass through in a straight line without any twist or cross in wires, on either end of such holes.

- a) A teakwood box extending through the whole thickness of the wall shall be buried in the wall and casings or conductors shall be carried so as to allow 12mm air space on three sides of the casing or conductor.
- b) The conductor shall be carried in an approved heavy gauge solid drawn or lap welded conduit or in 2m thick PYC pipe of such size that it permits easy drawing in. The ends of conduits shall be neatly bushed with PYC, wood, or other approved materials. Where a wall tube passes outside a building exposed to weather, the outer end shall be bell mouthed and turned downwards and properly bushed on open end.
- c) Where conductors pass from floor to another through ceiling, they shall be protected in the manner specified in (b) above, from 25 mm below the ceiling level and up to a height of 1500 mm above floor level. (Without any extra charges).

11. FIXING TO WALLS AND CEILINGS:

- a) Plugging of walls or ceiling shall be done efficiently and neatly, using approved types of fiber fixing plugs with the right sizes and types of tool in workman like manner. Where this cannot be done, wooden plugs as described below can be used with special permission of the Architects.
- b) Plug for ordinary walls or ceilings shall be well seasoned teak or other approved hardwood not less than 50mm long by 25 mm square on the inner end and 20 mm square on outer end. They shall be cemented into walls within 6 mm of the surface with plaster or lime punning. Where wiring to irregular coursing or other reasons the plugging of walls or ceiling with wood plugs present difficulties, the wood encasing, wooden batten, metal conductor or cleat (as case may be) shall be attached to the wall or ceiling in a suitable manner to be approved by the Architects.

In the case of new buildings, teakwood plugs shall be fixed in the walls, before first coat of white

washing is given.

12. BRANCH SWITCHES:

Where the supply is derived from a three wire or four wire source and the distribution is done on the two wire system all branch switches shall be placed in the outer or live conductor of the circuit and no single pole switch or fuse shall be inserted in the middle wire, earthed or earthed neutral conductor of the circuit. Single pole switches carrying not more than 15 amperes may be of the tumbler type or as specified.

13. FITTINGS AND ACCESSORIES:

All materials used in the construction of fittings shall be of such quality, design and construction that will provided adequate protection in normal use, against mechanical and electrical failure and exposure, to the risk of injury or electric shock and shall withstand the effects of exposure to atmosphere.

14. ATTACHMENT OF FITTINGS AND ACCESSORIES:

14.1. In other than conduit wiring, all ceiling roses, sockets, outlets, switches, regulators, brackets, pendants, and accessories attached to the wall or ceiling shall be mounted on substantial blocks of well seasoned teakwood, or hard wood of approved quality twice varnished both inside and outside including backside after all fixing holes are made in them. Blocks shall be used for attaching fittings and accessories to their blocks.

14.2. Groups of accessories and regulators shall be mounted on well seasoned and properly secured teakwood boards of suitable sizes to accommodate that required number of fittings. The board shall be well varnished with pure shellac on all sides, both inside and outside and the cover shall be 3mm thick decorative laminated Hylam of approved make as may be specified. The board shall be divided into sections, one for the switches which shall be flush mounted and other for the regulators, fixed with suitable washers and round circle iron screws. In the case of surface type wiring, switches may be surface mounted or flush mounted as specified on double teakwood boxes with hinge cover, or covered with 3mm thick laminates hylam sheet, as specified.

14.3. PROTECTION OF CONDUIT AGAINST RUST:

The outer surfaces of the conduit surfaces of the conduit pipes including all bends, unions, tees, junction boxes, etc., forming part of the conduit system shall be adequately protected against rust, particularly when such system is exposed to weather. In all cases no bare threaded portion of conduit pipe shall be allowed unless such bare threaded is treated with anti-corrosive preservative or covered with approved plastic compound.

14.4. PROTECTION AGAINST DAMPNESS:

In order to minimize the condensation or sweating inside the tube, all outlets of the conduit system shall be properly drained and ventilated, but in such manner as to prevent the entry of insects as far as possible.

14.5. BENDS IN CONDUITS:

All necessary bends in the system including diversion shall be done by bending pipes or by inserting suitable solid or inspection type normal bends or similar fittings, or fixing M.S. inspection boxes which ever more suitable. Inspection conduit fittings shall be avoided as far as possible on conduit system exposed to weather. Wherever necessary, solid type fittings shall be used. Radius of such bends in conduit pipes shall not be less than 75 mm. No length of conduit shall have more than two equivalent 90 degrees bends from outlets to outlets the bends at the outlets not being counted.

SCHEDULE OF RATES

1. The schedule of rates should be read in conjunction with all the other sections like drawings, specifications etc.
2. The quantities shown against the items of work are only approximate and may vary to any extent. No extra whatsoever shall be entertained.
3. The rates inserted in the bills of quantities are to be for the full inclusive of value of the work described under the several items, including all costs and expenses which may be required in and for the construction and full protection of the work described, together with all risks, liabilities and obligations set forth or implied in the documents on which the tender is based. The quoted rates shall be for all heights, lifts and leads unless otherwise mentioned specifically in the description of item.
4. General direction and description of work and materials given else where in the contractor documents are not necessarily repeated in the Bill(s) of quantities. Reference to be made to the other documents for the full information / details.
5. The contractor shall be deemed to have visited the site before quoting for the tender and to have examined for himself the conditions under which the work will be carried out including local conditions under which the work will be carried out including local conditions affecting labour and to have studied the items of the bills of quantities, the drawings and specification, relating to them and to have satisfied himself that the rates quoted by him provide for all minor accessories and contingent works or services as necessary for the works described even though there are not specifically defined.
6. Tenderer is advised to read items of works carefully and quote the rates accordingly. However, if he quotes different rates for the same items of work under different schedules of items, the lowest rates quoted shall be made applicable to all the Bills of quantities and the contract sum corrected accordingly.
7. Where an item of work not mentioned in a particular bill of quantities, is required to be executed and where the rate for such an item of work is quoted under a different bill of quantities forming a part of this contract, then the contractor being called upon shall execute the work and shall be paid at the rate so quoted. Nothing extra over shall be payable on this account.
8. The drawing(s) attached with this tender document are for the purpose of tender only, giving the tenderer a general idea of the nature and the extent of works to be executed.
9. The rates quoted by the tenderer shall be deemed to be for the execution of the works in accordance with the "Electrical Drawings" (to be supplied to the contractor).
10. The rates quoted by the tenderer shall include all labour, tools and plants, materials inclusive of all, transport, loading, unloading charges, all levies, all taxes, excise duties, etc. at the time of quoting their rates. The quoted rates shall remain firm through out the contract period. No escalation on prices of labour and materials shall be entertained.