



**Bharat Heavy Electricals Limited
Boiler Auxiliaries Plant**

Ranipet - 632 406

Tamil Nadu, India

CIVIL PROJECTS & SERVICES

Phone: 04172- 284087/284694/284995 Tele Fax : 04172 -242026

Email : vdinakar@bhelrpt.co.in

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TENDER NOTICE NO: BAP: CF: LT : 26/ 2015 - 16 Dated 01.12.2015

Sealed tenders are invited from the registered vendors of BHEL/BAP Ranipet for the following work:

SI No	Name of Work	Estimated Cost	Earnest money deposit	Period of Completion
01	Replacing of existing wooden door of main entrance of purchase dept. with glass door –Civil work in BAP factory.	N.A	NIL	15 Days (Fifteen Days)

Tender documents can be freely downloaded in BHEL Web site http://www.bhel.com/tender/list_tender.php and Government web sites www.tenders.gov.in, www.eprocure.gov.in. All Corrigenda ,addenda, amendments, time extensions, clarifications etc., to the tender will be hosted in BHEL web site only. Bidders should regularly visit website (s) to keep themselves updated.

BHEL will not be responsible for any loss/delay of documents sent by post.

BHEL reserves the right to accept/reject any/all the tenders without assigning any reason.

Tenders duly filled in will be received upto **03.00 PM on 17.12.2015** and opened on the same day at 03.00 PM in the presence of tenderers, who choose to be present. If the date of tender opening falls on holiday the same will be opened on the next working day.

The validity of offer is **Three Months** from the date of opening.

The EMD shall be collected only in cash (as permissible under Income Tax Act), Pay order or Demand Draft only drawn in favour of BHEL,BAP,Ranipet – 6 Payable at Ranipet- 632 406, Tamil Nadu.

Please visit our BHEL Web site for tender updates
http://www.bhel.com/tender/list_tender.php

Place: Ranipet – 6

Date : Dec 01, 2015

Phone Nos: 04172 –284995,

Telefax: 04172 - 242026

Email: mmselvam@bhelrpt.co.in

Cell No:9943977151

Sr Manager (Civil Projects & Services)



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1. Eligibility criteria:

The tender is uploaded in our BHEL WEB site as per CVC guide lines vide Office Order No. 10/02/04.

Only those vendors who have already enlisted with BHEL, Ranipet through enlistment procedure is allowed to participate in this tender. Please note that, the registered vendors of BHEL/BAP Ranipet shall verify their eligibility before quoting for this work.

Interested Vendors may contact with their credentials to DGM (Civil Projects & Services) BHEL, BAP Ranipet – 632 406 for due enlistment for future such tenders.

Enlistment Application forms can be obtained from office of the Deputy General Manager / Civil Projects & Services or can be downloaded from BHEL WEB page.

http://www.bhel.com/tender/view_tender.php?tenderid=13590

Enlistments Applications are invited in sealed cover for **Registration of Contractors for Civil works in Factory & Township and Electrical works in Township.**

DGM (Civil Projects & Services)

Bharat Heavy Electricals Limited

Boiler Auxiliaries Plant

Ranipet – 632 406 Tamil Nadu

E-mail: rathinam@bhelrpt.co.in

MobileNo.9442524416

Ph:04172-284632



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To

Dear Sir(s),

Sl No	Name of Work	Date of Opening	Estimated Cost (Rs.in lakhs)	EMD amount Rs. P	Period of Completion
01	Replacing of existing wooden door of main entrance of purchase dept. with glass door – Civil work in BAP factory.	17.12.2015	N.A	NIL	15 Days (Fitten Days)

We herewith enclose tender document for the following work. You are required to submit most competitive offer in a sealed cover so as to reach the office of the Deputy General Manager Civil project & service before 15.00 Hrs. **The tender shall be opened at 15.00 Hrs. on the same day.**

THE SUCCESSFUL TENDERER IS REQUIRED TO START THE WORK IMMEDIATELY AND COMPLETE THE WORK WITHIN THE STIPULATED TIME. UNDER ANY CIRCUMSTANCES NO EXTENSION OF TIME WILL BE GRANTED. ANY DELAY BEYOND THE DUE DATE OF COMPLETION WILL BE SUBJECTED TO LIQUIDATED DAMAGES.

- **The successful tenderer has to remit Security Deposit as mentioned in the Page –4.**

- The tenderer may visit the site and assess location before quoting the rates.

- No deviations to the tender conditions will normally be accepted.

Thanking you,

Yours faithfully,
For and on behalf of BHEL,

(M.MUNISELVAM)
Sr Manager (Civil Project & Services)

Copy to :

- (i) SrManager / Finance (works) : with a request to depute your officials for tender opening.
- (ii) Tender file (ie, CON. File)
- (iii) File No 16
- (iv) Agencies as per the annexure

Encl.: Tender Document



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Earnest Money Deposit : (Clause 8.1)

- (i) The Earnest Money Deposit for the above work is given in the above column and will be accepted as CASH (at BHEL Cash Office, Ranipet – 6) (as permissible under Incom tax Act) or PAY ORDER or DEMAND DRAFT.
- (II) The EMD will be refunded to unsuccessful tenderers with in 15 days of acceptance of award of work by the successful tenderer. **The same will be refunded thro Electronic Fund Transfer only.** Other modes of refund like Demend draft, Cheque, Pay order etc., will not be made.
- (iii) For successful Tender, the EMD shall be converted / adjusted against the Security Deposit.
- (iv) The EMD shall not carry any interest
- (v) Without EMD, your tender will not be considered
EMD by the tenderer will be forfeited as per Tender Documents if
- I. After opening the tender, the tenderer revokes his tender with in the validity period or increases his earlier quoted rates.
 - II. The tederer does not commence the work within the period as per LOI / Contract. In case the LOI/ Contract is silent in this regard then within 15 days after award of contract.

Security Deposit : (Clause 8.2)

- (i) The rate of security deposit will be as below (w.r.t. Total contract value):
- Up to Rs 10 lakhs : **10%**
 - Above Rs 10 Lakhs Up to Rs 50 lakhs : **Rs 1 Lakh + 7.50% of the amount exceeding Rs 10 Lakhs**
 - Above Rs 50 Lakhs : **Rs 4 lakhs + 5.00% of the amount exceeding Rs 50 Lakhs**
- (ii) 50% of SD should be deposited before start of the work. Balance SD will be recovered at the rate of 10% from running bills. Anyhow the contract value not exceeding Rs 10 Lakhs can be started before SD is collected, provided the payment can be released only after collection / recovery of initial 50% SD.
- (iii) The SD shall not carry any interest.
- (iv) SD may be furnished in any one of the following forms :
- Cash (as permissible under Incom tax Act)
 - Pay order or Demand draft drawn in favour of, BHEL / RANIPET – 6 payable
 - Local cheques of scheduled banks, subject to realization.
 - Securities available from post offices such as National Savings Certificates, Kisan Vikas patras etc., (Certificates should be held in the name of Contractor furnishing the security and duly pledged in favcur of BHEL and discharged on the back)
 - Bank guarantee from scheduled banks / Public financial institutions as defined in the Companies act. The Bank guarantee format should have the approval of BHEL.
 - Fixed Deposit Receipt issued by scheduled banks / Public financial institutions as defined in the Companies act. The FDR should be in the name of the contractor, A/c BHEL, duly discharged on the back.
- (v) Refund of SD :

50% of SD may be refunded to the contractor in respect of all contract on satisfactory completion of work and after payment of final bill and the balance 50% on expiry of the maintenance period, provided that the contractor shall have rendered a “ No Demand” certificate. In case of work where maintenance period is not involved 100% of the SD may be refunded after payment or final bill provided that the contractor shall have rendered a “ No Demand” certificate.



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INTEREST CLAUSE:

No interest shall be payable by BHEL on Earnest Money or Security Deposit, if applicable, or any Money due to the Contractor by BHEL.

Electronic Fund Transfer (EFT Form) : (as per CVC guide lines)

- The enclosed EFT form should be duly filled and submitted along with tender documents. Without EFT form your tender will not be considered and will be rejected.
- **Suppose if you already submitted the EFT form to BHEL(Ranipet) this may be ignored. If there any change in the Bank Account No and / or any change in the banks and / or branches you have to submit a fresh EFT stating the new changes.**

Advance payment :

- No advance payment shall be paid to the contractor.
- **For payment, M Book system shall be adopted as per the norms of the company**

General :

- The envelop / cover containing duly filledin tender documents along with necessary enclosures should neatly be indicated the following :
 - a. Name of work : To be mentioned in the left hand side top corner of the envelop in first line.
 - b. Tender Notice No : To be mentioned in the left hand top corner of the envelop in second line.
 - c. To be addressed to :To be mentioned in the right side middle or bottom of the envelope.

**OFFICE OF THE DY GENERAL MANAGER/Civil P&S,
(Located inside BHEL Factory),
BHEL / BAP / Ranipet – 632 406.
Vellore Dist., / Tamil Nadu.**

- d. From / self address : To be mentioned in the left hand side bottom corner of the envelope.

Extract from Notice Inviting Tenders

4. Clause regarding rates quoted in the tender:- (Issued by CO)

Rates for each item of the tender schedule should be quoted in Rupees and Paise only.

- a. If, in the price structure quoted for the required goods / services / works, there is discrepancy between the unit price and the total price (which is obtained by multiplying the unit price by the quantity), the unit price shall prevail and the total price corrected accordingly, unless in the opinion of the purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted shall govern and the unit price corrected accordingly.
- b. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and
- c. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject of (a) and (b) above.



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- d. If there is such discrepancy in an offer, the same shall be conveyed to the bidder with target date up to which the bidder has to send his acceptance on the above lines and if the bidder does not agree to the decision of the purchaser, the bid is liable to be ignored.

5. Rate quoted shall include all royalties , terminal taxes, octroi duties Central or Provincial Excise tax Sales tax and any other taxes leviable under State or Central Government rules. The Bharat Heavy Electricals Limited will not entertain any claim whatever in this regard.

6. Should a tenderer find discrepancies or omissions in the drawings or any of the tender documents or should be in doubt as to their meaning, he should at once address the authority inviting the tender for clarification. Every endeavour is made to avoid any error which can materially affect the basis of the tender but the successful tenderer shall take upon himself to provide for the risk of any error which may be subsequently discovered and shall make no subsequent claim on account thereof.

7. Tenders submitted by post should be sent " Registered Acknowledgement due" . These should be posted with due allowance for any delay in postal delivery. Tenders received after the due date and time of opening tenders are liable to be rejected.

16. If the tender deliberately gives wrong information in his tender or creates conditions favourable for the acceptance of his tender, the Bharat Heavy Electricals Limited reserve the right to reject such tender at any stage.

19. The General and Special Conditions of Contract are complimentary to each other and whereas they are in conflict the Special Conditions of Contract shall prevail. In regard to matters not covered by General or Special Conditions of Contract those contained in the Madras Detailed Standard Specifications, Indian Standard Specifications or other specifications approved by the Bharat Heavy Electricals Limited, shall apply.

20. Tenders shall not increase their quoted rates in case the Bharat Heavy Electricals Limited negotiates for reduction of rate. Such negotiations shall not amount to cancellation or withdrawal of the original offer and the rates originally quoted shall be binding on the tenderers for a period of three months from the date of opening of tenders by which time a final decision on the award of work will be made. Once the contract is awarded to successful tenderer the rates quoted in his tender as accepted shall be valid and binding on him till the work is completed in all respects and final bill is paid.

Extract from Tender Notice

4. All entries in the tender documents should be in one ink only. Erasers and overwritings are not permitted . All cancellation and insertions should be signed in full by the tenderers concerned.

7. Quantities shown in the attached schedule are only approximate and are liable to variation without entitling the contractors to any compensation, provided the total value of the contract does not vary by more than 20% (Twenty Percent)

8. In quoting their rates the tenderers, are advised to take into account all factors including any fluctuations in the market rates etc., No claim will be entertained on this account acceptance of the tender or during the currency of the contract.

9. Before tendering the tenderers are advised to inspect the site of work and its environments and be well acquainted with the actual working and other prevalent conditions position of materials and labour , General and Special Conditions of Contract , instructions to tenderers, drawings and specifications and all other documents which form part of agreement to be entered into.



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10. The rates quoted in the tender shall remain valid for a period of three months from the date of opening of tenders by which time the award of work will be decided. Once the contract is awarded the rates quoted by the successful tenderer in his tender as accepted shall be valid and binding till the entire work is completed and final bill is paid.

11. The Bharat Heavy Electricals Limited reserves the right to reject any or all tenders received or accept any tender or part thereof without assigning any reason thereof. In case of acceptance of a part of tender, time for completion may also be reduced to the extent considered appropriate by the Accepting Authority.

12. Conditional tenders , tender containing absurd rates and amounts tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions laid down by the Accepting Officer are liable to be rejected.

13. This tender notice shall be deemed to form an integral part of the contract to be entered into for this work.

Encl : (i) Bill of Quantities (ii) Special conditions of contract



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CERIFICATE OF NO DEVIATION

I / We of M/s

hereby certify that there is no deviation from the tender conditions either technical or commercial and I am /We are agreeing to all the terms and conditions mentioned in the Tender Specification.

Date:

Signature of the tenderer



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Name of work : Replacing of existing wooden door of main entrance of purchase dept. with glass door –Civil work in BAP factory.

Service Tax

The Bidder shall not include Service Tax & Swacch Bharat cess in their quoted rates; but the bidder has to separately indicate the Service Tax & Swacch Bharat cess amount and workings thereof in the Price bid format.

Section-A. Works Contract involving supply of materials by Contractor

Approximate value of Free materials supplied by BHEL is Rs 0.00 lakhs as per Annexure- A

Bidders have to quote full Service Tax & Swacch Bharat cess payable in the Price bid format included in the Bid document. Out of Full Service Tax & Swacch Bharat cess amount indicated by the Bidder, 50% of the same shall be considered for evaluation of offers in the case of Bidders being an Individual, Sole Proprietary ship firm, Hindu Undivided Family or Partnership firm whether registered or not, including Association of Persons. For Other Bidders full Service Tax & Swacch Bharat cess quoted shall be considered for evaluation.

In such cases of successful Bidder being an Individual, Sole Proprietary ship firm, Hindu Undivided Family or Partnership firm whether registered or not, including Association of Persons, 50% Service Tax & Swacch Bharat cess amount quoted in the Price Bid format will be considered for reimbursement against valid documentary evidence along with invoice. For others Service Tax & Swacch Bharat cess quoted in the Price Bid will be considered for reimbursement against valid documentary evidence.

In such cases of Bidders being an Individual, Sole Proprietary ship firm, Hindu Undivided Family or Partnership firm whether registered or not, including Association of Persons, Service Tax & Swacch Bharat cess payable by BHEL as receiver of Works contract Service i.e. 50% of the Service Tax & Swacch Bharat cess payable for Works contracts service on composition basis on quoted price and the value of Free issue materials by BHEL @ 5.075% presently, shall be added to arrive at the total cost to BHEL for each bidder for the purpose of evaluation of Bids.

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SPECIAL CONDITIONS OF CONTRACT

1. The above rate does not include PF & ESI remittance .The tenderer shall quote inclusive of PF & ESI contribution to their workers.
2. Safety precautions should be taken while doing the work. You will have to follow all safety requirements to carry out the work inside the factory premises.
3. All materials shall confirm to the latest IS/IRC specifications.
4. All the works to be carried out strictly as per the specifications laid down in Tamil Nadu Building practice and also satisfying relevant IS/IRC specifications.
5. Once the work is completed the contractor should remove all the unwanted materials from the site time to time and it should be disposed off as per the instructions of Engineer-in-charge without any further delay.
6. All works shall be carried out as per standard specifications and instructions of Engineer-in-charge.
7. The contractor has to ensure payment of minimum wages for different category; of workers as announced by Tamil Nadu State Government / BHEL from time to time.
8. The contractor shall have to follow all statutory requirements like PF, ESI, etc., throughout the contract period.
9. The General conditions of contract in force shall apply to this contract.
10. Time is essence of the contract. Any delay beyond the delivery date will be subjected to LD.
11. The tenderer may visit the site and assess the prevailing conditions before quoting the rate.

12. CONTRACT CONDITIONS ON TAXES & DUTIES

- a) The Tenderer shall have been Registered under Excise, Sales Tax, Tamil Nadu VAT, Service Tax regulations if applicable and provide a copy of such registration to BHEL as part of the tender document. In case of fresh registration/amendment thereon, the same shall be carried out before start of the work. PAN no shall be submitted as part the tender document. (copy to be enclosed)
- b) Service Tax & Swacch Bharat cess shall be paid by the service provider namely the Tenderer.
- c) Required Tax Invoice as per the existing provisions to be issued in required parts duly signed by the Competent/Authorized Official of the Contractor to BHEL
- d) If due to deficiency in the document submitted, BHEL could not avail CENVAT, VAT Credit, the credit amount will be recovered from the amount due to the Tenderer.
- e) If the payments of statutory dues are not made in accordance with the applicable provisions of the relevant Act within the time specified and Penalty, Interest etc paid/payable by the Contractor, the same shall not be reimbursed by BHEL and the entire implication is only to be borne by the Contractor. The Tenderer shall clearly indicate the rate of applicable taxes and duties for the work to be executed.
- f) The Tenderer shall indicate all exemptions on account of threshold limits or special notification under any statute. Any modification thereon shall also be intimated immediately on changes.
- g) The quote submitted shall include all taxes and duties of whatsoever in nature but exclusive of Service Tax & Swacch Bharat cess which shall be quoted separately if applicable. The existing rate shall be quoted clearly. If reduced rates are applicable on account of material, labour if any the same shall be indicated clearly. After tender opening addition of any tax & duty is not admissible.
- h) If any composition scheme is to be availed by the Tenderer, the all relevant terms and conditions shall be indicated clearly in the offer. The required compliance under relevant statute shall be carried out.
- i) Any statutory variation will be to the account of BHEL. But if the variation is effective during the delayed/extended period of execution for reasons attributable to the vendor, the same shall be borne by the vendor only.

GENERAL AND SPECIAL SPECIFICATIONS

1. Site Clearance

All the area upon which the construction is to be carried out and areas which are required by the Contractor for his construction facilities are to be cleared off all rubbish and objectionable matter at Contractor's own cost. Trees, if any, shall not be uprooted or cut without the prior approval of the Engineer-in-charge. All spoils, unserviceable materials and rubbish shall be burnt or removed from site. Usable materials, saleable timber, fire-wood etc., shall be stocked properly at work site in the manner as directed by the Engineer-in-charge. The cost of clearing the areas shall be deemed to have been included by the tenderer in his general rate.

2. Earthwork for Foundations

Earthwork excavation for foundations and filling in foundations shall conform to TNBP 23 and 24. The area to be excavated or filled in with excavated materials shall be clearly demarcated in the field by the Contractor. Excavation shall be done to lines and levels defined. Excavation shall be carried out to such widths, lengths, depths, profiles and grades as shown in the drawing or as may be specified by the Engineer – in – charge. Rough Excavation may be carried out up to a depth 15 cm less than the final level but the balance shall be excavated to precise level with special care. All soft pockets of soil met with even below the final level shall be removed and the excavation filled up as directed by Engineer-in-charge. The methods of excavation shall in every case be subject to the approval of the Engineer-in-charge and the contractor shall ensure the safety and stability of the excavations, being executed by him as well adjacent buildings, structures, services and other works in the vicinity of the site of work. Wherever necessary Engineer-in-charge may direct that the sides of the excavation should be timbered and shored at the contractor's own cost, adopting a proper method approved by the Engineer-in-charge. Notwithstanding the above, should any slip occur, the contractor shall remove all the slipped materials from the excavated pit, at his own cost. He shall also make good at his own all damages caused to the work as well as adjacent buildings, structures etc., as a result of the slip, referred to.

All excavation work shall be subject to inspection and approved by the Engineer-in-charge before any further works in the excavated areas allowed commencing. Should any excavation be carried out beyond the specified depth, the contractor should fill it up at his own cost with the same type and class of material as it is proposed to be laid over the excavated portion. No payment will however be made to the contractor on his account.

The contractor shall ensure that the excavations and the structures under construction are kept free from water logging at all stages of construction. He shall take all necessary precautions and `streams, aquifers, springs, surface flows etc., are excluded effectively so as to ensure that the works are carried out in a reasonable dry conditions in accordance with the construction schedule.

Back filling around the foundations, trenches, and plinth and under the floor shall be done in accordance with TNBP 24 and 25. The finished level of the plinth filling shall be trimmed to the slope required to be given to the finished floor. Back filling, watering and consolidation of excavated earth in layers etc., complete as per specifications shall be done unless otherwise stipulated in the tender schedule.

Removal of Hard rock by Blasting

This shall include all rock occurring in large masses which cannot be removed except by blasting. Blasting shall be done in conformity with TNBP 19 & 23 and as instructed by the Engineer-in-charge. When rock blasting has to be done adjacent to structures, the following precautions shall be observed.

- (1) All blasting should be completely muffled to prevent damage by flying pieces.
- (1) Blasting within 3 meters of the structures shall be avoided

- (2) No blasting should be done within 1.5 meters of concrete / masonry structures.
- (3) An isolated boulder extending under the existing structure but projecting within the area of blasting should be blasted.
- (4) The contractor shall be responsible for all damages caused by blasting and shall replace or repair the damaged structures at his own cost.

3. Plain and Reinforced Cement Concrete Works:

All design and construction shall be performed in accordance with the Indian standard code of Practice for plain and reinforced concrete – IS 456 and TNBP 30. Any Special requirements noted on the drawings or bill of quantities shall govern over the provisions of this specifications. Controlled concrete shall be used wherever specified in the schedule of items complying with all requirements of IS: 456 and as per special specifications appended herewith.

The coarse aggregate to be used shall be of hard broken granite stone jelly of various sizes as specified under respective items in the Bill of Quantities, conforming to IS 383 latest edition. The Engineer-in-charge may require the contractor to carryout moisture content tests in both fine and coarse aggregates. For determination of moisture content IS – 2386 shall be referred to. The amount of water to be added shall be then adjusted to compensate for any observed variation in the moisture contents. Proper control of mixing water is deemed of paramount importance. Mixtures with automatic water measuring drums shall be used or else. Water should be measured by volume in calibrated buckets. All measuring equipments shall be maintained in a clean serviceable condition and the accuracy periodically checked and got certified by the Engineer-in-charge. The contractor shall carryout slump tests apart from taking test cubes at regular intervals. All such methods of sampling and analysis of concrete shall be in accordance with IS – 1199.

Mixing of concrete shall be strictly carried out in an approved type mechanical mixer. The mixing equipment shall be capable of combining the aggregates, cement and water within the specified time (not less than 2 Minutes) into a thoroughly mixed and uniform mass and of discharging the mixture without segregation. Mixing shall be continued until there is a uniform colour and consistency, Concrete shall be handled from the place of mixing to the place of final deposit as rapidly as practicable by methods which will prevent segregation or loss of any of the ingredients. Before depositing the concrete, all debris and dirt shall be removed from the space to be occupied by concrete. Concreting shall not be done unless the formwork conform to the shapes, lines and dimension as shown in the drawings.

Unless otherwise approved, concrete shall be placed on single operation to the full thickness of slabs and beams and similar members and not exceeding 1 metre deep in walls, columns and similar members. Concrete shall be placed continuously until completion of the part of the work between construction joints or as directed by the Engineer-in-charge. The concrete after being laid shall be compacted by means of vibrators of approved type under proper supervision as directed by the Engineer-in-charge. Care should be taken to avoid segregation and formation of air bubbles. The whole process starting from the mixing of concrete to the placing and compaction shall not take more than 20 minute and the process shall be completed before the initial setting takes place. Curing shall be accomplished in accordance with IS-456 by keeping the concrete covered with a layer of sacking, canvas or similar absorbent materials and kept constantly wet for the period as directed by the Engineer-in-charge.

Reinforcement

All reinforcement shall be clean and free from pitting, loose mill-scales, dust, loose rust and coats of paint, oil or other coatings which may destroy or reduce bond. General construction details and workmanship relative to reinforcement including bar bends, lap splices and installation shall be in accordance with the IS-2502 as well as IS-456. All bars be bent as per the bar bending schedules indicated in the drawings or supplied separately relevant to particular drawing. The contractor shall in all cases verify himself the correctness of schedules, giving the number, length and the bending details of the bars. The numbers, sizes, shape and position of all the reinforcement shall, unless otherwise, directed or authorized

by the Engineer-in-charge be strictly in accordance with the drawing. The reinforcement shall be adequately held in position by 18 / 20 SWG soft black annealed binding wire. The contractor must obtain the approval of Engineer-in-charge for the reinforcement placed, before any concrete is placed in the form. All reinforcing bars shall be so tied as to form a rigid cage to prevent displacement before or during concreting. Rate quoted for reinforcement should include cost of transporting M.S. Rods / CTD bars from BHEL Store to site of work, cleaning, cutting, bending, placing, binding with contractor's own binding wire and providing necessary cover blocks of concrete but excluding cost of steel which shall be supplied free of cost at BHEL Stores.

Form Work

Formwork shall conform to the shape, lines and dimensions of concrete and RCC structures as shown in the drawings and shall be well within the permissible tolerance. Formwork for concrete shall be of plywood, steel, good seasoned timber or other approved materials, properly designed easy for removal and cleaning. They shall be of sufficient strength and rigidity to maintain their position and shape under loads incidental to placing concrete. The number of props, their sizes and dispositions shall be such as to be able safely carry the full dead load area constructional loads. The arrangement and alignment of formwork shall be got approved by the Engineer-in-charge prior to concreting. However this shall not relieve the contractor from his responsibility for proper work and safety. Formwork shall be sufficiently tight to prevent loss of cement slurry from the concrete. All joints and holes in the formwork shall be caulked with putty jute cloth or other approved materials to the satisfaction of the Engineer-in-charge. The stripping time for the shuttering and the formwork shall in general conform to the provisions in the relevant clauses of IS 456. Unless otherwise specified rates for reinforced cement concrete shall include cost of centering, shuttering charges also.

.4. Stone Masonry

General: Stone masonry shall conform to TNBP 35. Stone shall be obtained from the approved quarry and shall be free from decay and weathering.

All stones shall be thoroughly wetted before use. The mortar used for jointing shall be as per approved Drg. .

The walls shall be carried up truly plumb. Every stone shall be carefully fitted to the adjacent stones so as to form neat and closed joints.

To give sufficient lateral bond, vertical joints shall be avoided. Prescribed number of headers as required shall be provided to give sufficient transverse bond. At junctions of wall the stones each alternate course shall be so carried into each of the respective walls as to unite the work thoroughly. Where breaks are unavoidable in carrying up the work continuously in horizontal course sufficiently long steps shall be left to join the old and new work building of two thin faces and filling up the middle with small stuff or dry packing shall be strictly avoided. When plastering or raised pointing is not required to be done joints shall be struck flush and finished simultaneously.

Random rubble masonry

Random rubble masonry work shall conform to TNBP 35-L and J. Stones shall be hammer dressed at faces and joints to enable them to come into close proximity with each other. The face stone shall be laid headers and stretchers alternately, so as to break the joint by at least 75mm. Thickness of joint shall not exceed 12mm. No pinning shall be used on the face and face stone shall extend well back into the headers. Stones less than 130 mm. in height shall not be used on the face.

Bond stones running through the wall shall be provided at 1.8M intervals in walls up to 0.60 M. thickness and if the wall is more than 0.60 M. thick a line of headers shall be laid from face to back each header overlapping the other by at least 150 mm.

5. Brick Masonry:

First class Bricks: Brick shall be sound, hard, tough, and rectangular in shape and size, well burnt of uniform deep red or copper colour and conform to IS – 1077.

Brick shall be free from cracks, chips, flaws, stone or humps of any kind. Bricks shall be homogeneous in texture and emit a clear ringing sound on being struck and shall have a minimum compressive strength of 50KG / sq.cm. And shall not absorb water more than 20% of its weight, when soaked cold water for 24 Hrs. All bricks shall be table moulded.

Second Class Bricks: These shall be ground moulded but should otherwise conform to the specifications of first class bricks except for some surface cracks are allowable. These shall have minimum compressive strength of 50 Kg./sq.cm.

Samples of each type of brick, shall be got approved by the Engineer-in-charge before being used. All subsequent deliveries shall be up to the standards of the approved samples.

Brickwork shall conform to TNBP31 and IS –2212.

Brick works shall be classified as first or second class according to the classification of bricks used and the method of laying. The thickness of joints shall not exceed 6 mm. in first class brickwork and 10 mm in second class brick work.

Bricks shall be well soaked before use on works for at least 6 hrs. The soaked bricks shall be kept on wooden planks or platform. Brick required for masonry with clay or lime mortars shall not be soaked.

Brickwork shall be laid with specified mortar to be prepared in accordance with IS –2250. Brick works shall be laid in English Bond unless otherwise specified. Half or cut bricks shall not be used except when needed to complete the bond. Each course shall be taken up truly plumb, if battered, the batter is to be truly maintained. The level of brickwork shall be checked up at every one metre interval. Bricks shall be laid with frogs upward, while laying bricks shall be thoroughly bedded and flushed in mortar and taped into position with a wooden mallet and the superfluous mortar removed. Walls of all structures shall be carried up regularly in all cases, leaving no part, one metre lower than the other. Where the masonry of one part has to be delayed, the work shall be raked back according to bond (and not toothed) an angle not exceeding 45 Deg. But the raking back should not start within 60cm. of a corner vertical joints in alternate courses shall come directly over one another. The brickwork shall not be raised more than 14 courses per day. All iron fixtures, pipes, conduits, drains, sleeves, bolts, holdfasts of doors and windows etc. which are required to be built in walls shall be embedded in cement mortar or cement concrete as specified, in their correct position as the work proceeds.

Joints

Joints shall be restricted to 6 mm in first class brickwork and 10mm in second class brick work. All bed joints shall be normal to the pressure upon them, radial in arches and at right angles to the face in battered retaining walls. Care shall be taken that all joints are fully mortared (proportion as specified in the schedule items) well flushed up and in case where no pointing to be done, neatly struck at the work proceeds. The joints in faces which are to be plastered or pointed shall be squarely raked out to a depth of 12 mm while the mortar is still green. The raked joints shall be well brushed to remove loose particles. After the work the faces of work shall be cleared well by brush so as to remove any splashed mortar during the course of raising the brickwork.

Curing

Green work shall be protected from rain by suitable covering. Masonry work shall be kept thoroughly well watered on all faces for at least 10 days after completion. In case of fat lime mortar curing shall commence two days after laying of masonry and shall continue for seven days.

6. Scaffolding

Scaffolding will generally be single but may be double if warranted for the particular work as approved by the Engineer-in-charge. The contractor shall take all measure to ensure safety of work and the working people.

Payment for brickwork shall be made on cubic metre basis on the volume of actual work done. Half brick wall and brick on edge wall shall be paid on square metre basis. The rate of brick work shall include scaffolding and all items mentioned above and no extra payment will be made for cutting bricks if required either for openings or for rounding or insertions or for recesses at the time of brick wall construction.

7. Damp Proof Course

Damp proof course shall either be with cement concrete or with cement mortar of specified thickness as mentioned in the relevant item of schedule. Damp proof course shall not be carried across doorways. It shall be laid for all walls except verandah retaining wall or for particular wall only directed by the Engineer-in-charge. It shall be laid flush with floor level or as instructed by the Engineer-in-charge.

Damp proof course with cement concrete shall be of 25 or 38 mm thick in cement concrete M15/M20 as specified using 12mm. and down size aggregate well rammed and smoothed with trowel. It will be kept wet for 40 hours and after it has dried, two coats of hot bitumen shall be applied over it and allowed it to dry after which sand shall be sprinkled over it.

Damp proof course with cement mortar shall be 12 or 20 mm thick in cement mortar 1:3 well mixed with crude oil at 5% by weight of cement used.

8. Cement Plastering:

Cement plastering shall be in accordance with IS – 1661 and TNBP –56 & 57, Cement mortar shall conform to IS – 269. The mortar of specified mix and thickness shall be used.

The surface to be plastered shall be thoroughly cleaned so that it is free from dust, oil, salts etc., the joints of masonry shall be raked out to a depth of at least 12 mm. On cement concrete surfaces the surface shall be cleaned with wire brush and scarified by lines with trowel or hacking done. The surfaces in both cases shall be washed properly and kept wet for 4 hours before plastering is commenced.

Plastering shall be started from top and gradually worked down towards the floor. It shall not at any place be thinner than specified. To ensure even thickness plaster of about 15 cm X 15 cm shall be first applied horizontally and vertically at not more than 2 metres intervals over the entire surface to serve as gauges. The surface of these gauges shall be truly in the plane of finished surface. The mortar shall then be laid in the wall or other surfaces between the gauges and finished even. All corners shall be rounded to a radius of 24 mm unless otherwise directed. The contractor shall not be paid for any extra thickness of plaster done than as specified.

Plaster, when more than 15 mm thick shall be applied in two coats, a base coat followed by the finishing coat. Thickness of the base coat shall be just sufficient to fill up unevenness in the surface, no single coat, however, shall exceed 12mm in thickness. The under coat shall be roughened or scratched before it is fully hardened.

Curing shall start 24 hours after the plaster is laid. It shall be kept wet for 14 days. During this period it shall be suitably protected from all damages at the contractor's cost by such means as approved by the Engineer-in-charge.

Any cracks which appear in the surface shall be cut out in rectangular shape and redone as directed by the Engineer-in-charge. Wherever specified standard waterproofing compound as approved by the

Engineer-in-charge shall be added to the mortar at the rate of 2% or as specified by the manufacturer by the weight of cement for which the rate shall be paid separately. The rate for plastering shall include cost of scaffolding, swing etc., needed for the work with labour and material all complete.

9. Steel Door, Windows and Ventilators:

All steel doors, windows and ventilators shall conform to IS – 1038, IS – 1361 and IS 1081 or equivalent as mentioned in the bill of quantities and as approved by the Engineer-in-charge.

Rolled steel sections shall conform to IS – 226. The sections shall be cold straightened and finished goods shall be free from bends and other defects. Materials used in the fabrication shall be the best procurable and conforming to relevant IS specification. Thickness and specification of the glass to be provided shall be as indicated in the relevant item of the bill of quantities. Glass shall be free from flaws, specks, bubbles, etc., Bolts, nuts, screws, peg stays and other mild steel fittings shall be treated for corrosion as per relevant Indian Standards. Putty for glazing shall conform to IS – 420.

Doors, windows and ventilators, etc., shall be truly square and free from twist and warp. They shall be constructed of sections which have been cut to the required lengths and welded or riveted at the corners as per standard specifications.

All steel surfaces shall first be thoroughly cleaned free of rust scale or dirt and mill scale by approved means and shall be painted with one coat of approved primer conforming IS – 102 before dispatch. Alternatively if specified they may be galvanized by the “Hot dip” zinc spray or electro galvanizing process described IS – 1361. Doors, windows and ventilators shall be fixed in positions, as specified under IS 1081.

Whenever contractor is required to supply the doors, windows and ventilators etc., he shall first submit to the Engineer-in-charge, the details about source of supply, detailed drawing and specifications etc., for prior approval.

11. Wooden Doors, Windows and Ventilators :

All wood work for doors, windows, ventilators cup board, shelves, etc., conform to relevant IS specification and TNBP 82 and shall be well seasoned teak wood or well seasoned country wood (Pillamarudu or Karumarudu) as the case may be. Timber shall be best quality and shall be free from knots, injurious open shales, bore holes, decay, soft or spongy spots, hollow pockets and all other defects and blemishes. Timber shall conform to IS 1003 (Part 1). Size of doors, windows and ventilators shall as specified in the relevant item of schedule and detailed drawings and generally in conformity with IS – 1003, part I and part II. The rates for doors, windows and ventilators etc., shall be for the finished work inclusive of fixing them in position with necessary iron hold fasts and furniture fitting of oxidized iron or aluminium or oxidized brass as stated in the description of the relevant items of the bill of quantities and as directed by the Engineer-in-charge. Fittings and furniture shall be of best quality and machine made and robust type. Wherever glazed shutters are to be provided, the cost of glass panes of specified thickness and fixing them in position should be included in the quoted rate. All glass shall be of superior quality from approved manufacturer. In case of solid core flush doors, they should conform to IS:2202 Part I and Part II. The flush door shutters should have a finished thickness as specified in the scheduled item. Flush door shutters shall be obtained from firms of repute as approved by the Engineer-in-charge.

12. ROOFING : (A) R.C.C Slabs :

Roof slab shall be of RCC of specified mix conforming to IS : 456, with adequate main tensile, transverse and adhesive reinforcement of ribbed steel bars of mild steel rounds. Unless otherwise mentioned the rates for RCC slab shall include cost of concrete, centering and shuttering charges, vibration charges, rounding of corners, curing and finishing etc., complete. Expansion joints in reinforced cement slabs shall be as per TNBP 30.

The ceiling should be finished as per Clause 30 of TNBP. No extra payment shall be made towards cost of ceiling plaster necessitated on account of defective centering materials used or poor workmanship.

The top of roof slab shall be finished with weathering course treatment if so specified. The weathering course work shall conform to TNBP 44-HJ and consist of concrete with broken brick in neat slacked lime of specified thickness finished with one course of pressed split tiles / pressed tiles of specified thickness and size as described in the bill of quantities.

13. A.C. Rain Water Pipes

The pipes shall be of standard quality conforming to IS 1628. These shall be straight, true smooth and regular in thickness. They shall be free from cracks and other flaws. The supply shall include all necessary pipe fittings and accessories.

All pipes shall be fixed to wall or columns by standard M.S butt holder clamps of approved make. The spigot of the upper pipe shall be properly fitted into the socket of the lower pipe, such that there is uniform annular space for filling with the jointing materials. One third depth of this annular space is to be filled with spun yarn soaked in bitumen of approved quality and properly pressed with caulking tool. The remaining two, third depth of the joint is to be filled with Cement Mortar 1:2 (1Cement : 2 coarse sand) and shall be pressed with caulking tool and finished smooth at the top at an angle of 45 Deg. sloping up.

The rate shall include supplying and fixing pipes with specials and accessories, including sizing as required, jointing, testing, cutting of walls and making good necessary scaffolding etc., complete.

14. Flooring :

Flooring shall consist of a base course of cement concrete of specified thickness and proportion laid over the compacted earth or sand filling as specified and a finishing layer of concrete, mosaic, glazed tiles or any other material as specified to be laid. Flooring work for Factory shop floors as well as mosaic flooring shall be done as per the special specifications.

The bed flooring shall be prepared either level or sloped as per relevant drawing or as instructed by the Engineer-in-charge. Filling in basement with earth or sand shall be in accordance with TNBP 25. On the prepared bed, cement concrete of specified mix and thickness shall be laid and well consolidated.

A. Ellispattern, 1st Sort Flooring

On the clean wet surface of the concrete base before it has set, will be laid a layer of cement concrete to give a finished depth of 20/25 mm over the base concrete. The cement concrete will be of 1:3 proportions (1 cement and 3 hard broken stone chippings 3 to 10 mm Size). To make a coloured floor red oxide iron powder or other approved materials should be mixed with cement at the rate 10% of the weight of cement or as directed by the Engineer-in-charge. Ellis pattern flooring shall be done as described under clause 41-G of TNBP.

B. Glazed Tile Flooring

The tiles shall be of ceramic white or coloured and of specified dimensions as described in the schedule item. The top surface of tiles shall be glazed with a neat finish of uniform colour and texture and free from flaws, cracks, craze, specks or other imperfections. Tiles shall be true and shape with straight edges, non-absorbing and non – fading. Samples of tiles together with manufacturer's literature shall be submitted to the Engineer-in-charge for approval. Tiles shall conform to IS 177 latest.

Over the prepared surface of the floor a bedding layer of Cement Mortar (1:3) of specified thickness shall be laid-in-proper level and slope using screed patterns. The bedding layer shall be deeply scratched while it is set. A mortar set bed of 6mm thickness in cement lime mortar 1:1:3 (one cement one lime putty and three sand), shall be laid over the bedding layer. After mortar setting, bed has been leveled, a skin of neat cement shall be trowel led to the mortar setting bed immediately before the tiles are set. As soon as the mortar setting bed has sufficiently hardened, all tiles shall be finally secured in place and gently beaten in and finished surface brought to desired level. When grouting the glazed tiles, special care shall be taken to prevent scratching of the glazed surface. Joints shall be pointed with white or coloured cement to match the tile surface and cured. No joint shall be more than 1.5 mm thick.

15. White Washing and Colour Washing

White washing and colour washing shall be done as per clauses 63 and 64 of TNBP. The surface shall be thoroughly cleaned off mortar drops and foreign matter. All patching must be scraped properly. The white washing shall be done from pure shell lime / Janathacem. Samples of lime shall be got approved by the Engineer-in-charge. The wash shall be applied with a brush, the coats being laid on vertically and horizontally alternatively, each coat being allowed to dry before next coat is applied. For colour washing the desired shade shall be obtained by mixing approved quantity of colouring matter or distemper with shell lime solution and applied as per white. The contractor shall take every precaution to prevent white wash being splashed on wall, floor and other places and articles not to be white washed. No colour wash shall be done unless a sample pattern of the mixed colour has been approved by the Engineer-in-charge. The rates shall be inclusive of scaffolding charges, cost of ladder etc.,

16. Painting

All painting work shall be done in accordance with TNBP-66 and the relevant Indian Standard Specifications. Paints, varnishes, cement paints etc., shall be the highest grade products of well known approved manufacturer and shall be delivered to site in original sealed containers. It is desired that materials of one manufacturer only shall be used as far as possible. Colours shall be uniform and nonfading. Samples of all colours selected shall be submitted to the Engineer in charge for approval before bulk purchase is made. All finished work shall match corresponding samples kept with the Engineer.

Preparation of Surface :

Before painting wooden surfaces, protruding timber fibres shall be removed and nail marks shall be covered with putty. The surface shall be thoroughly cleaned and sand prepared. In case of steel work it shall be scraped, well brushed and cleaned free of rust, scale dirt. Base preparation for painting concrete, masonry and plastered surfaces shall be carried out as per IS 2395 – Part I. Before actually proceeding with the work of painting the concrete, masonry and plastered surfaces, it shall be verified that the surfaces shall be completely dry, free from efflorescence and alkaline effect.

Application

The primer shall be applied with brushes and spread as evenly and as smooth as possible. For steel work a priming coat of Red Oxide / Zinc Chromate paint shall be applied. Painting shall be done by skilled labourers in a work-man like manner. All coats shall be of proper consistency and shall be well brushed out, so that no brush marks are visible. The under coating should be nearest to the specified colour of the finishing coat. Unless otherwise specified ready mixed synthetic enamel paints shall be used for painting, wood and steel work. Under coats should be completely dry before finishing coat is taken up. Priming coat and under coat shall be rubbed with sand paper and dusted clean. The finished coat of approved paint shall then be applied.

17. Cement Painting

Cement Paint solution shall be applied to the surface with hair brushes in a number of coats to get uniform finish. After the first coat of paints has hardened, it shall be cured with water at least for 24 hours. The surface shall be wetted again before the application of the second coat. At least 24 hours should lapse between the two coats, number of coats shall be as specified in the schedule of quantities. It shall be kept damp at least for seven days.

18. French Polish

French polish to be used shall comply with IS 348. Polishing shall be obtained by dissolving 1 lb, of shellac in one gallon of mentholated spirit without applying any source of heat. After the shellac has dissolved $\frac{1}{4}$ lbs of cobalt, $\frac{1}{4}$ lbs of lobano and 0.4 oz of crystals of desired pigment shall be added. The solution shall be applied with a pad of fine muslin cloth tied as per general practice. The pad shall be dipped into the solution and wrung with fingers and be rubbed hard on the surface in this way, the first coat is to be given after this gets dried up, the successive coats shall be given in the same fashion till the mirror like surface is obtained. The wood to be polished shall be first applied with filler composed of 1.25 Kg. of whiting mixed with one litre of mentholated spirit and then sand papered when dry. The finished surface shall have uniform texture and gloss. Approved transparent sealer shall only be used in base preparation.

SPECIAL SPECIFICATION FOR CONTROLLED CONCRETE

a) PROPORTIONING MIX:

The proportion of aggregate, Cement and water to be used for controlled concrete shall be designed by preliminary tests of the materials to be actually used to obtain the densest to workable concrete requiring the minimum quantity of cement paste for binding the materials to give the required strength. However the maximum total quantity of aggregate by weight per 50 kg. of cement shall not normally exceed 450kg All proportions shall be by weight. However water may be added by weight or volume.

b) MIX DESIGN:

Immediately upon the receipt of the award of the contract, the Contractor shall inform the Engineer-in-charge the exact location of the sources of materials which he proposes to use and get the materials approved. The mix with the actual approved materials to be used shall be got designed by the Contractor in an approved laboratory chosen by BHEL and got approved by the Engineer-in-charge. These proportions shall be used so long as the materials continue to be the same quality and from the same sources. If during the progress of work, the Contractor wishes to change the materials, the proportions shall be fixed on the basis of fresh preliminary tests to give the required strength. No change of materials shall be allowed unless fresh tests with new materials show satisfactory results.

c) STRENGTH REQUIREMENTS OF CONCRETE:

Controlled concrete shall be in the following grades, M 15, M 20, M 25, M 30, and M 35 & M 40. The concrete mix shall be designed to produce the grade of concrete having the required workability and characteristic strength not less than the appropriate values (as per I.S. 456) as given in table below:

Sl. No	Grade of. Concrete	Specified Characteristic Cube Strength	
		Preliminary test N/mm ²	Works test N/mm ²
1.	M 15	20	15
2.	M 20	26	20
3.	M 25	32	25
4.	M 30	38	30
5.	M 35	44	35
6.	M 40	50	40

d) WORKABILITY OF CONCRETE:

The proportions chosen shall be such that the concrete is of adequate workability for the conditions prevailing on the work in question, and shall be properly compacted. Water shall be added to the mixer to give the required workability. The water content of each batch shall be adjusted as necessary to maintain the required workability with simultaneous adjustment of cement concrete such that the water cement ratio is not changed. The workability tests shall be carried out in accordance with IS : 1199 - Latest, "Methods of sampling and analysis".

Workability of concrete shall be controlled by direct measurement of water content, making allowance for any surface water in the fine and coarse aggregates. Allowance shall be made for surface water present in the aggregate when computing the water content. Surface water shall be determined by one of the field methods described in IS : 2386, Part III.

e) CONSISTENCY AND SLUMP:

The concrete shall have a consistency such that it will be workable in the required position. It shall be of such consistency that when properly vibrated it will flow around reinforcing steel and all embedded parts. The slump for concrete as determined by slump tests as per Indian Standard 456 (latest edition) shall not exceed the maximum slumps indicated below for each type of construction as approved by the Engineer-in-charge.

Slum in MM	Type of Construction		Workability
	Min.	Max.	
Medium	40	80	All RCC works

The contractor shall not place concrete having a slump outside the limits specified without the approval of the Engineer-in-charge.

At least one slump test shall be made for every compressive strength test carried out. More frequent tests shall be made if there is a distinct change in job conditions or if required by the Engineer-in-charge.

f) TESTS:

Test shall conform to the specifications laid down in IS : 456. These tests shall be got done in an approved laboratory and in accordance with IS : 516 - Latest at the cost of the Contractor (for making necessary cube moulds, transporting the cubes to the Laboratory and all other incidental etc.). The test fees for the cubes shall be borne by the contractor. In order to ensure proper quality control sampling of the concrete of each specification placed on any day in work shall be done in accordance with the following table.

Quantity of Concrete in work	Total Number of samples(each sample to consist of 6 test cubes)
Up to 5.00 Cu.m.	1
Greater than 5.00 Cu.m. and less than 15.00 Cu.m	2
Greater than 15.00 Cu.m. and less than 30.00 Cu.m.	3
Greater than 30.00 Cu.m. and less than 50.00 Cu.m.	4
Greater than 50.00 Cu.m.	4 + one additional sample for each additional 50 Cu.m. or part thereof.

i) The sampling shall be spread as evenly as possible throughout the day. When wide changes in weather conditions occur during concreting, additional samples may be taken as desired by Engineer-in-charge. Each sample shall consist of 6 cubes of 15 x 15 x 15 cm concrete. Test cubes shall be kept immersed in water until required for test which will be usually at 7 days and minimum crushing strength of not less than the following:

Grade of Concrete	M15	M20	M25	M30	M35	M40
Crushing strength in N/mm ² at the end of						
a) 7 days	10	13.50	17	20	23.50	27
b) 28 days	15	20	25	30	35	40

All costs connected with the preliminary tests for proportioning the mix, sampling, curing, handling, other incidental charges, labour charges and cost of materials shall be borne entirely by the Contractor. Testing charges for cubes (work tests) shall be borne by contractor. Such testing shall be conducted at approved laboratory as directed by the Engineer-in-charge or at the contractor's own laboratory set up at site itself.

All samples for tests shall be taken in the presence of Engineer-in-charge and the Contractor or his authorized agents.

A set of six specimens from random mixer batches, shall constitute a test, three being tested for 7 days and three being tested for 28 days strength.

The strength test result shall be the average strength of the three companion test specimens, tested at 28 days, except that, if one specimen in a test shows manifest evidence of improper sampling, moulding or testing, the result shall be discarded and the remaining two strengths averaged.

ii) Normally, 7 days and 28 days tests shall be made on specimens. For any mix, a correlation between 7 days and 28 days strengths may be made in the laboratory. Soon after a job starts, a similar correlation will be evolved for samples of a concrete taken from the mixer. After that correlation has been established, the results of the 7 days test may be used as an indicator of the compressive strength which should be expected at 28 days, provided such results are consistent, if 7 days tests shown compressive strength that are too low, corrective measures shall be taken at once, at the Engineer's direction, without waiting for the results of the 28 days tests.

iii) Each class of concrete shall meet the following strength requirements:

The average of any three consecutive strength tests shall have a value equal to or greater than the specified strength subject to the condition that only one out of three consecutive tests may give a value less than the specified strength but this shall not be less than 90% of the specified strength.

iv) In the event that concrete tested in accordance with the requirements of this specification, fails to meet the requirement, the Engineer shall have the right to require any one or all the following.

1. Changes in the concrete mix proportions for the remaining work.
2. Curing and testing of the concrete represented by the tests which failed.
3. **Replacement of any such portions of the structure. (No payment for dismantled concrete, associated from worker or reinforcement shall be made. Embedded fixtures, reinforcement and adjoining structures, damaged during dismantling shall be made good by the Contractor at his own expense).**

4. Extended curing of the concrete represented by the specimen.
5. The contractor shall carry out all such measures as directed at his own expense.

Load tests of structural members may be required by the Engineer when the strength of the job control tests falls below the required strength and is not acceptable as per "Acceptance Criteria" stated earlier. The entire cost of the load test shall be borne by the Contractor. If the load testing is decided by the Engineer, the member under consideration shall be subjected to a superimposed load equal to one and quarter (1.25) times the specified superimposed load used for design and this load shall be maintained for a period of 24 hours before removal.

The detailed procedure of the test shall be decided by the Engineer-in-charge.

If, within 24 hours of the removal of the load, the structure does not show a recovery of at least 75 percent of the deflection after the 24 hours under load, the test should be repeated. The structure should be considered to have failed to pass the test if the recovery after the second test is not at least 80 percent of the maximum deflection occurring during the second test.

If the member shows evident failure, such changes as are necessary to make the structure adequately strong, shall be made by the contractor free of cost to the Department. If on the other hand, the failure becomes apparent, the Engineer under special circumstances, can retain the portion of the structure under test, provided suitable strengthening and or load dispersed arrangement is feasible. Cost of such strengthening or load dispersed arrangement shall be borne by the Contractor.

Load test shall not be made until the expiry of 56 days of effective hardening of the concrete.

If a portion of the structure is found to be unacceptable it shall be dismantled and replaced by a fresh structure as per specification. The cost of such dismantling and reconstruction should be borne by the Contractor.

The proportions of cement, fine aggregate, coarse aggregate and water necessary to produce a concrete mix which will fulfill the requirements of this specification for each grade of concrete shall be determined on the basis of trial mixes conducted with the samples of the material to be used in the work by the Engineer-in-charge in the field Laboratory.

All mix design and test data and results shall be maintained as part of the record of the contract and shall be signed by the Engineer-in-charge and the Contractor. A register showing such record shall be maintained at site of work.



ACCEPTANCE FOR ELECTRONIC FUND TRANSFER / RTGS TRANSFER

01	NAME & ADDRESS OF THE SUPPLIER / VENDOR PHONE NO. WITH STD CODE	PAN NO. <input type="text"/>
02	VENDOR CODE (as in WORK ORDER)	<input type="text"/>
03	Details of Bank Account:	
A)	NAME & ADDRESS OF THE BANK (WITH PIN CODE)	
B)	BANK TELEPHONE NUMBER (WITH STD CODE)	<input type="text"/>
C)	BANK BRANCH CODE:	<input type="text"/>
D)	MICR CODE	<input type="text"/>
E)	ACCOUNT NUMBER	<input type="text"/>
F)	TYPE OF ACCOUNT	CURRENT / OD / CASH CREDIT
G)	VENDOR NAME AS PER BANK RECORDS	
H)	BANK BRANCH RTGS IFSC CODE	<input type="text"/>
I)	BANK BRANCH NEFT IFSC CODE	<input type="text"/>
J)	VENDOR'S EMAIL ID (give two ids)	<input type="text"/> <input type="text"/>
K)	NAME OF AUTHORISED SIGNATORY	

CERTIFICATE

I / We hereby agree to receive the payments due from BHARAT HEAVY ELECTRICALS LIMITED, RANIPET by the National Electronic Funds Transfer and/or RTGS Transfer mode by credit to my / our above mentioned Bank Account. I / We also agree that payments made to the above mentioned Account is a valid discharge of the liability of Bharat Heavy Electricals Limited, Ranipet. I / we also agree to bear the applicable Bank Charges for the above mode of transfer.

AUTHORISED SIGNATORY OF VENDOR WITH SEAL

Banker's Certification

We confirm that we are enabled for receiving RTGS and NEFT credits and we further confirm that the account number of _____ (name of account holder), the signature of the authorized signatory and the MICR and IFSC codes of our Branch mentioned above are correct.

PLACE:

DATE:

(Manager / Officer's
Signature Under Bank stamp)
Authorisation No. _____

Note: This EFT Form is to be submitted duly filled in manually in all fields and duly signed by Authorised Signatory and certified by Banker.

BHEL:BAP:RANIPET**Civil Projects & Services****Name of work: REPLACING OF EXISTING WOODEN DOOR OF MAIN ENTRANCE OF PURCHASE DEPT.WITH GLASS DOOR- CIVIL WORK IN BAP FACTORY.**

Sl. No.	Description of work	Qty	Unit	Rate	Amount
1	Providing and fixing in position 12mm tk toughened glass main door on the existing wooden door frame comprising of fixed glass on one side with door on the other portion with floor spring, top pivot, top patch, bottom patch, bottom ocks, pull handles of 600 x 25mm. The fixtures shall be of HARDWYN, DORMA or equilant make. The floor spring shall be of adjustable spring force and with SS cover plate. Patch fittings shall have SS cover plate of grade 304 complete as per the drawing. Fixed portion - 0.35 X 2.02 =0.707. Door portion - 1.00 X 2.02 =2.05. Total = 2.727 Sqm.	2.73	SQM		
	Service Tax & swacch Bharat cess @ %). Tax @	=			
	Grand Total including Service	=			

Contractor / Tenderer

Accepting Officer

GENERAL CONDITIONS OF CONTRACT
FOR
LUMP SUM, ITEM RATE AND
PERCENTAGE CONTRACT

SPECIMEN

Civ 02

GCC



Bharat Heavy Electricals Limited
BOILER AUXILIARIES PLANT
RANIPET - 632406

**GENERAL CONDITIONS OF CONTRACT
FOR
LUMP SUM, ITEM RATE AND
PERCENTAGE CONTRACT**



Bharat Heavy Electricals Limited

**BOILER AUXILIARIES PLANT
RANIPET - 632 406.**

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CHAPTER - I

DEFINITIONS IN THE CONTRACT AS HEREINAFTER DEFINED

The following terms shall have the meanings hereby assigned to them, except here the context otherwise requires :-

- a. **'CONTRACT'** means and includes the conditions of contract, the documents forming the tender and acceptance, thereof, specifications, drawings, bill of quantities, schedule of rates and prices if any, general and special conditions of contract, schedules A,B,C,D and or general summary attached to the form of tender and contract agreements. All these terms and conditions and documents as applicable taken together shall be deemed to form one contract and thereby complementary to one another.
- b. **'TENDER DOCUMENTS'** means and includes the form of tender, the applicable schedules A, B, C, D and / or general summary, general and special conditions of contract and specifications and drawings as given to the contractors on payment.
- c. **'THE CONTRACTOR'** means the person or persons, firm or company whether incorporated or not, whose tender is being accepted and includes the contractor's legal / personal representatives, successors and permitted assignees.
- d. **'THE WORK'** means the work described in the tender documents and / or individual work orders, drawings and specifications as may be issued from time to time to the contractor by the Engineer - In - Charge within the powers conferred upon them including modified or additional works and obligations to be carried out either at the site or at any factory, workshop or any other place as required for the performance of the contract.
- e. **'THE SITE'** means the lands and other places on, under, in or through which the work has to be executed under the contract and any other lands and places provided by the company for the purpose of carrying out the contract.
- f. **'THE COMPANY'** referred to as BHEL in this contract shall mean M/s. Bharat Heavy Electricals Limited including its Board of Directors, Director, Executive Director, Group General Manager, General manager, Dy. General Manager and / or the Officers of the company including Sr. Manager, Manager, Dy. Manager, Sr. Engineer and Engineer authorised on behalf of Bharat Heavy Electricals Limited, Boiler Auxiliaries Plant, Ranipet.
- g. **'THE ACCEPTING OFFICER'** means the official who signs the contract agreement on behalf of Bharat Heavy Electricals Limited and includes his successors.
- h. **'ENGINEER-IN-CHARGE'** means the Officer / Engineer of BHEL who is in charge of works under the contract and includes such other Officer / Engineer as may be notified by BHEL from time to time.
- i. **'APPROVED AND DIRECTED'** means approval and / or directions of the Officers / Engineers of BHEL issued from time to time with regard to the contract.

- j. In the case of Lump-sum Contracts '**CONTRACTOR'S PERCENTAGE**' means the percentage offered by the Contractor as addition to our deduction from the cost of building, or other works listed in Schedule "A" to provide a Lump-sum quotation for performance of the contract inclusive of all extra costs, profit, establishment charges, carriage, insurance etc., complete.
- In the case of percentage Rate "Contracts Contractor's Percentage" shall, if the context so permits mean the uniform percentage tendered by the Contractor and accepted by the Accepting Officer; and the expression '**CONTRACT RATE**' shall likewise mean the rates in the BHEL Schedule of Rate applicable as on date as adjusted by the said Contractor's percentage, if any.
- k. '**THE CONTRACT SUM**' means the sum accepted or the sum calculated in accordance with the prices accepted in the tender and / or the contract rates as payable to the contractor for the execution and full completion of the work.
- l. The '**FINAL SUM**' means the actual amount payable under the Contract by BHEL, to the Contractor for the entire Execution and full completion of the work.
- m. The '**DATE OF COMPLETION**' is the date or dates for completion of the whole or any part of the work as the case may be set out in or ascertained in accordance with the individual work orders of the tender documents, or any subsequent agreed amendments thereto.
- n. A '**WEEK**' means seven days without regard to the number of hours worked or not in any day in that week.
- o. A '**DAY**' means a day of 24 (Twenty Four) hours irrespective of the number of hours worked or not in that day.
- p. A '**WORKING DAY**' means any day other than the holidays declared by BHEL, Ranipet.
- q. '**DEVIATION ORDER**' means an order given by the Engineer-in-Charge to effect an alternation addition or deduction which does not radically affect the scope or nature of the contract.
- r. '**EMERGENCY WORKS**' means any urgent measures which in the opinion of the Engineer-In-Charge, become necessary during the progress of the work to obviate any risk of accident or failure which become necessary for security.
- s. '**PROVISIONAL SUM**' or "Provisional Lump-sum" means a Lump-sum included by the BHEL in the tender documents and represents the estimated value of work for which details are not available at the time of inviting the tender.
- t. '**PROVISIONAL ITEMS**' means items for which approximate quantities have been included in the tender documents.
- u. '**DAY WORK**' means an item of work requiring the employment of labour with or without materials as the case may be which in the opinion of the Engineer-in-charge, is not capable of being evaluated by the accepted methods of measurement or assessment and is paid for on the basis of the actual labour and materials utilised on the particular item of work referred to.

- v. Heading of these terms and conditions shall not affect the interpretation or construction thereof.
- w. The '**DATE OF CONTRACT**' shall mean the date / dates on which the parties to the contract have signed the contract agreement.
- x. **MAINTENANCE PERIOD / GUARANTEE PERIOD** shall mean the period during which the contractor shall remain liable for satisfactory performance of the work under the contract, repair or replacement of any part of the work performed under the contract.
- y. '**COST**' shall mean and include any liability, expenditure, overhead costs whether on the site or off the site incurred by BHEL.

The contractor shall be deemed to have carefully examined all the documents to his satisfaction. If he shall have no doubt as to the manner of the contract document, he shall obtain the details/clarification from BHEL before signing the contract.

MANNER OF EXECUTION OF CONTRACT

The contract shall be deemed to have come into force from the date of Letter of Intent unless otherwise provide in the Letter of Intent. Unless and until the contract agreement is executed, the Letter of Intent read in conjunction with the tender documents will constitute a binding contract.

CONTRACTOR / TENDER

ACCEPTING OFFICER

CHAPTER - II

SCOPE OF CONTRACT

2. Heading to the Contract

The heading to these conditions shall not affect the interpretation thereof.

3. Contract Documents

The Accepting Officer shall furnish to the Contractor on demand "FREE OF COST" three copies of signed Drawings and one copy of the signed agreement comprising of preamble to agreement, General and Special Specification, Schedule A,B,C & D etc., (but excluding General Conditions of Contract and Drawings) and three copies of all further drawing issued the progress of work.

However, for any additional copies of the agreement of drawings required by the Contractor, the same will be supplied on payment of the Specified cost.

The Contractor shall keep one copy of all the Drawings and of the Specifications on the site and the Engineer-in-Charge or his representative shall be at all reasonable times have access to them.

None of these documents shall be used by the contractor for any purpose other than that of this contract.

3a. Secrecy

The Contractor shall take necessary steps to ensure that all persons employed on any work in connection with this contract have noted that the Indian Officials Secrets Act 1923 (XIX of 1923) applies to them and shall continue so to apply even after the execution of such work under the contract.

All classified documents furnished to the contractor shall be returned to the Engineer-in-charge on the completion of works or the earlier determination of the Contract.

4. Works to be Carried Out

The Contract shall, except as provided under Schedules "B" and "C" included all labour materials, tools, plant, equipment, and transport which may be required in preparation for and in the entire execution and full completion of the work. Schedule "A" shall be deemed to have been prepared in accordance with good practice and recognised principles and unless otherwise stated, the descriptions given therein shall be held to include waste on materials carriage and cartage, lead, hoisting, setting, fitting in position and all other labour necessary in and for the entire execution and full completion aforesaid. Any error in description or quantity in Schedule "A" or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the work comprised therein according to the Drawings and Specifications, or from any of his obligations under the Contract.

The insertion of the name of any firm of suppliers in the Tender Documents is for the purpose of obtaining a particular class or quality of materials or workmanship but the articles or materials specified may be obtained from any other firm subject to prior written approval of the Engineer-in-Charge.

In the case of a discrepancy between Schedule "A" the specification and / or the Drawings, the Accepting Officer shall be the sole deciding authority as to which shall prevail and his decision shall be final and conclusive. If neither Drawings nor specifications contain any mention of minor details of construction, which is in the opinion of the Accepting Officer, whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for the satisfactory completion of the work, such details shall be provided by the Contractor without any extra cost as if they were specially mentioned and shall be deemed to be included in the contract.

The Contractor will be deemed to have satisfied himself as to the nature of the site, local facilities of access and all matters affecting the execution and completion of the work. No extra charges consequent on any mis-understanding in these respects or otherwise will be allowed.

5. Provisional Items

The full amount of provisional Lump-sums and the value annexed to each provisional item inserted in the Tender Documents shall be deducted from the contract sum and the value of work ordered and executed there under shall be ascertained by measurement or valuation as for deviations.

No work under these items is to be begun without instructions in writing from the Engineer-in-charge.

The extent of quantities or items described as "Provisional" shall not be held to guarantee or limit the amount and description of the work to be executed by the Contractor either in respect of the items concerned or the work as a whole.

No addition or deduction shall be made by the Contractor to the amount of the provisional Lump-sum as included in the tender documents.

6. Deviations

The contractor shall not make any alteration in addition to or omission from the work as described in the tender documents except in pursuance of the written instructions of the Engineer-in-charge. No such deviation from the work described in the tender documents shall be valid unless the same has been specifically confirmed and accepted by the Accepting Officer in writing and incorporated in the contract.

The Accepting Officer may deviate either by way of addition or deduction, from the work so described, provided that the contract sum be not thereby varied on the whole by more than percentage set out in the tender documents. The value of all additions and deductions will be added to or, deducted from the contract sum, when ever the Accepting Officer intends to exercise such a right, his intentions shall specify the deviations which are to be made, the Lump-sum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract.

Any objection by the Contractor to any matter concerning the order shall be notified by him in writing to the Engineer-in-charge within seven days from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer-in-charge) owing to differences or controversy that may arise from such an objection. In the absence such notification of objection by the contractor, he will be deemed to have accepted the order and the conditions stated therein. In the event of the contractor failing to agree with the Engineer-in-charge regarding the terms of the proposed deviation, the objection shall be referred to the Head of Civil Engineering Department whose decision shall be final, conclusive and binding on the contractor.

7. Time

Time is the essence of the contract and is specified in the tender documents or in each individual Work Order.

As soon as possible after the contract is let or any substantial Work Order is placed and before work order is to begin, the Engineer-in-charge and the Contractor shall agree to a Time and progress Chart. The Chart shall be prepared in direct relation to the time stated in the tender documents or the Work Order for the completion of the individual items there of and the contract or order as a whole. It shall indicate the fore cast of the dates for the commencement of the various trade processes or sequence of the work, and shall be amended as may be required by agreement between the Engineer-in-charge and the Contractor within the limitation of the time imposed in the tender, document or order.

In the absence of any specific Time and Progress chart to be agreed to between the Contractor and Engineer-in-charge the contractor shall ensure and maintain uninterrupted progress of the work such that the entire work shall be completed within the time imposed in the Tender documents or Order and that the proportion of the work completed upto any time in relation to the entire work to be under the Contract or Order shall not be less than the proportion that the time elapsed bears to the total time of completion provided in the Tender documents or Order.

The Contractor shall suspend the execution of the work, or any part or parts thereof whenever call upon in writing by the Engineer-in-charge to do so, and shall not resume work there on until so directed in writing by the Engineer-in-charge. The Contractor will be allowed an extension of time for completion not less than the period of suspension. However, no other claim in this respect for compensation or otherwise however will be amitted. Provided the cause for suspension is not attributable to any default of the contractor's part to proceed with or fulfil the contractual obligations. This may also be extended to allow for alteration of work made by the deviation order.

8. Stores and Materials

8.1 Materials to be supplied by the Contractor

The Contractor shall at his own cost and expense provide all materials required for the work other than those listed in Schedule-B which are to be supplied by Bharat Heavy Electricals Ltd.

All materials to be provided by the Contractor shall be brand new and in conformity with the specifications laid down in the contract and the Contractor shall if requested by the Engineer-in-charge furnish proof, to the satisfaction of the Engineer-in-charge, that the materials so comply.

The Contractor shall at his own cost and expense and without delay, supply to the Engineer-in-charge samples of materials proposed to be used in the works. The Engineer-in-charge shall within seven days of supply of samples or within such further period as he may require and intimate to the Contractor in writing, inform the Contractor whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer-in-charge for his approval fresh samples complying with the specification laid down in the contract.

The Engineer-in-charge shall have full powers to require removal of any or all of the materials brought to site by the Contractor which are not brand new and not in accordance with the contract specifications or do not conform in character or quality to samples approved by him. In case of default on the part of the Contractor in removing rejected materials, the Engineer-in-charge shall be at liberty to have them removed by other means at the Contractor's expense and risk. The Engineer-in-charge shall have full power to require other proper materials to be substituted for rejected materials and in the event of the contractor refusing to comply, he may cause the same to be procured by other means. All costs charges and expenses which may attend such substitution shall be borne by the contractor. All charges on account of Octroi, terminal or sales tax and other duties on material obtained for the works from any source (excluding materials supplied by BHEL) shall be borne by the Contractor.

The Engineer-in-charge shall be entitled to have tests carried out as specified in the Contract for any materials supplied by the Contractor other than those for which, as stated above, satisfactory proof has already been furnished, at the cost of the Contractor and the Contractor shall provide at his expense all facilities which the Engineer-in-charge may require for the purpose.

8.2 Materials to be supplied by BHEL

Materials which BHEL are prepared to supply are shown in Schedule-B which also stipulates place of issue and rate(s) to be charged in respect thereof soon after acceptance of the tender the Contractor shall agree in writing with the Engineer-in-charge on a phased programme of his requirements with regard to deliver of materials.

In the event of delay in supply of any Stores and materials mention in Schedule-B the contractor shall be entitled to reasonable extension of time as provided for under condition-9 but no claim for compensation or damage on any ground whatsoever shall be entertained by BHEL.

For the materials listed in Schedule-B the contractor shall give a reasonable notice in writing of his requirement to the Engineer-in-charge in accordance with the phased programme.

All materials issued to the Contractor by BHEL for incorporation or fixing in the works shall on completion or on fore-closure of the works and before submission of bills, be returned by the Contractor at his expense, at the place of issue, after making due allowance for actual consumption reasonable wear and tear and for waste. In the Contractor is required to deliver such materials at a place other than the place less the transportation charges which would have been incurred by the Contractor had such materials been delivered at the place of issue, shall be borne by BHEL.

The Contractor shall bear the cost of loading, transporting to site, unloading storing under covered area as necessary, assembling and joining the several parts together as necessary and incorporating or fixing materials in the work including all preparatory work of whatever description as may be required, and of closing preparing, loading and returning empty cases or containers to the place of issue.

If, in the opinion of the Engineer-in-charge (which shall be final and conclusive) any stores supplied by BHEL have either during currency of the work or after completion of the work whilst under custody, of the contractor, become damaged to such an extent that they cannot be usefully utilised, either in the same work or in other works, the Engineer-in-charge shall not accept the stores and in the rates specified in the contract. The contractor shall not be entitled to any claim whatsoever on this account.

The Engineer-in-charge shall have access to the stores where materials issued by BHEL as per schedule -B of the contract is stored to ensure the balance stock of material on hand after taking into consideration the materials used on the work is as per the issue and usage. If there be any discrepancy, the cost towards the same will be recovered at the double recovery rate indicated for the material concerned. This is without prejudice to and in addition to the overall reconciliation of materials to be made at the completion of work.

If on completion of works, the Contractor fails to return surplus materials out of those supplies by BHEL then, in addition to any other liability which the Contractor would incur, the Engineer-in-charge may, be written notice to the Contractor, require him to pay within a fortnight of receipt of the notice for such un-returned surplus materials given in sub para-4.

The Contractor shall have to build a weather-proof shed ^{for} or the storage of Cement (required for 15 days consumption of the work).

8.3 General

Materials required for the works, whether brought by the Contractor or supplied by BHEL shall be stored by the Contractor only at places approved by the Engineer-in-charge. Storage and safe custody of materials shall be at the risk and the responsibility of the Contractor.

Officials concerned with contract shall be entitled at any time to inspect and examine any materials intended to be used in or in the works either on the site or at factory or workshop or other places where such materials are assembled, fabricated or manufactured or at any place(s) where these are lying or from which these are being obtained and the Contractor shall give such facilities as may be required for such inspection and examination.

All materials brought to the site shall not be removed off the site without the prior written approval of the Engineer-in-charge. But whenever the works are finally completed and advance if any, in respect of any such materials is fully recovered the Contractor shall at his own expense forthwith remove from the site all surplus materials originally supplied by him and upon such removal the same shall revert in and become the property of the Contractor.

Should the Engineer-in-charge consider at any time during the construction or re-construction prior to the expiry of the MAINTENANCE PERIOD that the stores or materials provided by the Contractor are unsound or of a quality inferior to that contracted for or otherwise not in accordance with Contract (in respect where of the decision of the Engineer-in-charge shall be final and conclusive) the Contractor shall on demand in writing from the Engineer-in-charge specifying the Stores or materials complained of notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith remove the Stores or materials so specified and provide other proper and suitable stores or materials at his own expense, to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand aforesaid the Engineer-in-charge may replace with others the Stores or materials complained of at the risk and expense in all respects of the Contractor. The liability of the Contractor under this condition shall not extend beyond the maintenance period aforesaid except as regards Stores or materials which the Engineer-in-charge shall have previously given notice of to be Contractor to replace.

9. Delay and Extension of Time

If, in the opinion of Engineer-in-charge the work is delayed :

- i) by reason of abnormally bad weather, OR
- ii) by reason of serious loss or damage by fire OR
- iii) by reason of Civil commotion local combination of workmen, strike or lockout, affecting any of the trades employed on the work, OR
- iv) by delay on the part of the agency or tradesman engaged by BHEL in executing work not forming part of this Contract OR
- v) by reason of any other cause which in the absolute discretion of the Engineer-in-charge is (when he is the Accepting Officer of the Contract), beyond the Contractor's reasonable control, then in such cases the Accepting Officer, on the recommendation of the Engineer-in-charge or higher authority may make fair and reasonable extension in the completion dates of the individual items of work of the Contract as a whole. Such extension which will be communicated to the Contractor by the Engineer-in-charge in writing shall be final and binding on the Contractor. No other claim in this respect for compensation or otherwise howsoever is admissible. Upon the happening of any such event causing delay, the Contractor shall immediately give notice thereof in writing to the Engineer-in-charge but shall nevertheless use constantly his best endeavour to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Engineer-in-charge to proceed with the work.

10. Patent Rights

The Contractor shall fully indemnify BHEL or the agent, servant, employee of BHEL against any action, claim or proceeding relating to infringement or the use of any patent or design or any alleged patent or design rights, and shall pay any royalties which may be payable in respect of any article / or part thereof included in the Contractor. In the event of any claim, being made or action brought against BHEL or any agent, or servant or employee of BHEL in respect of the matters aforesaid, the Contractor shall immediately be notified thereof for taking necessary action provided that payment of indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by the BHEL but the Contractors shall pay any royalties payable in respect of any such use.

11. Octroi and Other Duties

All changes on account of Octroi, Terminal or Sales Tax and / or other duties on materials obtained for the Work (excluding materials provided by BHEL on payment) shall be borne by the Contractor.

12. Royalties

Royalties fixed from time to time as per prevalent local rules will be recovered for materials, which the Contractor may be allowed to remove from quarries situated on land which is in charge of the BHEL authorities.

13. Plant and Equipment

The Contractor, shall at his own expense, supply all tools, plant and equipment (here-in-after referred to as T & P) required for the execution of the contract other than those listed in Schedule - C which subject to their availability may be hired by BHEL to the Contractor or issued free for use in the execution of the work, as specified in Tender documents.

14. Assignments or Transfer of Contract

The Contractor shall not without the prior written approval of the Accepting Officer assign or transfer the Contract or any part thereof, or any share, or interest there in to any other person. No sum of money which may become payable under the Contract shall be payable to any person other than the Contractor unless the prior written approval of the Accepting Officer to the assignment or transfer of such money is given.

14 (a) Sub - Contract

The Contractor shall not sub-let any portion of the Contract without the prior written approval of the Accepting Officer.

15. Compliance to the Regulations and Bye - Laws

The Contractor shall conform to the provision of any statute relating to the work and regulations and bye-laws of any local authority and of any water and lighting Companies or Undertakings with whose system the work is proposed to be connected. He shall, before making any variation from the drawings or the specifications that may be necessitated for such connections give the Engineer-in-charge notice, specifying the variation proposed to be made and the reasons there for and shall not carryout any such variation until he has received instructions from the Engineer-in-charge in respect thereof. The Contractor shall be bound to give all notice required by Statute Regulations of Bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

16. BLANK

17. BLANK

CHAPTER – III

PERFORMANCE OF THE CONTRACT

18. Security Deposit

18.1.1 Security Deposit should be collected from the successful tenderer. The rate of Security Deposit will be as below:

Upto Rs. 10 lakhs	10%
Above Rs. 10 lakhs up to Rs.50 lakhs	1 lakh+7.5% of the amount Exceeding Rs. 10 lakhs.
Above Rs. 50 lakhs	Rs.4 lakhs + 5% of the amount Exceeding Rs. 50 lakhs.

The security Deposit should be collected before start of the work by the contractor.

18.1.2 Security Deposit may be furnished in any one of the following:

- i) Pay Order, Demand Draft in favour of BHEL.
- ii) Local cheques of scheduled banks, subject to realization.
- iii) Securities available from Post Offices such as National Savings Certificates, Kisan Vikas Patras etc.
(Certificates should be held in the name of Contractor furnishing the security and duly pledged in favour of BHEL and discharged on the back).
- iv) Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act subject to a maximum of 50% of the total security deposit value. The balance 50% has to be remitted either by cash or in the other form of security. The Bank Guarantee format should have the approval of BHEL.
- v) Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
- vi) Security deposit can also be recovered at the rate of 10% from the running bills. However in such cases at least 50% of the Security Deposit should be collected before start of the work and the balance 50% may be recovered from the running bills.
- vii) EMD of the successful tenderer shall be converted and adjusted against the security deposit.
- viii) The security deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (iv) and (vi) above will be subject to hypothecation or endorsement on the documents in favour of BHEL. However, BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith.

CONTRACTOR

- 18.1.3** Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.
- 18.1.4** All compensation or other sums of money payable by the contractor to BHEL, under the terms of this contract or under any other contract with BHEL, may be deducted from the security deposit or realized by the sale of the securities or from the interest arising there from or from any sums which may be due or may become due to the contractor payable by BHEL on any account whatsoever against this contract or any other contract with BHEL, and in the event of his security deposit being reduced by reason of such deduction or sale as aforesaid, the contractor shall within seven days thereafter make good in cash or in securities endorsed as aforesaid, any sum or sums by which the security deposit has been so reduced.
- 18.1.5** 50% of the security deposit may be refunded on completion of the work after payment of the final bill and the balance 50% of the security deposit is refundable only after the expiry of the maintenance period of six (6) months from date of completion of work as stipulated in the contract concerned.

19. Orders under the Contract

All orders, notices, etc., to be given under the contract shall be in writing, typescript or printed and if sent by registered post to the address given in the tender of the Contractor, shall be deemed to have been served on the date when in the ordinary course they would have been delivered to him.

The Contractor shall carry out without delay all orders given to him.

20. Admission to Site

The contractor shall not enter on (other than for inspection purposes) or take possession of the site unless permitted to do so by the Engineer-in-charge. The portions of the site to be occupied by the Contractor will be clearly defined and marked on the site plan, and the contractor will on account be allowed to extend his operations beyond these areas. The Contractor shall provide if necessary or required at the site, temporary access there to and shall alter, modify and maintain the same as required from time to time. He shall out and clear away the access route when no longer required restoring the area to its original condition.

The Engineer-in-charge shall have power to execute other works (whether or not connected with the work, in the contract agreement) on the site contemporaneously with the execution of the original work and contractor shall give reasonable facilities for this purpose.

BHEL reserves the right of taking over, at any time, any portion of the site which they may require and the contractor shall at his own expense clear such portion forthwith. No photographs of the site or of the work or any part here of shall be taken published or otherwise circulated without the prior approval of the Engineer-in-charge.

No such approval shall ~~however~~ ^{however} exempt the Contractor from complying with any statutory provision in regard to the taking and publication of such photographs.

BHEL Officials connected with the Contract shall have the right of entry to the site at all times.

Engineer-in-charge shall have the power to exclude from the site any person whose admission there to may, in his opinion be undesirable for any reason whatsoever

The Contract shall be governed by the security regulations of BHEL including the entry exit timings, use of roads as may be in force from time to time. The Contractor should follow these regulations strictly and no claims for any additional payment whatsoever will be entertained under by circumstances.

21. Contractors Supervision

The Contractors shall either himself supervise the execution of the Contractor or shall appoint a competent Agent approved by the Engineer-in-charge to act in his stead. The Contractor shall employ an Engineer/Agent having atleast a Degree of Bachelor of Civil Engineer from a recognised University/on any work with a Contract value exceeding rupees two lakhs, and having atleast a Diploma in civil Engineering from a recognised college, on work with a contract value exceeding Rs. 50,000/- but not exceeding rupees two lakhs.

The Employment of an Engineer/Agent as aforesaid shall not be necessary if the Contractor himself is in possession of a recognised technical qualification and is, in opinion of the Engineer-in-charge, capable of the receiving instructions of the Engineer-in-charge and of the executing the work to the satisfaction of the Engineer-in-charge. If the Contractor fails to appoint a suitable Engineer/Agent as aforesaid, the Engineer-in-charge shall have full powers to suspend the execution of work and stop payment of any advances that may have become due until such date as a suitable Engineer/Agent is appointed and the Contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him as stipulated in condition (9) above.

Orders given to the Contractor's Agent Engineer shall be considered to have the same force as if they had been given contractor himself.

The Contractor or his Agent shall be in attendance at the site during all working hours and shall superintend the executing of work with such additional assistance in each trade as the Engineer-in-charge may consider necessary.

The Contractor or his accredited agent shall attend when required and without making any claim for doing so, either the Office of the Engineer-in-charge or the work site to receive instructions.

The Engineer-in-charge shall have full powers, and without assigning any reason to require the Contractor immediately to cease to employ in connection with the

Contract any Agent, servant or employee whose continued employment is, in his opinion undesirable

The contractor shall not be allowed any compensation on this account.

22. Labour

The contractor shall employ labour in sufficient number either directly or through sub-contractors to maintain the required rate of progress and of quality ensure workmanship of the degree specified in the contract and to the satisfaction of the Engineer-in-charge. The contractor shall comply with all labour laws in force from time to time.

23. Safety Rules

The Contractor shall comply with all safety rules of BHEL.

24. Water

The Contractor shall allow in his Tender and provide at his cost all water required for the work or his employees on the work, together with all pipes and fittings or other means that may be necessary or required to ensure a proper and ample supply of water for all purposes connected with the work.

In the event of a provision existing in the Tender documents for supply of water on payment by Bharat Heavy Electricals Limited, water will be supplied from the BHEL supply system or other sources at any points fixed by the Engineer-in-charge on the site of work. The contractor shall make necessary arrangement for lifting pumping carrying or conveying the water as required at his own cost. The levy of water charges to be borne by the contractor in such case shall be specifically mentioned in the Tender documents.

25. Temporary workshops, store Etc,

The Contractor shall, during the progress of the work provide, erect and maintain at his own expense all necessary temporary workshops, offices etc., required for the proper and efficient execution of the work. The planning, siting, and erection of these buildings shall have the approval of the Engineer-in-charge and the Contractor shall all at times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer-in-charge.

On completion of the work all such temporary building shall be cleared away and the site restored and left in a clean and tidy condition to the entire satisfaction of the Engineer-in-charge.

26. Tool and Plant on site

All tools, plant and equipment brought to the site shall not be removed from the site without the prior written approval of the Engineer-in-charge when the work is finally completed or the contract is determined for reasons other than the default of the contractor he shall forthwith remove from the site all tool, plant, equipment etc., (other than those as may have been provided by BHEL)

27. Statments of Hire Charges

A monthly detailed statement of the hire charge incurred in respect of BHEL tools, plant, equipments etc., shall be given to the Contractor by the Engineer-in-charge.

28. Precaution Against risks

The Contractor shall be responsible for providing at his own expense, for all precaution to prevent loss or damage and for the necessary steps to be taken for the said purpose until the works have been handed over complete, in all respects to the Engineer-in-charge.

The Contractor shall provide all watchman necessary for the protection of the site, the work, the materials, tools, plant, equipment and anything else lying on the site during the progress of the work. He shall solely be responsible for and shall take all reasonable and proper steps for protecting, securing, lighting and watching all places on or about the work and the site which may be dangerous to any person whomsoever.

29. Notices and fees

The Contractor shall give all notices required by any Statutory provision or by the regulations and/or bye-laws of any local / or of any same are or will be connected. The contractor shall pay and indemnify BHEL against any statutory fees and charges payable under such Acts. Regulation and / or bye-laws in respect of the work and shall make and supply all drawings and plans required in connection with any such notice.

30. Setting out of the works and Protective and Maintaining signals and works

The Engineer-in-charge shall supply dimensioned drawings, levels and other information necessary to enable the contractor to set out the work. the contractor shall at his own expense set accurately according to the drawings and figured dimension thereon, all the work comprised in the contract and any extras or additions there to and shall be solely responsible for their being so set out and executed.

All bench marks, pegs, signals on the surface alignment stones, milestones and all similar marks whether put in by BHEL Authorities for the purpose of checking the Contractor's work or in the nature of permanent survey marks will during the tenure of the contract, be under the care of the Contractor who shall at his own expense take all proper and reasonable precautions and care to preserve and maintain them in their true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may, if deemed necessary be replaced by the Engineer-in-charge at the Contractor's expense and the cost thereof deducted from any money then or thereafter becoming due to the Contractor.

Where requested by the Contractor, the level marks, centre line and chainage pegs corresponding to those shown on the Drawing will be pointed out to the Contractor on the ground but all bench marks or chainage pegs additional to those shown on the Drawing will be set out by BHEL authorities.

31. Site Drainage

All water that may accumulate on the site during the progress of the work, or in trenches and excavations shall be removed to the entire satisfaction of the Engineer-in-charge and at Contractor's expense.

32. Excavation, Relics, etc.

Materials of any kind obtained from excavation on the site shall remain the property of BHEL and shall be disposed off as Engineer-in-charge directs.

All gold, silver, oil and other minerals of any description and all precious stones coins treasures, relics, antiquities and other similar items which may be found in or upon the site shall be the property of Bharat Heavy Electricals Limited and the contractors shall duly preserve the same to the satisfaction of the BHEL and shall from time to time deliver the same to such person or persons as the BHEL may appoint to receive the same.

33. Foundations

The Contractor shall not lay any foundations until the excavations for the same have been examined and approved in writing by the Engineer-in-charge.

34. Covering - in work

The Contractor shall give reasonable notice in writing to the Engineer-in-charge whenever any work is to be permanently covered up or concealed, whether by earth or other means so that it can finally be inspected or measured, if necessary. In default of so doing, the Contractor shall if required by the Engineer-in-charge uncover such work at his own expense.

35. Approval of Works by Stages

All work embracing more than one process shall be subject to examination and approval at each stage thereof and the Contractor shall give due notice in writing to the Engineer-in-charge when each stage is ready. In default of such notice being received, the Engineer-in-charge shall be entitled to approve the quality and extent thereof at any time he may choose and in the event of any dispute, the decision of the Engineer-in-charge thereon shall be final conclusive.

36. Execution of the work

The work shall be executed in a workman like manner and to the satisfaction in all respects of the Engineer-in-charge.

The Engineer-in-charge will communicate or confirm his instructions to the Contractor in respect of the execution of the works in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instruction by signing the relevant entries in this book. Such entries will rank as order to notices in writing the intent and meaning of these conditions.

37. Day Work

No day - work shall be performed without the prior written instructions of the Accepting Officer.

The Contractor shall give to the Engineer-in-charge reasonable notice of the start of any work ordered to be executed by day-work and shall deliver to the Engineer-in-charge within two days of the end of each pay week a return in duplicate giving full detailed accounts of labour and materials for the payweek. One copy of each of these returns, if found correct will be certified by the Engineer-in-charge and returned to the Contractor and must be produced at the time of adjustment of accounts.

An Invoice in duplicate signed by the Contractor or his agent shall be sent with each delivery of materials for day-work and the Contractor will be furnished with receipt signed by the Engineer-in-charge specifying the description, quantities, weight or measurement (as the case may be) of the articles approved, reference will be made in this receipt in the return aforesaid and the Contractor's Bill.

In the case of Lumpsum Contracts, the rates to be charged and the percentage addition for profit and establishment charges etc. will be agreed upon between the Accepting Officer and the Contractor prior to the execution of the work.

38. Inspection of the Work

BHEL Officers concerned with the contract shall have power at any time to inspect and examine any part of the work and the Contractor shall give such facilities as may be required to be given for such inspection and examination.

Should Engineer-in-charge consider, at any time during the expiry of the maintenance period, that any work has been executed with unsound, imperfect or unskilled workmanship or of a quality inferior to that contracted for or not otherwise in accordance with the contract (in respect). Whereof the decision of the Engineer-in-charge shall be final and conclusive the contractor shall, on demand in writing from the Engineer-in-charge specifying the fault notwithstanding that the same may have been inadvertently passed, certified and paid for, forthwith rectify or removed and reconstruct the work so specified in whole or in part as the case may require at his own expense to the entire satisfaction of the Engineer-in-charge and in the event of his failing to do so within a period to be specified by the Engineer-in-charge in his demand as aforesaid, the Engineer-in-charge whose decision shall be final and binding may carry out the work by other means at the risk and expense in all respects of the Contractor. However, the liability of the Contractor under this condition shall not extend beyond the maintenance period except as regards workmanship which the Engineer-in-charge shall have previously given notice of to the Contractor to rectify.

39. Responsibility for Building

In the event of any building or part of any building being handed over to the Contractor for the execution of work there to under the provisions of the Contract he shall give a written receipt for all fixtures, glass etc., and he shall be required to make good at his own expense all damages resulting from the cause whatsoever while in his charge and on completion of the work to deliver the said building or part

thereof in a clean state complete in every particular to the entire satisfaction of the Engineer-in-charge.

40. Insurance

The Contractor shall within one month after the date of acceptance of the Contract, insure the work against loss or damages to the contract works, temporary work and materials erected in performance of the contract "all risks" basis from the time of arrival on site until taken over by BHEL on completion of the Contract.

The cover shall also include whenever necessary the risks of testing including breakdown or explosion of plant and machinery undergoing testing, trial and commissioning operations. The insurance shall also specifically cover removal of debris cost. The sum insured shall represent the estimated full value of the contract work inclusive of value of free supply materials by BHEL, transport charges, customs dues, express freight, overtime charges, cost of erection, value of constructional plants and machinery; removal of the debris and excavation of costs. Where the contract includes a maintenance period, the insurance cover shall specifically include the Contractor's liabilities during the maintenance period. The insurance shall also be extended to cover third party personal injury and property damage for a sum to be specified by BHEL. The insurance shall be effected in the name of BHEL and the Contractor shall submit to BHEL a draft of the insurance policy for approval. The policy when issued will be lodged with BHEL together with receipts of premium for such insurance and the contractor shall maintain such policies in force until the obligations of the Contractor are fully discharged.

If the Contractor fails to comply with the terms of this condition the Accepting Officer may insure the work and may deduct the amount of premiums from any money that may become payable to the Contractor or may at his discretion refuse payment of any advances to the Contractor until the Contractor shall have complied with the terms of this condition. This provision does not, however, absolve the Contractor of his responsibility for taking up the insurance. The Contractor is, therefore, primarily responsible for the insurance in time.

41. Damage and Loss to Private Property and Injury to Workmen

The Contractor shall at his own expense reinstate and make good to the satisfaction of the Engineer-in-charge and pay compensation for any injury, loss or damage occasioned to any property or rights whatever including property and rights of BHEL (or agents, servants or employees of BHEL) the injury loss or damage arising out of or in any way in connection with the execution of the contract and further the Contractor shall indemnify BHEL against all claims enforceable against BHEL or any agent, servant, or employee of BHEL a private person, in respect of any such injury (including injury resulting in death loss or damage to any person) who so ever or property, including all claims which may arise under the Workmen's Compensation Act or otherwise, or which would be enforceable against BHEL.

42. Completion

The works shall be completed to the entire satisfaction of the Engineer-in-charge and in accordance with the Contractor's forecast of Time and progress where operative, and all unused stores and materials, tools, plants equipment, temporary Building and things shall be removed from the site and work cleared of rubbish and all

waste materials and levelled up clean and tidy to the satisfaction of the Engineer-in-charge at the Contractor's expense and/or before the Schedule date of completion.

The BHEL shall have power to take over from the Contractor from time to time such sections of the Work as have been completed to the satisfaction of the Engineer-in-charge. In such an event, the contractor is not entitled for any extension of time or any other compensation for executing the balance work.

In case the Contractor fails to remove any of his properties, assets or fails to clear the rubbish and waste materials within 30 days of the completion of the contract, it is lawful for the contractee, that is BHEL to take such action as it deems fit to clear, dispose of such properties, assets or such waste materials and charge the Contractor any expenses incurred thereon.

The Engineer-in-charge shall certify to the Contractor the date on which the work is completed and the state thereof.

The Engineer-in-charge shall also certify to the Contractor the state of the work at the end of maintenance period, where applicable.

43. Compensation for delay

If the Contractor fails to maintain the required progress in terms of condition 7 or to complete the work and clear the site on or before the contracted or extended period of completion, he shall, without prejudice to any other right or remedy of the BHEL on account of such breach pay as agreed compensation an amount calculated as stipulated below or such smaller amount as may be fixed by the BHEL on the contract value of the work for every week that the progress remains below that specified in condition 7 or that the work remains incomplete.

This will also to items or groups of items for which separate period of completion has been specified.

For the purpose the term "Contract Value" shall be the value at contract rates of the work or ordered.

- | | |
|--|------------------------|
| a) Completion period (as originally stipulated) not exceeding 6 months | at 1 per cent per week |
| b) Completion period (as originally stipulated) exceeding 6 months and not exceeding 2 Years | at ½ per cent per week |
| c) Completion period (as originally stipulated) exceeding 2 years | at ¼ per cent per week |

Provided always that the total amount of compensation for delay to be paid under this condition shall not exceed the under noted percentage of the contract value or of the item or group of items of work for which a separate period of completion is given :

- | | |
|---|-------------|
| a) ^{Completion} Complete period (as originally stipulated) not exceeding 6 months | 10 per cent |
|---|-------------|

- | | |
|--|-------------|
| b) Completion period (as originally stipulated) exceeding 6 months and not exceeding 2 Years | 7½ per cent |
| c) Completion period (as originally stipulated) exceeding 2 years | 5 per cent |

The amount of compensation may be adjusted or set-off against any sum payable to the contractor under this or any other contract with the BHEL.

44. Laws Governing the Contract

This Contract shall be governed by the Indian Laws for the time being in force.

45. Cancellation of Contract for Corrupt Acts

The Accepting Officer, whose decision shall be final and conclusive, shall without prejudice to any other right or remedy which shall have accrued or shall accrue thereafter to Bharat Heavy Electricals Limited, cancel the Contract in any of the following cases and the contractor shall be liable to make payment to BHEL for any loss or damage resulting from any such cancellation for default. If the Contractor shall :

- a) Offer or give or agree to give to any person in BHEL service any gift or consideration of any kind as an inducement or reward for doing or for bearing to do or for having done or forborne to do a day act in relation to the obtaining or execution of this or any other contract for BHEL service OR
- b) Enter into a contract with BHEL in connection with which commission has been paid or agreed to be paid by him or with his knowledge, unless the particulars of any such commission and the terms of payment thereof have previously been disclosed in writing to the Accepting Officer, OR
- c) Obtain a contract with BHEL as a result of ring tendering or by non-bonafide methods of competitive tendering without first disclosing the fact in writing to the Accepting Officer.

46. Cancellation of Contract for Insolvency, Assignment or Transfer or Sub-Letting of Contract

The Accepting Officer, without prejudice to any other or remedy which shall accrue thereafter to BHEL shall cancel the contract in any of the following cases :

If the Contractor

- a) being an individual, or if a firm any partner thereof shall at any time be adjudged bankrupt or have a receiving order or orders for administration, of his Estate made against him or shall take and proceedings, for liquidation or composition under any Bankruptcy Act for the time being in force or make any conveyance of assignment of his effects composition or arrangement for the benefit of his credit or purport to do so, or if any application be made under any Bankruptcy Act for the time being in force for sequestration of his Estate or if a trust deed be granted by him on behalf of his creditors, OR

- b) being a company shall pass a resolution or the court shall make an order for the liquidation of its affairs, or a Receiver or Manager on behalf of the debentures holders shall be appointed or circumstances shall arise which entitle the court or debentures holders to appoint a Receiver or Manager OR
- c) assigns, transfer, sub-lets or attempts to assign, transfer or sub-let any portion of the work without the prior written approval of the Accepting Officer OR
- d) Shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.

Whenever the Accepting Officer, exercises his authority to cancel the contract under this condition, he may complete the work by any means at the Contractor's risk and expense provided always to that in the event of the cost of completion (as certified by Engineer-in-charge which is final and conclusive) being less than the contract cost, the advantage shall accrue to the BHEL and that if the cost of completion exceeds the moneys due to the Contractor under the contract, the contractor shall either pay the excess amount ordered by the Engineer-in-charge or the same shall be recovered from the Contractor by other means.

Engineer-in-charge will have powers to take possession of the site and any materials constructional plant, implements, stores, etc. thereon and carry out the work by any means at the risk and cost of the Contractor.

In case the BHEL completes the work under the provisions of this condition the cost of such completion to be taken into account in determining the excess cost to be charged to the contractor under this condition shall consist of the cost of materials purchased and or labour provided by the BHEL with an addition of such percentage or cover superintendence and establishment charges as may be decided by the General Manager whose decision shall be final and conclusive.

In the Contractor fails to pay the excess sum within a period of 30 days, the Engineer-in-charge shall have the right to sell any or all of the Contractor's unused materials, constructional plant implements, temporary buildings etc. and apply the proceeds of sale thereof towards the satisfaction of any sum due from the Contractor under the contract and if thereafter be any balance outstanding from the Contractor, it shall be recovered in accordance with the provisions of the Contract.

47. Cancellation of contract in part or Full for Contractor's Default

If the contractor :

- a) makes default in commencing the work within a reasonable time from the date of handing over of the site and continue in that state a reasonable notice from Engineer-in-charge OR
- b) in the opinion of the Engineer-in-charge at any time, whether before or after the date extended date for completion, make default in proceeding with the work, without due diligence and continue in the state after a notice of seven days from Engineer-in-charge OR
- c) fails to comply with any of the terms and conditions of the contract or after 7 days notice in writing with orders properly issued thereunder. OR

- d) fails to complete the work order and items of work individual dates for completion and clear the site on or before the date of completion or fails to achieve the progress at set out under clause 7 of these General conditions of contract.

The Accepting Officer may, prejudice to any other right or remedy which shall have accrued or shall accrue after B H E L, Cancel the contract as a whole or in part there or only such work order items of work in default from the contract. Whenever the Accepting officer exercises his authority to cancel the contract as a whole or in part under this condition he may complete the work at the contractor's risk and cost provided always that in the event of the cost of completion (as certified by Engineer-in-charge which is final and conclusive) being less than the contract cost the advantage shall accrue to the BHEL if the cost of completion exceeds, the money due to the contractor under this contract the contractor shall either pay the excess amount ordered by General Manager or the same shall be recovered from the contractor by other means. Engineer-in-charge will have power to take possession of site and materials, constructional plant, implements, stores etc there on.

In case the BHEL completes the work or any part there of under the provisions of the condition the of such completion to be taken in to account in determining the excess cost to be charged to the contract under this condition shall consist of the cost of materials purchased and / or labour provided by the BHEL. with an addition of such percentage to cover superintendance and establishment charges as may be decided by the General Manager whose decision shall be final and conclusive.

If the contract fails to pay the excess sum within a period of 30 days the Engineer-in-charge shall have the right to sell any or of the contractor's unused materials, construction plant, implements, temporary buildings etc and apply the proceeds of sale there of towards the satisfaction of any sum due from the contractor under the contract and if ^{there} ~~not~~ after be any balance out-standing from the contract, it shall be recovered in accordance with the provisions of the contract.

48. Termination of Contract for death

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

49. Special Powers of Determination

If at any time after the acceptance of the tender BHEL shall for any reason whatsoever not require the whole or any part of the work to be ^{carried out} ~~done~~ General Manager shall give notice in writing of the fact to the contractor who shall have no claim to any payment of compensation or otherwise howsoever on account of any profit or advantage which he might have derived from the execution of the work in full but which he ^{did} ~~did~~ not derive in consequence of the foreclosing of the work.

He shall be paid at contract rates for the full amount of the executed including such additional works, e, g. clearing of site, etc., as may be rendered necessary by the said foreclosing. He shall also be allowed a reasonable payment (as decided by the Accepting office) for any expenses sustained on account of labour and materials collected but which could not be utilised on the work, as verified by the Engineer-in-charge. Neither shall the contractor have any claim for compensation on account of any alterations have been made in the original specifications drawings, designs and instructions, involving any curtailment of the work as original contemplated.

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CHAPTER - IV

VALUATION AND PAYMENT

5). Records and Measurements :

All items having a financial value shall be entered in the BHEL Measurement Book so that a complete record is obtained of all works performed under the contract.

Buildings, etc., priced in schedule 'A' as a unit Lump-sum will be entered by number at the unit Lump-sum.

Work carried out for agreed Lump-sum will be described and similarly recorded.

Lump-sum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.

Work which fails to be measured in detail shall be measured physically, without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by any person duly authorised on the part of the BHEL and by the contractor.

The engineer-in-charge shall give reasonable notice in writing to the contractor of appointment of measurement.

The contractor shall without extra charge provide assistance with appliance and other things necessary for measurement.

The contractor shall bear all the cost of measurements of his work.

Measurements shall be entered in the BHEL measurement book and signed and dated by both parties each day at the site on completion of measurement. If the contractor objects to any of the measurements recorded on behalf of the BHEL, a note to that effect to be made in the BHEL measurement book or against the item or items objected to; and such note shall be signed and dated by both the parties engaged in taking the measurement.

If as a result of such objection, it becomes necessary to re-measure the work wholly or in part, the expense of such measurement shall be borne by the party requiring the measurement.

Measurement to be re-taken provided that a net error is found by this re-measurement to amount to less than 5% (Five percent) of the value as recorded by the first measurement. But where the net errors amount to 5% and over of the said value, then the cost is to be borne by the other party. In any case if the net value of errors found exceeded to Rs 500 the expense or re-measurement is said to be borne by the other party. If the contractor's representative fails to attend when required, the engineer-in-charge shall have power to proceed by himself to take measurement and in that case those measurements shall be considered as accepted by the contractor as final. The contractor shall, once in every month, submit to the engineer-in-charge with a copy to the accepting officer details of his claims for the work done by him up to and including the previous month which are not covered by his contract agreement in any of the following respects.

- a) Deviation from the items and specifications provided in the contract documents.
- b) Extra Items / Items of work.
- c) Quantities in excess of those provided in the contract schedule.
- d) Items in respect of which rates have not been settled. He should, in addition furnish a clear certificate to the effect that the claims submitted by him as aforesaid cover all his claims and that no further claims shall be raised by him in respect of work done up to and including the period under report.

Except where any general to detailed description of the work in quantities expressly shows to contrary, schedule of quantities shall be deemed to have been prepared and measurements shall be taken in accordance with the procedure set forth in the schedule of rates specification not withstanding any provision in the relevant standard method of measurement or any general or local custom. In the case of items which are not covered by the schedule of rates / specification, measurement shall be taken in accordance with relevant standard method of measurement issued by the Indian Standard Institution or as per Standard engineering practice.

52 Valuation of Deviations

Rates for deviated items of work will be fixed as follows :

- 1) For any item of work required to be carried out after the contract has been awarded and which is not covered by Contractor's Schedule but is covered by B.H.E.L. schedule of Rates the payable for such a fresh item will be derived from B.H.E.L. Schedule by the method of proportion as follows:
 - a) In the same proportion to the BHEL Schedule of rates as the tendered rate for the nearest analogous item of work in contractor's schedule bears to rate for the particular analogous item of work in BHEL schedule of rates. However in case of nearest analogous item of work in contract schedule forms part of individual chapter of the BHEL schedule of rates the above proportion will be worked out only for such items which are found both in contract schedule and BHEL Schedule of rates as group of items under the chapter.
 - b) If a single appropriate analogous item of work is not available in both schedule (contractor's and BHEL schedule) then the method of proportion will be applied to the nearest analogous group items available in both the schedule referred to i.e. in the same proportion as the total tendered cost of that particular group of item (the sum of the products of the tendered rates and the quantities for which orders are placed) bears to the total cost of the same items and quantities and BHEL Schedule of Rates.
 - c) If even an appropriate analogous group of items is not available in contractor's schedule and BHEL Schedule, then the methods of proportion will be applied to all those items of the whole work, which are available in both the schedule and for which orders have been placed on the contractor i. e., in the same proportion as the total cost of all

these items of work (the work of the products of the tendered rates and the quantities for which order are placed) bears to the total cost of the same items and quantities at the BHEL schedule of rates.

The selection of analogous items or analogous group of items referred to above shall be done by the Engineer-in-charge. Where the rates for deviated items or new items of work can be derived by the selection of different analogous items or analogous group of items, the lowest of all such derived rates shall be taken as the correct rate.

In the case of the contracts for which the Engineer-in-charge is the Accepting officer all disputes regarding the settlement of rates of deviated or new items or work shall be referred to the Head of Civil Engineering Department whose decision shall be final and conclusive as the case may be.

II. If any work not covered by any of the foregoing is ordered of the contractor, the basis of payment shall be decided by the Accepting Officer whose decision shall be final and conclusive and binding on the parties.

53. Reimbursement / Refund on variation in Price, Materials

If after submission of the tender and / or during the progress of the works, the price of any material (not being a material supplied from the BHEL store in accordance with the conditions of the contract) is increased or decreased by an Act of Legislature (central or state) and / or any notification thereunder or on account of new duties or levies such as octroi or on account of increase or decrease in such duties affecting the price of materials required for incorporation in the works and made from materials of which the price has increased or decreased as aforesaid and the contractor has thereupon to pay in respect of such material or item a price which is higher or lower than the price of that material or item as prevailing immediately before the passing of such act or levying, increasing / decreasing of such duty, the BHEL shall increase in price or the duty reimbursed to the contractor the increase in price or additional or increased duty paid by the contractor and in case of decrease in price the BHEL shall be entitled to a refund of the reduction in the price or the reduction in duty. This will be applicable only for material which are directly incorporated on the work. The contractor shall however indicate the assumption he has made while submitting the tender. However no reimbursement or refund shall be made if the increase / decrease is not more than + 10% of the said price, and if so the reimbursement or refund shall be made only / on the excess over \pm 10% provide always that any such increase shall not be payable if, in the opinion of the Accepting officer (whose decision shall be final and conclusive) the increase is attributable to the delay in the execution of the contract with the control of the contractor or that any such increase has become operative after the contracted/ or extended date of completion of the works or items of work in question.

The Contractor shall, for the purpose of this condition, keep such books of account and other documents as are necessary to show the amount of any increase or any reduction available and shall allow inspection of the same by any duly authorised representative of the BHEL and further shall at the request of the Engineer-in-charge furnish for verification such other information as the Engineer-in-charge may require.

The Contractor shall within a reasonable time of his becoming, aware of any alteration in the prices of any such materials give notice thereof in writing to the Engineer-in-charge stating that the rate is submitted in pursuance to this condition together with all information relating thereto which he may be in a position to supply.

Advance on account

No payment shall be made for work estimated to cost less than Rupees ONE THOUSAND till after the whole of the work shall have been completed and a certificate of completion given by the Competent authority.

In the case of work estimated to cost more than Rupees FIVE THOUSAND the contractor may at intervals of less than one month or as otherwise provided for in the Contract documents, counting from the date on which order to commence work is given by Engineer-in-charge submit claims on BHEL forms for payment of advances on account of work done and of materials delivered in connection with the Contract.

The Contractor shall be paid in respect of such claims to the extent approved and passed by the Engineer-in-charge subject to a maximum of 90% of the value of the work actually executed to the satisfaction of the Engineer-in-charge. The certificate of the Engineer-in-charge regarding such approval and passing of the sums so payable shall be final and conclusive against the contractor.

Notes :

"After the full amount of Security Deposit is made up through the 10% deduction from On account bills, 100% payment of all subsequent bills may be made to the contractor.

The Contractor may also be paid during the progress of the work 75% of the value of any materials which are in the opinion of the Engineer-in-charge in accordance with the Contract, and are actually required for incorporation in the work and which have reasonably been brought to the site in connection therewith and are adequately stored and / or protected against damage by weather or other causes, but which have not at the time of payment of the advance been incorporated the work on furnishing a formal hypothecation deed. Payment of such advances, however shall be purely at the discretion of the Accepting Officer provided always that payment shall not be made under these periodical certificate in respect of materials like lime, cement, timer, sand, kankar, etc.

Any sums, due from the Contractor on account of Tools and Plant, stores or any other items provided by BHEL shall be deducted from the respective advances. The Engineer-in-charge shall from time to time certify the sums payable to the Contractor after retaining the reserves.

Any certificate relating to work done or materials delivered may be modified or corrected by any subsequent interim certificate or by the final certificate of the Engineer-in-charge supporting an advance payment shall itself be conclusive evidence that any any work or materials it relates are in accordance with the contract. All such intermediate payments shall be regarded as advance against the final payment only and shall not be considered an admission of the performance of the contract or any part thereof in any respect or the accruing of any claim whatsoever.

Such intermediate payment shall not conclude determine or affect in any way the powers of the Engineer-in-charge as to the final settlement and adjustment or the account or otherwise or in any way vary or affect the contract.

55. Final Bill

As soon as possible after the completion of the work to the satisfaction of the Engineer-in-charge, the contract shall forward a certified final account on BHEL forms, in duplicate.

It shall be accompanied by all abstracts, vouchers, etc., in support thereof and shall be prepared in the manner prescribed by the Engineer-in-charge.

No claims will be entertained after the receipt of the final bill.

The Contractor shall be entitled to be paid the final sum less the value of payments already made on account, subject to certification of the final bill by the Engineer-in-charge. Any sums due from the Contractor on account of Tools and Plant, Stores or any other items provided by BHEL not yet recovered from the contractor shall be deducted from the final sum aforesaid.

No charge shall be allowed to the Contractor on account of the preparation of the final bill.

56. Payment of Bills

All payment to be made to the Contractor under this contract shall be by "Crossed Cheque" marked "A/c payee only" (within a reasonable time after the certification by the Engineer-in-charge) at the Nationalised Banks/Scheduled banks or their subsidiaries located in the station where either the work is executed or service rendered or at their branch nearest to the station where the Office of the Engineer-in-charge is located.

57. Recovery from Contractor

Whenever under the contract any sum of money shall be recovered from or payable by the Contractor the same may be deducted any sum then due or which at any time thereafter may become due to the Contractor under the contract or under any other contract with BHEL or from his Security Deposit or he shall pay the claim on demand.

58. Post Technical Audit of work and Bills

BHEL reserve the right to carry out a post-payment audit and technical examination of the work and final bill including all supporting vouchers, abstracts etc., and to enforce recovery of any sums becoming due as a result thereof in the manner provided in the preceding sub-paragraphs provided. However, no such recovery shall be enforced after three years of passing the final bill.

59. Refund of Security Deposit

50% of the Security deposit mentioned in condition 18 above, may be refunded to the Contractor in respect of all contract on completion of work and after payment of final bill and the balance 50% on expiry of the maintenance period, provided the

Contractor shall have rendered a "No - Demand" Certificate. In case of work where maintenance period is not involved 100% of the Security Deposit may be refunded after payment or final bill provided that the Contractor shall have rendered a "No Demand" Certificate.

60. Arbitration

Except where otherwise provided for in the contract all questions and disputes relating to the meaning of the specifications, designs, drawings and Instructions herein before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim matter or thing whatsoever in any way arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or there conditions or otherwise concerning the work or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the General Manager of BHEL and if General Manager is unable or unwilling to act, to the sole arbitration of same other persons appointed by the General Manager, willing to act as such arbitrator.

The cases referred to arbitration shall be other than those for which the decision of the Accepting Officer, or Engineer-in-charge as the case may be, is expressed in the contract to be final and conclusive. There will be no objection if the arbitration, so appointed is an employee of BHEL and that he had to deal with the matters to which the contract relates and that in the course of his duties as such he had expressed views on all or any of the matters in dispute or difference.

The arbitrator to whom the matter is originally referred being transferred or vacating his office or being unable to act for any reason, such General Manager as aforesaid at the time of such transfer, vacation of office or inability to act, shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.

Subject as aforesaid the provision of the Arbitration Act, 1940 or any statutory modification or re-enactment thereof and the rules made thereunder and for the time being in force shall apply to the arbitration proceeding under this clause.

It is a term of the contract that the party involving arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amount claimed in respect of each dispute.

The arbitrator(s) may from time to time with consent of the parties enlarge the time, for making and publishing the award.

The work under the Contractor shall if reasonably possible continue, during the arbitration proceedings and no payment due or payable to the Contractor shall be withheld on account of such proceedings.

The Arbitrator shall be deemed to have entered on the reference on the date he issues notices to both the parties fixing the date of first hearing.

The Arbitration shall give a separate award in respect of each dispute or difference referred to him.

The venue of arbitration shall be such place as may be fixed by the Arbitrator in his sole discretion.

The award of the Arbitration shall be final, conclusive and binding on all parties to this contract.

In the event of disputes or differences arising between one public sector enterprise and a Govt. Department or between two public sector enterprises the above stipulations shall not apply, the provisions of BPF Office memorandum No. BPF/CL001/76MAN/2(1.10) 75 - BPE (GM - 1) dated 1st January 1976 or its amendments for arbitration shall be applicable.

61. Jurisdiction of Court

For the purpose of Court proceeding if any, same shall be in the Court having jurisdiction over Ranipet - 632 406. (Vellore District, Tamilnadu).

62. Taxes etc. -

All taxes, duties, levies that are payable to the Government or to any other authorities in respect of the works under the contractor at the time of contract or becomes payable in future shall be exclusively borne by the contractor and the BHEL is not liable for any reimbursement / Payment thereof.

ANNEXURE - I

TERMS AND CONDITIONS REGARDING COMPLIANCE WITH VARIOUS LABOUR LAWS BY THE CONTRACTORS FOR BHEL

{Please See Condition - 22}

1. The Contractor shall not employ in connection with the work any person who has not completed 18 years of age.
2. The Contractor shall in respect of labour employed by him either directly or through sub-contractor's comply with or cause to be complied with the following statutory provisions and rules and in regard to all matters provided therein.
 - a) The Contract Labour (Regulation & Abolition) Act 1970 and the related Tamilnadu rules.
 - b) The Minimum wages Act 1948 and the related Tamilnadu Rules.
 - c) The payment of wages Act 1936 and the related Tamilnadu Rules.
 - d) The factories Act 1948 and teh related Tamilnadu Rules.
 - e) The Employees' Provident Fund & Miscellaneous Provisions Act 1952.
 - f) The Employees State Insurance Act 1948.
 - g) The workman's Compensation Act 1923.
 - h) The Industrial Disputes Act 1947 and any other Law or modifications to the above or to the rules made there under from time to time.
 - i) Paymet of Bonus Act 1985.

REGISTRATION AND LICENSING

3. Every Contractor shall register his name with the Welfare Section of BHEL before taking up the work awarded to him by giving the following information and getting a code Number :-
 - a) The Name of the Contractor.
 - b) Nature of Contract Work.
 - c) Period of Work.
 - d) Number of maximum labour employed by him on anyone day.
 - e) Licence No. & Date (applicable in case of Contractors employing 20 or moreworkers)
 - f) Whether enrolled for PF, ESI, etc., and enrolment No.

This information is called for the purpose of informing the Inspectorate of Factories whenever they call for information regarding Contracts.

4. The Contractor employing 20 or more workmen is required to obtain licence from the authorities (The Deputy Chief Inspector of Factories / Assistant Commissioner of Labour as the case may be). This licence shall be amended and /or renewed wherever there is an increase in the workmen employed by him or in the event of contract being extended or renewed. The Contractor shall inform the licence number to the BHEL Management before taking up the work.
5. The Contractor (licensed or unlicensed) shall promptly furnish every information and document required by BHEL authorities for the purpose of fulfilling their obligations as principal Employer and / or occupier of the factory and shall render all necessary assistance for the same.

WAGES

6. The Contractor shall pay wages to the workmen employed by him at the rate which shall not be less than the minimum wages applicable under Law from time to time.
7. The Contractor shall fix wage periods in respect of which wages shall be payable. No wage period shall exceed one month.
8. The Contractor shall ensure payment of wages to the Contract labour employed by him within three days from the end of wage period in case the wage period, is one week or a fortnight and in all other cases before 10th day of the following month.
9. All payment of wages shall be made on working days at the work site and during the working time and on dates notified in advance. In case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
10. Where the employment of any works is terminated by or on behalf of the Contractor, the wages earned by him shall be paid before the expiry of the second working day from the day on which his employment is terminated.
11. Wages due to every worker shall be paid to him direct or to the person authorised by him in this behalf. All wages shall be paid in current coin or currency or in both.
12. The Contractor shall ensure the disbursement of wages in the presence of such authorised representatives of BHEL Management.
13. The above payment shall be verified by the authorised Officers/ representative of BHEL with the following certificates on the payment sheet
 Certified that the amount shown in Column No..... has been paid to the workmen concerned in my presence on..... at
14. A certificate of payment shall be furnished in duplicate by the Contractor to the Engineer-in-charge each month in Form "A" enclosed.

15. A Notice of showing the wage period and the place and time of disbursement of wages shall be displayed at the place of work and a copy to be sent to the welfare department by the Contractor under acknowledgement.
16. Notices showing the rates of wages, weekly rest days, wage period, hours of work, date of payment of wages, and addressed of the Inspectors having jurisdiction the date of unpaid wages shall be displayed in Tamil and English in conspicuous places at the establishment and at worksite the contractor. The contractor shall inform the BHEL Management every month the details of contract labour engaged for each contract in the following form :-
 - a) Serial Number
 - b) Location
 - c) Period of Work
 - d) No. of Contract labour engaged during the work
 - e) No. of days worked
 - f) No. of Mandays worked
 - g) Wages paid to his workers

The above statement shall be furnished to BHEL Management at the end of every month.

REGISTERS AND RECORDS AND COLLECTION OF STATISTICS

17. The following documents/formats under contract labour (Regulation and Abolition) Act 1970 and Tamil Nadu Rules there under shall be maintained by each Contractor.
 - a) Register of Persons employed by the Contractor.
 - b) Employment Card
 - c) Service Certificate
 - d) Muster Roll, Wage Register, Deduction Register, Wage Slip, Over Time Register, Register of Fines, Register of Advances etc.
18. The Contractor shall display the abstract of the contract labour (Regulation and Abolition) Act and the Rules there under both in English and in Tamil.
19. Half Yearly Return shall be sent by the Contractor in duplicate to the Licensing Officer.
20. The Contractor shall submit the returns required under the Contract Labour (Regulation and Abolition) Act 1970 periodically to BHEL Management.
21. The Contractor shall without fail give upto date information in writing of the attendance of the workers employed by him.

22. The Contractor shall ensure that his workers keep and produce their Employment Card when coming to duty and take them back when leaving duty.
23. All the above registers and records shall be preserved in original for a period of Three years. All the Registers, Records and notice maintained under the Act and rules shall be produced on demand by Inspector or any authority under the Act.

WORKING HOURS AND WORKING CONDITIONS

24. NO WORKER SHALL BE REQUIRED OR ALLOWED TO WORK ON SUNDAY UNLESS HE HAS OR WILL HAVE A HOLIDAY ON ANYONE OF THE THREE DAYS BEFORE OR AFTER THE SAID DAY.
25. The contractor shall inform BHEL Management in the prescribed form details of the contract workers scheduled to work on Sunday, the day of rest and also indicate the substituted holiday in lieu thereof. This shall be intimated two days in advance before his workmen are booked for work on Sunday.
26. The contract labour working for more than nine hours in any day or for more than 48 hours in any week shall be paid wages at the rate of twice the ordinary rates of wages in accordance with the provisions of section 59 of the Factories Act 1948.
27. The contractor shall provide all safety devices and personal protective equipment to his workmen at his own cost and shall ensure that his workmen wear/use such devices or equipment provided to them while doing the work and there should not be any relaxation on this.
28. The contractor shall give four paid National Holidays to his workers, viz. 26th January, 1st May, 15th August and 2nd October.
29. The contractor shall ensure that his workmen vacate the premises after the shift is over.
30. No woman worker shall be required or allowed to work in the factory except between the hours of 6.00 a.m and 7.00 p.m.
31. The contractor shall comply with the provisions relating to welfare and Health facilities as provided in the contract labour (Regulation and Abolition) Act 1970 read with the Tamilnadu contract labour Rules 1975.

NOTICES OF ACCIDENTS

32. Notwithstanding any thing contrary to this, in the event of accident the contractor shall be required to fill injury report and submit the Engineer-in-charge immediately and ensure the compliance of ESI/Workmen's Compensation Act, Factories Act and Rules made there under. He shall also maintain a register of accident as per Act.
33. The contractor shall get the contract labour engaged by him insured under workmen's Compensation Policy from General Insurance Corporation of India before actually starting the work of contract. The Insurance coverage should

be for the entire period of contract. The contractor shall comply with the provision of the Workmen's Compensation Act 1923 [This should be read in conjunction with the provision of ESI Act]

34. The contractor shall ensure that all his workmen are covered under the Employees State Insurance Act and produce to BHEL such Registration Number/ Enrolment Number before executing the contract work.
35. The contractor shall regularly pay the amount of contribution i.e. employers contribution as well as employees contribution in pursuance of the above scheme as fixed from time to time. The contribution payable presently is 1.75% of wages to be recovered from the workmen and 4.75% of wages to be contributed by the contractor. Contribution recovered from employee and contribution made by the contractor may be rounded to the next higher multiples of five paise.
36. The contractor shall take note of any amendment that may be brought forth in the above contribution rate and accordingly.
37. The contractor shall ensure that his workmen are covered under the EPF & miscellaneous Provision Act 1952 and accordingly produce to the BHEL Management the registration / enrolment number before awarding of contract work. As per the existing provision every worker who has completed three months continuous service or has actually worked for not less than 60 days within a period of three months or less shall be entitled and required to become a member of the fund. The employees' contribution payable at present is 12% of wage which will be recovered by the contractor from the wages of his workmen and the contractor should pay equal contribution. The contractor is also liable to pay any administrative charges in this behalf that may be decided from time to time, it will be the responsibility of the contractor to ensure such contribution payable in respect of workmen employed through sub-contractors also.
38. The contractor shall take note of any amendment in the rate of contribution payable under the scheme from time to time.
39. The contractor shall within seven days of the close of every month submit to BHEL a statement showing the amount of contribution payable/paid for employees engaged by him or through him and shall also furnish to BHEL such information as Principal Employer is required to furnish under the provision of the ESI Act and PF as well as the schemes made thereunder to the authorities concerned.
40. Whenever any sum of money is found to be recoverable from or payable by the contractor under the above Acts the same shall be deducted from any sum that may be due or which at any time thereafter may become due to the contractor under this contract or under any other contract or from his security deposit in case the recoveries are not sufficient to satisfy the claims, the contractor shall pay the balance thereof on demand. In case any recoveries are made this clause shall as may be required to replace the shortage caused by such recoveries in the amount of Security Deposit.

41. The contractor shall abide by all the labour and other laws applicable to contract:labour/worken under this contract and shall at all times keep BHEL Indemnified against all losses, claims, prosecutions under any law.
42. in case of non compliance of any of the provisions of the Acts and in case BHEL Haveing complied with the same BHEL will be entitled to recover the same from the contractor / sub contractor.
43. Non exercise of any of the power of or rights available to BHEL here under or under any law, shall not any way operate as waiver thereof.

ACCEPTING OFFICER

FORM - IV

(See Rule 21(1) of Tamil Nadu Contract Labour Rules)

Application for Licence

01. Name and Address of the Contractor
(including his Father's Name in case of
Individuals) :
02. Date of Birth and age (in case of
Individuals) :
03. Particulars of Establishment where
Contract Labour is to be employed :
- a) Name and Address of the
Establishment :
- b) Type of business, trade industry
manufacture :
- c) Number and date of certificate of
Registration of occupation, which is
carried on the Establishment under
the Act. :
- d) Name and address of the Principal
Employer :
04. Particulars of contract labour :
- a) Nature of work in which contract
labour is employed or is to be
employed in the establishment :
- b) Duration of the proposed contract
work (give particulars of proposed
date of commencing and ending) :
- c) Name and address of the agent or
Manager of contractor at the worksite :
- d) Maximum No. of contract labour
proposed to be employed in the
establishment on any date :

- 05. Whether the contractor was convicted of any offence within the preceeding five years, if so give details :
- 06. Whether there was any order against the contractor revoking or suspending licence or forfeiting security deposit in respect of an earlier contract if so the date of such order :
- 07. Whether the contractor has worked in any other establishment within the past five years, if so, give details of the principal employer Establishment and nature of work :
- 08. whether a certificate by the principal Employer in form V is enclosed :
- 09. Amount of licence fee paid No of Treasury challan and Date :
- 10. Particulars of security deposit if any, requested to be adjusted, including Treasury Receipt number :
- 11. The amount of security deposit or balance if any after adjustment of amount to be refunded under rule 31 deposited with treasury Receipt Number and date :

DECLARATION

I hereby declare that the details above are correct to the best of my knowledge and belief.

PLACE :
DATED :

SIGNATURE OF THE APPLICANT
[CONTRACTOR]

NOTE : The application should be accompanied by a treasury Receipt for the appropriate amount and a certificate in Form V From the principal employer.

(To be filled in the office of the Licensing officer)

Date of receipt of the application with challan for fees / security Deposit.

SIGNATURE OF THE LICENSING OFFICER

CONTRACTOR

FORM - XIII

(See Rule 75 of Tamil Nadu Contract Labour Rules 1975)

Register of workman employed by contractor

Name and Address of the Contractor :

Name and location of work :

Name and address of establishment in /under
which contract is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name and surname of workman :

03. Age and sex :

04. Father's / Husband's Name :

05. Nature of Employment /Designation :

06. Permanent Home address of workman
(village Taluk and District) :

07. Local Addresss :

08. Date of commencement of Employment :

09. Signature or Thump Impression of workman :

10. Date of termination of Employment :

CONTRACTOR

FORM - XIV

(See Rule 76 of Tamil Nadu Contract Labour Rules)

EMPLOYMENT CARD

Name and Address of contractor : Name and address of
Establishment in/under which
contract is
carried on _____

Nature of work and location of work : Name and address of
Principal Employer

01. Name of the workmen :

02. Sl. No. of register of workmen employed :

03. Name of Employment/Designation :

04. Wage rate (with particulars of unit in case of
Piece work) :

05. Wage period :

06. Tenure of Employment :

07. Remarks :

SIGNATURE OF CONTRACTOR

CONTRACTOR

FORM - XV

{See Rule 77 of Tamil Nadu Contract Labour Rules}

SERVICE CERTIFICATE

Name and Address of the contractor : Name and address of
Establishment in/under which
contract is
carried on _____

Name and location of the work :

Name and address of the workman : Name and address of Principal
Employer

Age or Date of Birth :

Identification marks :

Father's / Husband's Name :

Sl.No	Total period for which employed		Nature of work done		Rate of wage (with particulars units in case of piece of work	Remarks
	From	To	(4)	(5)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)

SIGNATURE

CONTRACTOR

FORM - XVI

(See Rule 78 [1] [a] [i] of Tamil Nadu Contract Labour Rules)

MUSTER ROLL

Name and Address of contractor : Name and address of Establishment in/under which contract is carried on _____

Nature of location of the work : Name and address of Principal Employer _____

For the Month of _____

Sl. No	Name of workmen	Father's/Husbands Name	Sex	Dates					Remarks	
				1	2	3	4	5		
(01)	(02)	(03)	(04)	(05)	(06)					

SIGNATURE OF CONTRACTOR

CONTRACTOR

FORM - XVII

(See Rule 78(1) (a) (i) of Tamil Nadu Contract Labour Rules)

Register of wages

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under
which contractor is carried on :

Name and address of Principal Employer :

Wage Period : MONTHLY

01. Serial Number :

02. Name of workman :

03. Sl. No. in Register of workman :

04. Designation / Nature of work done :

05. No. of days worked :

06. Units work done :

07. Daily rate of wages / Piece rate :

08. Basic wages :

09. Dearness allowance :

10. Overtime :

11. Other cash Payment
(Nature of payment to be indicated) :

12. Total :

13. Deductions, If any [indicate nature] :

14. Net amount paid :

15. Signature / Thumb impresion of workman :

16. Initials of contractor or his representative :

CONTRACTOR

FORM - XIX

(See Rule 78(1) (b) of Tamil Nadu Contract Labour Rules)

Wage Slip

Name and Address of the Contractor : Name and Father's /
Husband Name of the
workman _____

Name and location of work : For the week / Fortnight /
Month ending

01. No. of days worked :

02. No. of units worked in
case of piece rate workers :

03. Rate of daily wages /piece rate :

04. Amount of over time wages :

05. Gross wages Payable :

06. Deductions, if any :

07. Net amount of wages paid :

**INITIALS OF THE CONTRACTOR OR
HIS REPRESENTATIVE**

CONTRACTOR

FORM - XX

(See Rule 78(1) (a) (ii) of Tamil Nadu Contract Labour Rules)

Register of deductions for damage or loss

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Designation / Nature of employment :

05. Particular of damage or loss :

06. Date of damage or loss :

07. Whether workman showed cause
against deduction :

08. Name of person in which presence
employee's explanation was heard :

09. Amount of deduction imposed :

10. No. of instalments imposed : Date of Recovery

11. First Instalments :

12. Final Instalments :

13. Remarks :

CONTRACTOR

FORM - XXI.

(See Rule 78(1) (a) (ii) of Tamil Nadu Contract Labour Rules)

Register of Fines

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Designation / Nature of employment :

05. Act / Omission for which fine imposed :

06. Date of offence :

07. Whether workman showed cause against
fine :

08. Name of the person in whose presence
employee's explanation was heard :

09. Wage period & Wage payable :

10. Amount of fine imposed :

11. Date on which fine realised :

12. Remarks :

FORM - XXII

(See Rule 78 (1) (a) (ii) of Tamil Nadu Contract Labour Rules)

Register of Advance

- Name and Address of the Contractor :
- Nature and location of work :
- Name and address of establishment in/under which contractor is carried on :
- Name and address of Principal Employer :
01. Serial Number :
02. Name of workman :
03. Father's / Husband's Name :
04. Designation / Nature of employment :
05. Wage period and wages payable :
06. Date and amount of advance given :
07. Purposes (s) for which advance made :
08. No. of instalments by which advance to be repaid :
09. Date and amount of each instalment repaid :
10. Date on which instalment was repaid :
11. Remarks :

CONTRACTOR

FORM - XXIII

(See Rule 78(1) (a) (iii) of Tamil Nadu Contract Labour Rules)

Register of Overtime

Name and Address of the Contractor :

Nature and location of work :

Name and address of establishment in/under
which contractor is carried on :

Name and address of Principal Employer :

01. Serial Number :

02. Name of workman :

03. Father's / Husband's Name :

04. Sex :

05. Designation / Nature of employment :

06. Dates on which overtime worked :

07. Total overtime worked or production
in case of piece -rated :

08. Normal rate of wages :

09. Overtime rate of wages :

10. Overtime earning :

11. Date on which Overtime wages paid :

12. Remarks :

CONTRACTOR

PAYMENT CERTIFICATE

FORM "A"

Certified that :

1. I as contractor of
have made payment to all contract Labourers in full in respect of contract
No. as per terms of my contract
and in no case less than the rates applicable upto the period ending.
2. The above payment have been made by me in the presence of the au-
thorised representative of
of for
Employees amounting to Rs
3. The necessary payment registers attendance register / Form 12 . Leave
register / book under Laboure and industrial Law and other relevant records
have been maintained by me and available with me for production as and
when required .
4. No payment is due / outstanding to any contract Labourers engaged by
me in respect of the aforesaid contract upto the period ending
.....

CONTRACTOR

NAME :
DATE :

SUPERVISOR

NAME :
DESIGN :
DATE :

COUNTERSIGNED
OFFICER INCHARGE

NAME :
DESIGN :
DEPT. :

CONTRACTOR

ANNEXUR II
SAFETY RULES
(See Condition 2)

A BHEL SAFETY CODE

A

1. Suitable scaffolds shall be provided for workmen for all work that cannot safely be done from the ground, or from solid construction except such short period of work as can be done safely from ladder. When a ladder is used an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and handholds shall be provided on the ladder and the ladder shall be give an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{2}$ horizontal and 1 vertical)
2. Scaffolding or staging more than 3.25 metres above the ground or floor, swing or suspended from an overhead support or erected with stationary support, shall have a guard rail properly attached, bolted braced and otherwise secured atleast 1 metre high above the floor or platform of such scaffolding or staging and extending along the entire length of the outside and ends thereof with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platform, gangways and stairways shall be so constructed that they do not sag unduly or unequally, and if height of a platform or gangway or stairway is more than 3.25 metres above ground level or floor level it shall be closely boarded, have adequate width and be suitably fenced, as described in 2 above.
4. Every opening in floor of a building or in a working platform shall be provided with suitable means to prevent fall of persons or materials by providing suitable fencing or railing with a minimum height of 1 metre.
5. Safe means of access shall be provided to all working platform and other working places. Every ladder shall be securely fixed, no portable single ladder shall be over 9 metres in length. Width between side rails in a rung ladder shall in no case be less than 30 cm for ladders upto and including 3 metres in length, For longer ladder this width shall be increased by atleast 6mm for each additional 30cm of length. Uniform step spacing shall not exceed 30cm.

Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the sites shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and light to protect public from the accident and shall be bound to bear expenses of defence of every suit-action or other proceeding at law that may be brought by any person for injury sustained owing to neglect of the above precautions, and pay any damages and cost which may be awarded in any such suit, action or proceeding to any such person or which may with the consent of the contractor be paid to compromise any claim by such person.

6. Excavation and Trenching

All trenches 1.5 metres or more in depth, shall at all time be supplied with atleast one ladder for each 30m length or fraction there of ladder shall be extended from bottom of trench to atleast 1 metre above surface of the ground . Sides of the trench 1.5 metres or more in depth shall be stepped back to give suitable slope or securely held by timber bracing,so as to avoid the danger of sides collapsing . Excavated materials shall not be placed within 1.5 metres of the edge of trench or half the depth of trench, whichever is more. Cutting shall be from top to bottom under no circumstances shall under mining or under - cutting be done.

7. Demolition :

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

- a) All roads and open areas adjacent to the work site shall be closed or suitably protected .
 - b) No electric cable or apparatus which is liable to be a source of danger over a cable or apparatus used by the operator shall remain electrically charged.
 - c) All practical steps shall be taken to prevent danger to person employed from the risk of fire or explosion ,or flooding no floor , or roof or other part of building shall be so overloaded with debris or materials as to render it unsafe.
8. All necessary personal safety equipment as considered adequate by the Engineer-in-charge shall be /available for use of person employed on the site and maintained in a condition suitable for immediate use and the contractor shall take adequate steps to ensure proper use of equipment by those concerned.
- a) Workers employed on mixing asphaltic materials cement and lime mortars concrete shall be provided with protective footwear and protective gloves.
 - b) Those engaged in handling any material which is injurious to the eye shall be provided with protective goggles.
 - c) Those engaged in welding work shall be provided with welder's protective eye shells
 - d) Stone breaker shall be protective goggles and protective clothing and seated at sufficiently safe intervals.
 - e) When workers are employed in sewers and manholes which are in use , the contractor shall ensure that manhole covers are opened and manholes are ventiled atleast for an hour before the workers are allowed to get into them manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to public.
 - i) No paint containing lead or lead products shall be except in the form of paste or ready-made paint.
 - ii) Suitable face masks shall be supplied for use by workers when paint applied in the form of spray or surface having lead paint is dry rubbed and scrapped .

f) The contractor shall not employ men below the age of 18 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 precaution shall be taken :

A f i) No paint containing lead or lead products shall be used except in the form of paste or ready-made paint.

ii) Suitable face masks shall be supplied for use by workers when paint is applied in the form of spray or surface having lead paint is dry rubbed and scrapped

iii) Overalls shall be supplied by the contractor to workmen and adequate facilities shall be provided to enable working painters to wash during or cessation of work.

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

10. Use of hoisting machine and tackles including their attachments,anchorage and support shall conform to the following

a)

i) These shall be of good mechanical construction, sound materials and adequate strength and free from defects and shall be kept in good working order.

ii) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength and free from defects.

b) Every crane driver or hoisting appliance operator shall be properly qualified and no person under the age of 21 yrs shall be incharged of any hoisting machine including any scaffolding winch or give signals to operator.

c) In case of every hoisting machine and or every chain ,ring , hook, shackle swivel and pull block used in hoisting or lowering as means of suspension safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall have the safe working load plainly marked there on. In case of a hoisting machine having a variable safe working load,each safe working load at the condition under which it is applicable shall be clearly indicated. No part of any machine or gear referred to above in this paragraph shall be loaded be yond the safe working load except for the purpose of testing.

d) In case of department machine ,safe working load shall be notified by the Engineer-in-charge. As regards contractor's machine the contractor shall notify safe working load of each machine to the Engineer-in-charge when ever he brings it to site of work and get it verified by the Engineer-in-charge.

11. Motors , gearing , transmission electric wiring and other dangerous parts of hoisting appliances shall be provided with efficient safeguards. Hoisting appliances shall be provided with such means as will reduce to the minimum risk of accident descent of load . Adequate precaution shall be taken to reduce to the minimum risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energised insulating mats, working apparel such as gloves, sleeves and boots as may be necessary shall be provided. Workers shall not wear any rings watches , carry keys or other materials which are good conductors of electricity.
12. All scaffolds , ladders and other safety devices mentioned or described here in shall be maintained in a safe condition and no scaffold , ladder or equipment shall be altered or removed while it is use. Adequate washing facilities shall be provided at or near the places of work.
13. These safety provision shall be brought to the notice of all concerned by display on a notice board at a prominent place at the workspot persons responsible for ensuring compliance with the safety code shall be named thereon by the contractor.
14. To ensure effective enforcement of the rules and regulations relating to safety precaution , arrangement made by the contractor shall be open to inspection by the Engineer-in-charge or his representation and the inspecting officers as defined in the contractor's Labour Regulations.
15. Notwithstanding to the above conditions 1 to 14, the contractor is not exempted from the operation of any other Act or Rule in force.

B. GENERAL SAFETY PRECAUTIONS TO BE FOLLOWED AT WORK SITES DURING EXECUTION

The following safety measures should be strictly adhered to during execution of works at sites.

1. Providing the working platform with toe-board and handrail for continuous working at heights.
2. Providing safety belt and lifeline at all times for men working at heights.
3. Providing dust or fume respirator in places where dust and fume concentration exists
4. Providing goggles and welding screens.
5. Providing acid and alkali proof rubber gloves for handling acids, alkali and chemicals, which are corrosive.
6. Providing rubber gloves for working on electrical works.
7. Ensuring proper lashing of the components while being transported in vehicles.
8. The vehicles must have side supports or have body to support the materials conveyed.
9. The materials should not be allowed to extend or overflow the sides of vehicles.
10. Materials should not be allowed to overhang from the rear edge of the body of the vehicle.
11. Driver of the vehicle must possess license.
12. Vehicle must not be overloaded prescribed limits.
13. Red flags and lights for parts projecting from the body of the vehicle must be provided.
14. The speed restrictions within the factory must be strictly adhered to.
15. The gas cylinders must always be handled on trolleys or kept tied down not in use. They should never be rolled as Roller for conveying.
16. Cylinders should not be used without regulators.
17. All excavations may be barricaded and red belts/ lamps must be provided .
18. All electrical connections must be properly earthed.
19. No work should be taken up for execution inside shop floor, without obtaining necessary work permit.
20. Providing helmet for high level work.
21. The contractor should maintain a register regarding the driver license particulars.
22. All Personnel Protective Equipments (PPE) conform to standard specification as per the details given in the code of conduct.
 - (i) Safety helmets confirming to IS-2925: 1984
 - (ii) Safety Belts confirming to IS-3521: 1983
 - (iii) Safety Shoes confirming to IS-1989: 1978
 - (iv) Eye and face protection devices confirming to IS – 8520:1977 & IS – 8940:1978
 - (v) Hand and body protective devices confirming to: IS – 2573: 1975
IS – 6994: 1973
IS – 8807: 1978
IS – 8519: 1977

Contractor including the subcontractors, agents and labours engaged on work are required to scrupulously adhere to the safety regulations, safety precautions and measures. Any violation thereof will invite punitive action being taken against them. Also contractors with frequent violations of safety regulations will not be entrusted with further work in this organization.

General:

All tools, tackles, lifting appliances, material handling equipment, scaffolds, cradles, safety nets, ladders, equipment etc., used by the contractor shall be of safe design and construction. These shall be tested and certificate of fitness obtained, before putting them to use and from time to time as instructed by authorized BHEL official who shall have the right to ban the use of any item.

C. SAFETY PRECAUTION TO BE OBSERVED WHILE TRANSPORTING MATERIALS

I. Vehicle

1. Vehicle carrying materials should have proper registration documents and must be produced on demand by our Security staff.
2. The light on right side i.e. over the driver's cabin shall be in working condition
3. Both the head light as well as park lamps must be in working condition.

II. Movement of Vehicle

1. The vehicle should not travel at more than 20KMPH in our premises.
2. The driver of the vehicle must possess heavy duty licence and produce on demand by the Security Staff.
3. Vehicles carrying inflammable liquids in the tanks containers should have grounding chain or the tank container should be coated with insulating materials to avoid static electricity.
4. In road junction , speed breaker and Railway crossing the speed should be lowered and vehicles should proceed cautiously.
5. The driving should be ' keep to the left ' at all places.
6. The vehicles should not parked on the road which could obstruct the vehicular traffic.
7. No person other than driver should be allowed to sit or stand on the prime mover or trailer.
8. The vehicle should pass only through the approved routes. Short cuts should be forbidden.
9. There must be a safe distance behind another moving truck.
10. The driver should avoid making quick starts, jerk stop or quick turns at excessive speed .

III Shipping

1. Strong side supports should be provided on both sides of the trailer. The side supports should be fixed in such a way that it cannot be removed even temporarily.
2. Adequate packing must be given for easy slinging operations. The packing materials should be good enough to withstand the load.
3. The stacking of loads on the truck should be evenly placed. The load should not be heaped together or dumped over the chassis.
4. The load on the truck should not be beyond its standard capacity. The carrying capacity must be clearly marked on the trailers also.
5. The loaded materials should be fastened tightly with "WIRE ROPE". Manila rope or coir rope should not at all be used. There must be side packing such as gunny or rubber tyre between the sharp edges of the job and wire rope in order to avoid cut in the wire rope.
6. There must be minimum two fastening and it should be more in case of lengthier loads.
7. The wire rope should be in sound condition i.e there should not be links, knots or bristles etc.
8. The wire rope ends should be clamped with 'U' clamps.
9. The loose pieces should be bundled before loading on the truck.
10. There must be red flags or red lamps for the lengthly loads which extend beyond chassis.
11. The materials should not be stacked too high to avoid hitting against live electric lines.
12. The load should not be overhanging more than 0.9 metres from the end of body.
13. While transporting the scraps, there must be wire net cover to prevent falling of scrap.

IV General

1. The vehicles should not be moved directly inside the production building in case the materials are to be unloaded there. But the vehicles should be parked outside the building and the driver should ascertain the passage as well as the unloading points, with the help of the shop officials. This will avoid the congestion or blocking of traffic in the gangway.