

TENDERER'S COPY

TENDER NO.: DLI/BHAT3&4/R&M-INFRA/07_051

TENDER SPECIFICATION

FOR

**CONSTRUCTION OF STORAGE SHED AND OTHER
INFRASTRUCTURE FACILITIES FOR R&M WORKS OF 2 X 110
MW GURU NANK DEV THERMAL POWER STATION, UNITS 3 &
4, AT BATHINDA, DISTRICT BATHINDA,
STATE OF PUNJAB, INDIA.**

PART I – TECHNICAL BID



Bharat Heavy Electricals Limited
(A Govt. Of India Undertaking)
Power Sector – Northren Region,
Plot No. 25 , Sector - 16A ,
Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA



ISO 9001-2000, ISO 14001
and OHSAS 18001 certified
Company

Regional Service Centre

Bharat Heavy Electricals Limited

(A Govt. Of India Undertaking)

Power Sector – Northren Region,

Plot No. 25 , Sector - 16A ,

Distt. Gautam Budh Nagar, NOIDA – 201 301.INDIA

Phone: 0091-0120-2515408 / 2515441 / 2515449

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TENDER NO. BHEL: [DLI/BHAT3&4/R&M-INFRA/07_051](#)

IMPORTANT NOTE

PURCHASER OF THIS TENDER DOCUMENT IS ADVISED TO CHECK AND ENSURE COMPLETION OF ALL PAGES OF TENDER DOCUMENT AND REPORT ANY DISCREPANCY TIMELY FOR CORRECTIVE ACTION, IF ANY, TO THE ISSUING AUTHORITY BEFORE THE BIDS ARE SUBMITTED. ORIGINAL COPY OF TENDER DOCUMENT COMPLETE IN ALL RESPECTS MUST BE SUBMITTED BACK AS PART OF THE BID WITHOUT WHICH THE SAME IS LIABLE TO BE REJECTED BY BHEL.

THIS TENDER SPECIFICATION ISSUED TO:

M/S-----

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TENDER NOTICE

Sealed tenders are invited from the contractors fulfilling qualifying requirements for the “ Construction of storage shed and other infrastructure facilities at 2 X 110 MW Guru Nanak Dev Thermal Power Station, units 3 and 4, at Bathinda, District Bathinda, State of Punjab, India.”

[DLI/BHAT3&4/R&M-INFRA/07_051](#)

QUALIFYING REQUIREMENTS:

1.0 Tenderers who wish to participate must have carried out, during last five years as on 31.03.2007,

1.1) One single contract of civil work of value of at least Rs.90 lacs or more.

‘OR’

1.2) Two contracts of civil work with value of each contract at least Rs. 55 lacs each or more.

‘OR’

1.3) Three contracts of civil work with value of each contract at least Rs. 45 lacs each or more.

‘AND’

2.0 Party should also have an average annual turnover of minimum of Rupees **120 lacs** during preceding three years ([04-05](#), [05-06](#) and [06-07](#)).

NOTES:

- (i) The Tender Documents comprise of following;
 - (a) General Conditions of Contract, Special Conditions of Contract, Tender Notice, Project Synopsis etc.
 - (b) General Scope of Work
 - (c) BOQ cum Rate Schedule
 - (d) Sketches

- (ii) Tender Documents with complete details are hosted in this web page. Bidder(s) intending to participate may download the tender document from the web site. Bidder(s) downloading the tender documents from the web site, shall remit Rs.1000/- (Rupees One thousand only) in the form of crossed demand draft (non-refundable), in favour of BHEL, NOIDA along with their offer
- (iii) Bidder(s) can also purchase hard copy of tender documents from this office. Tender documents (non transferable) will be issued on all working days between 09.30 Hrs. to 12.30 Hrs within the sale period i.e **upto 13.08.2007** on payment of Rs.1,000/- (non-refundable) either in cash or by crossed demand draft in favor of BHEL, NOIDA. Request for issue of tender document should clearly indicate Tender No. and work.
- (iii) Tenders must be submitted to the undersigned **latest by 14:30Hrs 14.08.2007**. Technical bids shall **be opened at 15.30 Hrs. on 14.08.2007**.
- (iv) Earnest Money Deposit (EMD) : Refundable, Non-interest bearing **EMD of Indian Rupees 1,00,000/-** shall be deposited by Account Payee Pay Order 'OR' Demand Draft in favour of " Bharat Heavy Electricals Limited" payable at Delhi, INDIA. Those bidders who have already deposited 'One Time 'EMD' of Rs. **1,00,000/-** with BHEL, PSNR, NOIDA need not submit EMD with the present tender.
- (v) Tenders not accompanied with Full Earnest Money Deposit, as indicated above, will not be considered.
- (vi) The Tenderers shall submit both techno-commercial bid(part-1) and Price bid(part-II) in two separately sealed envelopes. These two sealed bids shall be kept in third sealed envelope as per the procedure for submission of sealed bid.
- (vii) BHEL reserves the right to process the tender on Reverse Auction basis amongst the bidders evaluated as competent in techno-commercial bid.
- (viii) Only the technically competent parties emerged in evaluation of the technical bids shall be called for training in reverse auction process for which no TA & DA or accommodation or incidental expenses shall be borne/re-imbursed by BHEL. As such participation in the Reverse Auction training process shall be at the cost of the Tenderers . However the training shall be free of cost.
- (ix) **No deviations to the tender conditions shall be accepted**. Tenders with deviation or ambiguity shall be summarily rejected.
- (x) The Tenderers shall submit duly signed blank Price Bid formats along with technical bid as a token of acceptance to quote for all quantities indicated therein.
- (xi) In the event of reverse auction, only **"Total Value"** indicated in the Sealed Price Bid shall be considered for Bidding Process.

- (xii) At the conclusion of the reverse auction, the successful bidder's final price offer (quote) shall be considered and the item rates in the Price Bid format shall be reduced in proportion to the original sealed price bid of the successful bidder.
- (xiii) All corrigenda, addenda, amendments and clarifications to this Tender will be hosted in this web page and not in the newspaper. Bidders shall keep themselves updated with all such amendments.
- (xiv) BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
- (xv) BHEL takes no responsibility for any delay/loss of documents or correspondences sent by courier/post.
- (xvi) Purchase Preference will be given to CPSUs as per Govt. Guidelines.
- (xvii) **Unsolicited rebate / discount shall not be accepted after bid opening**

Regional Service Manager



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DOMESTIC NOTICE INVITING TENDER

LAST DATE OF SALE : **13.08.2007.**

DATE OF OPENING (TECHNICAL BIDS) : **14.08.2007.**

| NIT NO. / NAME OF WORK |
|---|
| <p style="text-align: center;">TENDER NO.: DLI/BHAT3&4/R&M-INFRA/07_051</p> <p>Sealed tenders are invited from the contractors fulfilling qualifying requirements for the “ Construction of storage shed and other infrastructure facilities at 2 X 110 MW Guru Nanak Dev Thermal Power Station, units 3 & 4, at Bathinda, District Bathinda, State of Punjab, India.”</p> |

NOTES

1. Purchase Preference will be given to CPSU as per Govt. Guidelines.
2. Please visit our website at www.bhel.com for details of NIT including Qualifying Requirements.

Regional Service Manager

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(A Govt. Of India Undertaking)
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PROCEDURE FOR SUBMISSION OF SEALED TENDERS:

The tenderers must submit their tenders as required in two parts in separate sealed covers prominently superscribed as Part-I Technical bid and Part-II ,Price bid also indicating on each of the cover tender specification no., date and time as mentioned in tender notice.

TECHNICAL BID (COVER-I)

Except Price bid Part-II, complete set of tender document consisting of General conditions of Contract, “Technical specification & Special terms and condition” (Part-I) issued by BHEL shall be enclosed in Part I Technical Bid only. All schedules, data sheets and details called for in the specification shall also be submitted along with technical bid. All details / Data / Schedules including offer letter duly signed and stamped are to be submitted in duplicate.

PRICE BID (COVER-II)

Tenderers may please note that price bid is to be submitted only in original copy of Tender i.e. Price bid (Part-II) issued by BHEL and no duplicate copy of same is required.

These Two separate covers i.e. cover I & II shall together be enclosed in a third envelope (Cover-III) and this sealed cover shall be superscribed with tender specification No., due date, time and submitted to officer inviting tender as indicated in tender notice on or before due date as indicated.

PROJECT SYNOPSIS

M/S Punjab State Electricity Board, Bathinda, a State Government Undertaking with head office at Patiala, Punjab has entrusted BHEL for Renovation and Upgrading of Unit No. 3 & 4 from 110 MW to 120 MW at Guru Nanak Dev Thermal Power Station, Bathinda, Punjab (India). The Thermal power station at Bathinda is coal-based powerhouse of BHEL make.

The site location is about 250 KM north of New Delhi (Capital of India) and 225 KM from Chandigarh (Capital of Punjab). The nearest railway station is Bathinda and about 6 KM from Thermal Plant. The nearest domestic and international airport is Chandigarh & New Delhi. The site is well connected with Road and Rail.

All bidders are advised to visit site and acquaint themselves with the condition prevailing at site before quoting for the work.

General Conditions of Contract

SECTION- I

GENERAL INSTRUCTIONS TO TENDERERS

1. This tender specification as a whole, furnishing all the details and other documents as required in the following pages, shall be duly signed and sent in a sealed cover (IN DUPLICATE) super-scribing the name of work as given in the tender notice.
2. The tender shall be addressed to : OFFICER INVITING TENDER AS INDICATED IN THE TENDER NOTICE.
3. Tenders submitted by post shall be sent as "**REGISTERED/ SPEED/ COURIER POST** " and shall be posted with due allowance for any postal delay. The tenders received after the due date and time of opening are liable to be rejected. Offers received by Telegram/telex/ Fax/ E-mail/ Internet may be considered as per terms of NIT.
- 4 Tenders shall be opened at the time and date as specified in the tender notice in the presence of such of those tenderers or their authorised representatives who may be present.
- 5 The tenderers shall closely peruse all the clauses, specifications and drawings indicated in the Tender Documents before quoting. Should the tenderer have any doubt about the meaning of any portion of the Tender Specifications or find discrepancies / omission in the Drawings or the tender documents issued are incomplete or shall require clarification on any of the technical aspect, scope of work etc., he shall atonce contact the authority inviting the tender for clarification before the submission of the tender.
- 6 Before tendering, the tenderers are advised to inspect the site of work and the environments and be acquainted with the actual working and other prevalent conditions, facilities available, position of material and labour. No claim will be entertained later on grounds of lack of knowledge.
- 7 Tenderer must fill up all the schedules and furnish all the required information as per the instructions given in various sections of the tender specification. Each and every page of the Tender Specification must be SIGNED, STAMPED AND SUBMITTED ALONG WITH THE OFFER by the Tenderer in token of complete acceptance thereof. The information furnished shall be complete by itself.
- 8 The tenderer shall quote the rates in English Language and international numerals. These rates shall be entered in figures as well as in words. In case of difference in rates between words and figures THE LESSER OF THE TWO will be treated as valid rate. For the purpose of tender, the metric system of units shall be used.
- 9 All entries in the tender shall either be typed or be written in ink. Erasure and over writings are not permitted and may render such tenders liable to summary rejection. All cancellations and insertions shall be duly attested by the tenderer.
- 10 **QUALIFICATIONS OF TENDERERS** : Only tenderers who have previous experience in the work of this nature and description detailed in this tender specification are expected to quote for this work. Offers from tenderers who do not have proven and established experience in the field are not likely to be considered.
- 11 **DATA TO BE ENCLOSED** : Full information shall be given by the tenderer in respect of the following.
Non submission of these information may lead to rejection of the offer.
 - 11.1 **FINANCIAL STATUS** : Financial viability as per proforma enclosed at **ANNEXURE-`A`**
 - 11.2 **INCOME TAX CERTIFICATES** : A Certificate of Income tax clearance from the appropriate authority in the forms prescribed therefor duly indicating annual turnover. These certificates shall be valid for one year from the date of issue or for the period prescribed therein for all tenders submitted during the period.
 - 11.3 **PREVIOUS EXPERIENCE** : A statement giving particulars (duly supported by documentary evidence) of the various service rendered in progress for each similar works by the tenderer indicating the particulars and value of each work, the site location, the duration, date of completion etc., strictly as per proforma enclosed at **ANNEXURE-B.**
 - 11.4 **ORGANISATION CHART** : The organisation pattern that are totally available with him and that will be employed by the tenderer for this work in the form of monthwise and categorywise deployment plan duly indicating the number of Engineers, Supervisors, skilled and unskilled workers etc., as per proforma enclosed at **ANNEXURE-`C`.**
 - 11.5 An attested copy of the **Power of Attorney**, in case the tender is signed by an individual other than the sole Proprietor, shall also be attached.
 - 11.6 **IN CASE OF AN INDIVIDUAL** : His full name, experience, address and nature of business.
OR
IN CASE OF PARTNERSHIP FIRMS : The names of all the partners with addresses and their experience.
A copy of the partnership deed/ instrument of Partnership duly certified by a Notary Public shall be enclosed.
OR
IN CASE OF COMPANIES : Date and place of registration including date of commencement certificate in case of public companies and the nature of business carried or by the Company. Certified copies of

memorandum and Articles of Association are also to be furnished. Also indicate names, addresses and experience of the Directors.

11.7 A list of tools and tackles (including cranes, tractor-trailers, winches, Derricks, welding sets etc., wherever applicable) that the tenderer is having and those that will be deployed on this job as per proforma enclosed at **ANNEXURE-`D`**.

11.8 Analysis of unit rate quoted as per proforma enclosed at **ANNEXURE-`E`**.

11.9 Declaration sheet as per proforma enclosed at **ANNEXURE-`F`**.

11.10 In addition to the above, the particulars required elsewhere in tender documents.

11.11 Checklist and schedule of general particulars duly filled in, signed and stamped as per **ANNEXURE-`G`**.

NOTE : In terms of clauses 11.1 to 11.11 above, all the data required to be enclosed with the tender need to be furnished neatly typed, signed and stamped in the given formats only (in the form of separate sheets) failing which the tender may be considered as incomplete and is liable for rejection.

Documentary proofs wherever necessary also need to be enclosed.

12 **EARNEST MONEY DEPOSIT** : Every tender must be accompanied by the prescribed amount of Earnest Money Deposit in any one of the following forms.

NOTE : Bank Guarantee, Cheques, Currency Notes, Money Orders or Postal Orders will not be accepted.

12.1 **Cash(As permissible under Income Tax Act)** : The amount should be remitted by the party to the Cashier of Bharat Heavy Electricals Limited and cash receipt issued by him shall be enclosed alongwith the tender.

12.2 Pay Order or Demand Draft in favour of Bharat Heavy Electricals Limited, Noida.

12.3 Tenders received without Earnest Money in full in the manner prescribed above will not be considered.

12.4 The Earnest Money Deposit of the successful tenderer will be retained towards part of Security Deposit.

12.5 In the case of unsuccessful tenderers, the Earnest Money will be refunded normally within fifteen days of acceptance of award of work by the successful tenderer.

12.6 BHEL reserves the right of **forfeiture of Earnest Money deposit** in case the successful tenderer,
(a). After opening of Tender, revokes his tender within the validity period or increases his earlier quoted rates.

(b) 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.

12.7 EMD shall not carry any interest.

12.8 Tenderers, who so ever desires, may deposit one time Earnest Money Deposit of Rs. 2,00,000/- in cash(**As permissible under Income Tax Act**) /DD/pay order only with the cashier of BHEL.

Tenderers who furnish one time EMD as above, will not be required to furnish EMD time and again alongwith their tenders submitted to BHEL/ PSNR. However they will be required to indicate the cash receipt No. and date of one time EMD in all their tenders.

13 **AUTHORISATION AND ATTESTATION** : Tenders shall be signed by persons duly authorised / empowered to do so. Certified copies of such authority and relevant documents shall be submitted alongwith the tenders.

14 **VALIDITY OF OFFER** : *THE OFFER SHALL BE KEPT OPEN FOR ACCEPTANCE FOR A MINIMUM PERIOD OF SIX MONTHS FROM THE DATE OF OPENING OF TENDERS.* In case Bharat Heavy Electricals Limited calls for negotiations, such negotiations shall not amount to cancellation or withdrawal of the original offer which shall be binding on the tenderers.

15 **EXECUTION OF CONTRACT** :The successful tenderer's responsibility under this contract commences from the date of issue of the Letter of Intent by Bharat Heavy Electricals Limited. The successful tenderer shall be required to execute an agreement in the prescribed form as per **ANNEXURE-`I`** with the BHEL within a reasonable time after the acceptance of his tender and in any case before submitting the first bill for payment.

16 **SECURITY DEPOSIT** : Upon acceptance of tender, the successful tenderer must deposit the required amount of security deposit within the time specified in the Letter of Intent for satisfactory completion of work.

16.1 The total amount of Security Deposit shall be as follows :

(a) In case of work costing upto 10 lakhs : 10% of the contract value.

(b). In case of work costing above Rs 10 lakhs and upto Rs 50 lakhs : 1 Lakh + 7.5 % of the amount exceeding Rs. 10 Lakhs.

(c). In case of work costing more than Rs 50 lakhs : 4 Lakhs + 5 % of the amount exceeding Rs. 50 Lakhs.

16.2 The Security Deposit will be deposited within 15 days from the date of issue of Letter of Intent but before start of work in any one of the following forms :-

(a). The total Security Deposit as indicated in the Letter of Intent in **cash** (As permissible under Income Tax Act).

- (b) Pay Order, Demand Draft in favour of BHEL.
- c) Local cheques of scheduled banks, subject to realization.
- d) 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).
- e) 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.
- f) 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.
- g) 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.
- h) EMD of the successful tenderer shall be converted and adjusted against the security deposit.

16.3 The security deposit shall not carry any interest.

NOTE: Acceptance of Security Deposit against Sl. No. (d) and (f) 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.

16.4 Security deposit shall not be refunded to the contractor except in accordance with the terms of the contract.

16.5 The validity of the Bank Guarantee furnished towards Security Deposit under (e) above shall be upto the period of completion of work as stipulated in the Letter of Intent + 1 month and the same will be kept valid by proper renewal till the satisfactory completion of the Guarantee Period.

16.6 If the value of the work done at any time exceeds the accepted agreement value, the Security Deposit shall be correspondingly enhanced and the extra Security Deposit shall be immediately deposited by the Contractor or recovered from payments due to him.

16.7 Failure to deposit the Security Deposit within the stipulated time, may lead to forfeiture of Earnest Money Deposit and Cancellation of the award of work.

16.8 If any part of Security Deposit of the Contractor is held in the form of approved securities, it shall be kept transferred in the name of Bharat Heavy Electricals Limited, in such a manner that the same can be realised fully without referring to the Contractor. BHEL shall not be responsible for any depreciation in the value of the Security while in BHEL's custody or for any loss of interest thereon.

16.9 BHEL reserves the right of **forfeiture of Security Deposit** in addition to other claims and penalties in the event of the contractor's failure to fulfil any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit, against any claims of any other contracts with BHEL.

16.10 **RETURN OF SECURITY DEPOSIT** : If the contractor fully performs and completes the work in all respects to the entire satisfaction of BHEL and presents an absolute "**No Demand Certificate**" in the prescribed form and returns properties belonging to BHEL taken, borrowed or hired by him for carrying out the said works, half the amount of Security Deposit will be released to the contractor after deducting all costs, expenses and other amounts that are to be paid to BHEL under this or other contracts entered into with the Contractor. It may be noted that in no case the Security Deposit shall be refunded / released prior to passing of final bill. Balance half of the amount of Security Deposit will be released only after the Guarantee Period is over.

NOTE : All the BGs are to be submitted as per BHEL/PSNR performa.

17 **No interest** shall be payable by BHEL on Earnest Money Deposit, Security Deposit or on any moneys due to the contractor.

18 REJECTION OF TENDER AND OTHER CONDITIONS :

18.1 The acceptance of Tender will rest with BHEL which does not bind itself to accept the lowest tender or any tender and reserves to itself full rights for the following without assigning any reasons whatsoever.

(a) To reject any or all of the tenders.

(b) To split up the work amongst two or more Tenderers.

(c) To award the work in part.

(d) In either of the contingencies stated in (b) and (c) above to modify the time for completion suitably.

18.2 Conditional and un-witnessed tenders, tenders containing absurd or unworkable rates and amounts, tenders which are incomplete or otherwise considered defective and tenders not in accordance with the tender conditions, specifications, etc., are liable to be rejected.

- 18.3 If a tenderer expires after the submission of his tender or after the acceptance of his tender, BHEL may at its discretion, cancel such tender. If a partner of a firm expires after the submission of the tender or after the acceptance of the tender, BHEL may cancel such tender at its discretion unless the firm retains its character.
- 18.4 BHEL will not be bound by any Power of Attorney granted by the tenderer or by changes in the composition of the firm made subsequent to the execution of the contract. BHEL may, however, recognise such Power of Attorney and changes after obtaining proper legal advice, the cost of which will be chargeable to the contractor concerned.
- 18.5 If the tenderer deliberately gives wrong information in his tender, BHEL reserves the right to reject such tender at any stage or to cancel the contract, if awarded and forfeit the Earnest Money/ Security Deposit/ any other moneys due.
- 18.6 Canvassing in any form in connection with the tender is strictly prohibited and the tenders submitted by the contractor who resorts to canvassing are liable to be rejected.
- 18.7 Should a tenderer or contractor or in the case of a firm or Company of contractors/ one or more of its Partners/ share holders / Directors have a relation or relations employed in BHEL, the authority inviting tender shall be informed to the fact alongwith the offer, failing this BHEL may, at its sole discretion reject the tender or cancel the contract and forfeit the Earnest Money/ Security Deposit
- 18.8 The successful tender should not sub-contract the part or complete work detailed in the tender specification without written permission of BHEL. The tenderer is solely responsible to BHEL for the work awarded to him.
- 18.9 NO DEVIATIONS to the tender conditions will be accepted.**

SECTION - II
GENERAL TERMS AND CONDITIONS

- 19.0 The following terms and expressions shall have the meaning hereby assigned to them except where the context otherwise requires.
- 19.1 **BHEL** (or B.H.E.Ltd.) shall mean Bharat Heavy Electricals Limited, a Company registered under the Indian Companies Act, 1956, with its Registered Office at BHEL HOUSE, SIRI FORT, NEW DELHI-110049 or its authorised officers or its Engineer or other employees authorised to deal with any matters with which these persons are concerned, on its behalf.
- 19.2 **GENERAL MANAGER** shall mean the Officer in Administrative charge of the contracting Unit of BHEL.
- 19.3 **ENGINEER** or **ENGINEER-IN-CHARGE** shall mean Engineer deputed by BHEL. The terms includes Deputy General Manager, Construction Manager, Resident Manager, Site Engineer, Resident Engineer and Assistant Site Engineer of BHEL at the site as well as the officers in charge at Head Office.
- 19.4 **SITE** shall mean the place or places at which the plants/ equipment are to be erected and services are to be performed as per the specifications of this Tender.
- 19.5 **CLIENTS OF BHEL** or **CUSTOMER** shall mean the project authorities to whom BHEL is supplying the equipment.
- 19.6 **CONTRACTOR** shall mean the individual, firm or company who enters into contract with BHEL and shall include their executors, administrators, successors and permitted assigns.
- 19.7 **CONTRACT** or **CONTRACT DOCUMENT** shall mean and include the agreement, the work order, the accepted appendices of rates, Schedules of Quantities, if any, General Conditions of Contract, Special Conditions of Contract, Instructions to Tenderers, the drawings, the technical specifications, the special specifications, if any, the tender documents and the Letter of Intent/ Acceptance letter issued by BHEL. Any conditions or terms stipulated by the tenderer in the tender documents or subsequent letters shall not form part of the Contract unless specifically accepted in writing by BHEL in the Letter of Intent and incorporated in the Agreement.
- 19.8 **GENERAL CONDITIONS OF CONTRACT** shall mean the 'Instructions to Tenderers' and 'General Conditions of Contract' pertaining to the work detailed.
- 19.9 **TENDER SPECIFICATIONS** shall mean the Special Conditions, Technical Specifications, appendices, Site information and drawings pertaining to the work for which the tenderers are required to submit their offer. Individual Specifications Number will be assigned to each tender specifications.
- 19.10 **TENDER DOCUMENTS** shall mean the General Conditions of Contract (19.8) and Tender Specifications (19.9).
- 19.11 **LETTER OF INTENT** shall mean the intimation by a letter / telegram / telex / fax to the tenderer that the tender has been accepted in accordance with provisions contained in the letter. The responsibility of the contractor commences from the date of issue of this letter and all the terms and conditions of contract are applicable from this date.
- 19.12 **COMPLETION TIME** shall mean the period by date specified in the Letter of Intent or date mutually agreed upon for handing over the erected equipment/ plant which are found acceptable by the Engineer being of required standard and conforming to the specifications of the Contract.
- 19.13 **PLANT** shall mean and connote the entire assembly of the plant and equipment covered by the Contract.
- 19.14 **EQUIPMENT** shall mean all equipment, machineries, materials, structurals, electricals and other components of the plant covered by the Contract.
- 19.15 **TESTS** shall mean and include such test or tests to be carried out by the contractor as are prescribed in the Contract or considered necessary by BHEL in order to ascertain the quality, workmanship, performance and efficiency of the contracted work or part there of.
- 19.16 **APPROVED**, **DIRECTED** or **INSTRUCTED** shall mean approved, directed or instructed by BHEL.
- 19.17 **WORK** or **CONTRACT WORK** shall mean and include supply of all categories of labour, specified consumables, tools and tackles required for complete and satisfactory site transportation, handling, stacking, storing, erecting, testing and commissioning of the equipment to the entire satisfaction of BHEL.
- 19.18 **SINGULAR** and **PLURAL** etc. Words carrying singular number shall also include plural and vice versa where the context so requires. Words importing masculine gender shall be taken to include the feminine gender and words importing persons shall include any Company or Association or Body of Individuals, whether incorporated or not.
- 19.19 **HEADINGS** The headings in these General Conditions are solely for the purpose of facilitating reference and shall not be deemed to be part thereof or be taken into consideration in the interpretation or construction thereof or the contract.
- 19.20 **MONTH** shall mean calendar month.

- 19.21 **"WRITING"** shall include any manuscript, type written or printed statement under the signature or seal as the case may be.
- 20 **LAW GOVERNING THE CONTRACT AND COURT JURISDICTION:** The Contract shall be governed by the Law for the time being in force in the Republic of India. The Civil Court at Delhi/ New Delhi, having ordinary Original Civil Jurisdiction shall alone have exclusive jurisdiction in regard to all claims in respect of this Contract.
- 21 **ISSUE OF NOTICE** The Contractor shall furnish to the Engineer, the name, designation and address of his authorised agent and all complaints, notices, communications and references shall be deemed to have been duly given to the Contractor, if delivered to the Contractor or his authorised agent or left at or posted to the address either of the contractor or his authorised agent and shall be deemed to have been so given in the case of posting on the day on which they would have reached such address in the ordinary course of post or at which they were so delivered or left.
- 22 **USE OF LAND** No land belonging to BHEL or its customer under temporary possession of BHEL shall be occupied by the Contractor without the written permission of BHEL.
- 23 **COMMENCEMENT AND COMPLETION OF WORK**
- 23.1 The contractor shall commence the work within the time indicated in the Letter of Intent and shall proceed with the same with due expedition without delay.
- 23.2 If the successful tenderer fails to commence the work within the stipulated time, BHEL, at its sole discretion, will have the right to cancel the contract. His Earnest Money and/ or Security Deposit will stand forfeited without any further reference to him without prejudice to any and all of BHEL's other rights and remedies in this regard.
- 23.3 All the works shall be carried out under the direction and to the satisfaction of BHEL.
- 23.4 The transported equipment, erected /constructed plant or work performed under the Contract, as the case may be, shall be taken over when it has been completed in all respects and/or satisfactorily put into operation at site.
- 24 **MEASUREMENT OF WORK AND MODE OF PAYMENT**
- 24.1 All payments due to the contractor shall be made by 'Account Payee' Cheques.
- 24.2 For progress/ running bill payments, the contractor shall present detailed measurement sheets in triplicate duly indicating all relevant details based on technical documents and connected drawings for the work done during the month/ period under different categories in line with terms of payment as per Letter of Intent. The basis of arriving at the quantities/ weights shall be the relevant documents and drawings released by BHEL. These measurement sheets shall be prepared jointly with Engineer and signed by both the parties.
- 24.3 These measurement sheets will be checked by the Engineer and quantities and percentages eligible for payment under different groups shall be decided by him. The abstract of quantities and percentages so arrived at based on the terms of payment shall be entered in the **Measurement Book and signed by both the parties.**
- 24.4 Based on the above quantities, contractor shall prepare the bills in the prescribed proforma and work out the financial value. These will be entered in the Measurement Book and signed by both the parties. Payment shall be made by BHEL after effecting the recoveries due from the contractor.
- 24.5 All recoveries due from the contractor for the month / period shall be effected in full from corresponding running bills unless specific approval from Competent authority is obtained to the contrary.
- 24.6 Measurement shall be restricted to that quantity for which it is required to ascertain the financial liability of BHEL under this contract.
- 24.7 Measurement shall be taken jointly by persons duly authorised by BHEL and the Contractor.
- 24.8 The Contractor shall bear the expenditure involved, if any, in making the measurements and testing of materials to be used/ used in the work. The Contractor shall, without extra cost to BHEL, provide all the assistance with appliances and other things necessary for measurement.
- 24.9 If, at any time due to any reason whatsoever, it becomes necessary to re-measure the work done, in full or in part, the expenses towards such remeasurement shall be borne by the Contractor.
- 24.10 ***Passing of bills covered by such measurements does not amount to acceptance by BHEL of the completion of the work measured. Any left out work has to be completed by the Contractor, as directed.***
- 24.11 Final measurement bill shall be prepared in the proforma prescribed for the purpose, based on the certificate issued by the Engineer that the entire work as stipulated in the tender specifications has been completed in all respects to the entire satisfaction of BHEL. The Contractor shall give unqualified 'No Claim' and 'No Demand' certificates. All the tools and tackles loaned to him should be returned in condition satisfactory to BHEL. The abstract of final quantities and financial values shall also be entered in the Measurement Book and signed by both the parties. The final bill shall be paid within a reasonable time after completion of the work. After the payment of final bill, only the guarantee obligation percentage value shall remain unpaid which shall be released in accordance with clause 32.

25 RIGHTS OF BHEL

BHEL reserves to itself the following rights in respect of this contract without entitling the contractor to any compensation.

- 25.1 To get the work done through another agency at the risk and cost of the contractor, in the event of poor progress or the contractor's inability to progress the work for completion as stipulated in the contract, poor quality of work, persistent disregard of instructions of BHEL, assignment, transfer, subletting of the contracted work without written permission of BHEL, non-fulfillment of any contractual obligations etc. and to claim / recover compensation for such losses from the contractor including BHEL's supervision charges and overheads from Security Deposit/ other dues.
- 25.2 To withdraw any portion of work and / or to restrict / alter quantum of work as indicated in the contract during the progress of work and get it done through another agency and/ or by the departmental labour to suit BHEL's commitments to its customer or in case BHEL decides to advance the completion due to other emergent reasons/ BHEL's obligation to its customer.
- 25.3 To terminate the contract after due notice and forfeit the Security Deposit and recover the loss sustained in getting the balance work done through other agencies in addition to liquidated damages in the event of :
- (a) Contractor's continued poor progress.
 - (b) Withdrawal from or abandonment of the work before completion of the work.
 - (c) Corrupt act of the contractor.
 - (d) Insolvency of the contractor.
 - (e) Persistent disregard of the instructions of BHEL.
 - (f) Assignment, transfer, subletting of the contract work without BHEL's written permission.
 - (g) Non-fulfillment of any contractual obligations.
- 25.4 To recover any moneys due from the Contractor from out of any moneys due to the Contractor under this or any other Contract or from the Security Deposit.
- 25.5 To claim compensation for losses sustained including BHEL's supervision charges and overheads in case of termination of contract and to levy liquidated damages for delay in completion of work, at the rate of 1/2% of the contract value per week of delay or part thereof subject to a ceiling **of 10% of the contract value.**
- 25.6 To determine the Contract or to restrict the quantum of work and pay for the portion of work done in case BHEL's contract with its customer is terminated for any reason.
- 25.7 To effect recoveries from any amounts due to the contractor under this or any other contract or in any other form the moneys which BHEL is forced to pay to anybody due to contractor's failure to fulfil any of his obligations.
- 25.8 To restrict or increase the quantity and nature of work to suit site requirements, since the tender specification is based on preliminary documents and quantities furnished therein are indicative and approximate and the rates quoted shall not be subject to revision.
- 25.9 To deploy BHEL's skilled and semiskilled workmen in case of emergency / poor progress/ deficiency in skill on the part of the employees of the contractor and to recover the expenditure on account of the same from the moneys due to the contractor.
- 25.10 While every endeavor will be made by BHEL to this end, BHEL can not guarantee uninterrupted work due to conditions beyond its control. The Contractor will not be entitled to any compensation/ extra payment on this account.
- 25.11 In the event of any dispute of technical nature, the decision of BHEL shall be final and binding on the Contractor.

26 RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF LOCAL LAWS, EMPLOYMENT OF WORKERS, ETC.

The following are the responsibilities of the Contractor in respect of observance of local laws, employment of personnel, payment of taxes etc.:

- 26.1 As far as possible, unskilled workers shall be engaged from the local areas in which the work is being executed.
- 26.2 The contractor at all times during the continuance of this contract, shall in all his dealings with the local labour for the time being employed on or in connection with the work, have due regard to all local festivals, religious and other customs.
- 26.3 The Contractor shall comply with all State and Central Laws, Statutory Rules, Regulations, etc., such as the payment of wages Act, The Minimum Wages Act, The workmen's Compensation Act, The Employer's Liability Act, The industrial Disputes Act, The Employees' Provident Fund Act, Employees' State Insurance Scheme, the Contract Labour (Regulations and Abolition Act, 1970) and other Acts, Rules and Regulations for labour as may be enacted by the Government during the tenure of the Contract and having force or jurisdiction at site. The contractor shall give to the local

- Governing Body, Police and other concerned Authorities all such notice as may be required under law.
- 26.4 The Contractor, in the event of his engaging 20 or more workmen, will obtain independent license under the Contract Labour (Regulations and Abolition Act, 1970) from the concerned authorities based on the certificate (Form-V) issued by the principal employer/ customer.
- 26.5 The contractor shall pay all taxes, fees, license charges, deposits, duties, tolls, royalty, commissions or other charges which may be leviable on account of any of his operations connected with this contract. In case BHEL is forced to make any such payment, BHEL shall recover the same from the contractor either from moneys due to him or otherwise as deemed fit.
- 26.6 While BHEL will pay the **inspection fees of the Boiler/ Electrical** Inspectorate, all other arrangements for the periodical visits of Boiler/ Electrical Inspector to site, inspection certificates etc. will have to be made by the contractor at his cost. The contractor will also meet all expenses in connection with his welder's qualification/ requalification tests etc.
- 26.7 The contractor shall be responsible for the provision of health and sanitary arrangements more particularly described in the Contract Labour (Regulations and Abolition Act, 1970) and safety precautions as may be required for safe and satisfactory execution of the contract.
- 26.8 The contractor shall be responsible for proper accommodation including adequate medical facilities for the personnel employed by him.
- 26.9 The contractor shall be responsible for the proper behavior and observance of all regulations by the staff employed by him.
- 26.10 The contractor shall ensure that no damage is caused to any person / property of other parties working at site. If any such damage is caused, it shall be the responsibility of the contractor to make good the losses and compensate them.
- 26.11 All the properties/ equipment/ components of BHEL/ its customer loaned with or without deposit, to the contractor shall remain the properties of BHEL/ its customer. The contractor shall use such properties for the purpose of execution of this contract. All such properties/ equipment/ components shall be taken to be in good condition unless notified to the contrary by the contractor within 48 hours. The contractor shall return them in good condition as and when required by BHEL/ its customer. In case of non-return, loss, damage, repairs etc., the cost thereof, as may be fixed by the Engineer, will be recovered from the contractor.
- 26.12 It shall not be obligatory on the part of BHEL to supply any tools and tackles or materials other than those specifically agreed to be given by BHEL. However, depending upon availability / possibility, BHEL/ its customer's equipment and other materials may be made available to the contractor on payment of hire charges as fixed by them , subject to the conditions laid down by BHEL/ its customer from time to time. Unless paid in advance, such hire and other charges shall be recovered from out of dues to the contractor or security deposit in one installment.
- 26.13 The contractor shall fully indemnify and keep indemnified BHEL/ its customer against all claims of whatever nature arising during the course of execution of this contract.
- 26.14 In case the contractor is required to undertake any work outside the scope of this contract, the amount payable shall be as may be mutually agreed upon.
- 26.15 Any delay in completion of works or non-achievement of periodical targets, due to reasons attributable to the contractor, will have to be compensated by the contractor either by increased manpower and resources or by working extra hours or more than one shift at no extra cost to BHEL.
- 26.16 The contractor shall execute the work under the conditions usual to such power plant construction and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate and coordinate with other agencies at project site and proceed in a manner that shall help in the progress of work at site as a whole.
- 26.17 The contractor will be directly responsible for payment of wages to his workmen. A pay-roll sheet giving details of all payments made to the workmen duly signed by the contractor's representative should be furnished to BHEL, if called for.
- 26.18 In case of any class of work for which there is no specification laid down in the contract, such work shall be carried out in accordance with the instructions and requirements of the Engineer.
- 26.19 No levy, payment or charges made or imposed shall be impeached by reason of any clerical error or by reason of any mistake in the amount levied, demanded or charged.
- 26.20 **No idle labour charges will be admissible in the event of any stoppage of work resulting in the contractor's workmen being rendered idle due to any reason at any time.**
- 26.21 The contractor shall take all reasonable care to protect the materials and the work till such time the plant / equipment has been taken over by BHEL / its customer.
- 26.22 Contractor shall not stop work or abandon the site for whatsoever reason or dispute, excepting for force majeure conditions. All problems / disputes shall be separately discussed and settled without effecting the progress of work. Stoppage or abandonment of work, other than under force majeure conditions, shall be treated as breach of work of contract and dealt with accordingly.

- 26.23 The contractor shall keep the area of work clean and shall remove the debris etc. while executing day-to-day work. Upon completion of work, the contractor shall remove from the vicinity of work, all scrap, packing materials, rubbish, unused and other materials and deposit them in places specified by the Engineer. The contractor will also demolish all the hutments, sheds, offices, etc. constructed and used by him and shall clean the debris. In the event of his failure to do so, the same will be arranged to be done by the Engineer and the expenses recovered from the contractor.
- 26.24 The contractor shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and timely execution shall be the essence of this contract. The contractor shall be responsible to ensure that the quality, assembly and workmanship conform to the dimensions and clearance given in the drawings and/ or as per the instructions of the Engineer.
- 26.25 The contractor shall furnish fortnightly labour deployment report indicating the classification and number of workmen engaged, date wise and category wise. Besides, the contractor shall also furnish progress reports on work at regular intervals as required by the Engineer.

27 RESPONSIBILITIES OF CONTRACTOR IN RESPECT OF SAFETY OF MEN, EQUIPMENT, MATERIAL AND ENVIRONMENT.

- 27.1 All safety rules and codes applied by BHEL and its customer at site shall be observed by the contractor and his workmen without exception. The contractor shall be responsible for the safety of the equipment / material and work to be performed by him and shall maintain all lights, fencing guards, signs etc. or other protections necessary for the purpose. Contractor shall also take such additional precautions as may be indicated from time to time by the Engineer, with a view to prevent pilferage, accidents, fire hazards etc. Suitable number of clerical staff, watch and ward, store keepers to take care of equipment, materials, construction tools and tackles shall be posted at site by the contractor till the completion of the work under this contract. The contractor shall arrange for such safety devices as are necessary for this type of work and carry out the requisite site tests of handling equipment, lifting tools, tackles etc. as per usual standards and practices.
- 27.2 The contractor shall provide to it's work force and ensure the use of the following personal protective equipment as found necessary and as directed by the authorized BHEL officials.
- (a) Safety Helmets conforming to IS-2925
 - (b) Safety Belts conforming to IS-3521
 - (c) Safety shoes conforming to IS-1989
 - (d) Eye & Face Protection devices conforming to IS-8520 and IS-8940
 - (e) Hand & body protection devices conforming to IS-2573, IS-6994, IS-8807 & IS-8519.
- 27.3 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.
- 27.4 All electrical equipment, connections and wiring for construction power, it's distribution and use shall conform to the requirements of Indian Electricity Act and Rules. Only electricians licensed by the appropriate statutory authority shall be employed by the contractor to carry out all types of electrical works. All electrical appliances including portable electric tools used by contractor shall have safe plugging system to source of power and be appropriately earthed.
- 27.5 The contractor shall not use any hand lamp energised by electric power with supply voltage of more than 24 volts. For work in confined spaces, lighting shall be arranged with power source of not more than 24 volts.
- 27.6 Where it becomes necessary to provide and / or store petroleum products, explosives, chemicals and liquid or gaseous fuel or any other substance that may cause fire or explosion, the contractor shall be responsible for carrying out such provision and/or storage in accordance with the rules and regulations laid down in the relevant Government Acts, such as Petroleum Act, Explosives Act, petroleum and Carbides of Calcium Manual of the Chief Controller of Explosives, Government of India etc. Prior approval of the authorised BHEL official at the site shall also be taken by the contractor in all such matters.
- 27.7 The contractor shall arrange at his cost (wherever not specified) appropriate illumination at all work spots for safe working, when natural daylight may not be adequate for clear visibility.
- 27.8 In case of a fatal or disabling injury / accident to any person at construction sites due to lapses by the contractor, the victim and / or his / her dependents shall be compensated by the contractor as per statutory requirements. However, if considered necessary, BHEL shall have the right to impose appropriate financial penalty on the contractor and recover the same from payments due to the contractor for suitably compensating the victim and / or his / her dependents. Before imposing any such penalty, appropriate enquiry shall be held by BHEL giving opportunity to the contractor to present his case.
- 27.9 In case of any damage to property due to lapses by the contractor, BHEL shall have the right to recover the cost of such damages from the payments due to the contractor after holding an appropriate enquiry.

- 27.10 In case of any delay in the completion of a job due to mishaps attributable to lapses by the contractor, BHEL shall have the right to recover cost of such delay from the payments due to the contractor, after notifying the contractor suitably and giving him opportunity to present his case.
- 27.11 If the contractor fails to improve the standards of safety in its operation to the satisfaction of BHEL after being given reasonable opportunity to do so and / or if the contractor fails to take appropriate safety precautions or to provide necessary safety devices and equipment or to carry out instructions regarding safety issued by the authorized BHEL official, BHEL shall have the right to take the corrective steps at the risk and cost of the contractor after giving a notice of not less than seven days indicating the steps that would be taken by BHEL.
- 27.12 The contractor shall submit report of all accidents, fires, property damage and dangerous occurrences to the authorized BHEL official immediately after such occurrence, but in any case not later than 12 hours of the occurrence. Such reports shall be furnished in the manner prescribed by BHEL. In addition, periodic reports on safety shall also be submitted by contractor to the authorized BHEL official from time to time as prescribed.
- 27.13 During the course of construction, alteration or repairs scrap lumbars with protruding nails, sharp edges etc., and all other debris including combustible scrap shall be kept cleared from working areas, passage ways and stairs in and around site.
- 27.14 Cylinders shall be moved by tilting and rolling them on their bottom edges. They shall not be intentionally dropped, struck or permitted to strike each other violently. When cylinders are transported by powered vehicles, they shall be secured in a vertical position.
- 27.15 The contractor shall be responsible for the safe storage of his radioactive sources.
- 27.16 All the contractor's supervisory personnel and sufficient number of workers shall be trained for fire fighting and shall be assigned specific fire protection duties. Enough number of such trained personnel must be available during the tenure of the contract.
- 27.17 Contractor shall provide enough fire protecting equipment of the types and numbers at his office, stores, erection site, other temporary structures, labour colony area etc. Access to such fire protection equipment shall be easy and kept open at all times. Compliance of the above requirement under fire protection shall in no way relieve the contractor of any of his responsibility and liabilities to fire accident occurring. In the event fire safety measures are not to BHEL's satisfaction, BHEL shall have option to provide the same and recover the cost plus incidentals from contractor's bills and / or impose penalty as deemed fit by the Engineer.
- 27.18 Before commencing the work, the contractor shall appoint /nominate a responsible officer to supervise implementation of all safety measures and liaison with his counterpart of BHEL.
- 27.19 If safety record of the contractor in execution of the awarded job is to the satisfaction of Safety Department of BHEL, issue of an appropriate certificate to recognize the safety performance of the contractor may be considered by BHEL after completion of the job.

28.0 CONSEQUENCES OF CANCELLATION

- 28.1 Whenever BHEL exercises its authority to terminate the contract / withdraw a portion of work under clause 25, the work may be got completed by any other means at the contractor's risk and cost provided that in the event of the cost of completion (as certified by the Engineer which shall be final and binding on the contractor) being less than the contract value, the advantage shall accrue to BHEL. If the cost of completion exceeds the moneys due to the contractor under the contract, the contractor shall either pay the excess amount demanded by BHEL or the same shall be recovered from the contractor. This will be in addition to the forfeiture of Security Deposit and recovery of liquidated damages as per relevant clauses.
- 28.2 In case BHEL completes the work under the provisions of this clause, the cost of such completion to be taken into account for determining the excess cost to be charged to the contractor shall consist of cost of materials purchased and / or labour provided by BHEL with an addition of such percentage to cover supervision and establishment charges as may be decided by BHEL.

29.0 INSURANCE

- 29.1 BHEL / its customer shall arrange for insuring the materials / property of BHEL / its customer covering the risks during transit, storage, erection and commissioning.
- 29.2 It shall be the sole responsibility of the contractor to insure his workmen against risks of accidents and injury while at work as required by the relevant Rules and to pay compensation, if any, to them as per Workmen's Compensation Act. The contractor shall also insure his staff against accidents. The work will be carried out in a protected area and all the Rules and Regulations of BHEL / its client in the Project Area which are in force from time to time will be followed by the contractor.
- 29.3 If due to negligence and/or non-observance of safety and other precautions, any accident / injury occurs to any other persons/ public, the contractor shall pay necessary compensation and other expenses, if so decided by the appropriate authority.
- 29.4 The contractor will take necessary precautions and due care to protect the material, while in his custody from any damage/ loss till the same is taken over by BHEL or customer. For lodging / processing of insurance claim the tractor will submit necessary documents. BHEL will reserve the

right to recover the loss from the contractor, in case the damage / loss is due to carelessness / negligence on the part of the contractor. In case of any theft of material under contractor's custody, matter shall be reported to police by the contractor immediately and copy of FIR and subsequently police investigation report shall be submitted to BHEL for taking up with insurance.

- 29.5 If due to negligence/ carelessness on the part of the contractor, any material/ equipment gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and also unsettled portion of insurance claim amount from the contractor.
- 29.6 If due to negligence/ carelessness on the part of the contractor, any surrounding properties also gets damaged, the contractor shall submit necessary documents for lodging insurance claims as required by BHEL Engineer. BHEL shall however reserves the right to recover deductible franchise and to unsettled portion of insurance claim amount from the contractor.
- 29.7 The contractor may note that BHEL T&Ps / IMTEs are not insured. The Contractor will take necessary precautions and due care to protect the same while in his custody from any damage/ loss till the same is handed over back to BHEL. In case the damage / loss is due to carelessness/ negligence on the part of the contractor, the Contractor is liable to get them repair/ replaced immediately and in case of his failure to do so within a reasonable time, BHEL will reserve the right to recover the loss from the contractor.

30.0 STRIKES AND LOCKOUTS

- 30.1 The contractor will be solely responsible for all disputes and other issues connected with his workmen. In the event of contractor's workmen resorting to strike or the contractor resorting to lockout and if the strike or lockout so declared is not settled within a period of one month, BHEL shall have the right to get the erection work executed by employing its own men or through other agencies or both. The cost incurred by BHEL in this regard shall be recovered from the contractor.
- 30.2 For any purpose whatsoever, the employees of the contractor shall not be deemed to be in the employment of BHEL

31.0 FORCE MAJEURE

- 31.1 The following shall amount to force majeure conditions. Acts of God, Act of any Government, War, Sabotage, Riots, Civil Commotion, Police Action, Revolution, Flood, Fire, Cyclone, Earthquake and Epidemic and other similar causes over which the contractor has no control.
- 31.2 If the contractor suffers delay in the due execution of the contract, due to delays caused by force majeure conditions, as defined above, the agreed time for completion of the work covered by this contract shall be extended by a period of time equal to the period of delay, provided that on the occurrence of any such contingency, the contractor immediately reports to BHEL in writing the causes for the delay but the Contractor shall not be eligible for any compensation on this account.

- 32.0 **GUARANTEE** Even though the work will be carried out under the supervision of the Engineer, the contractor will be responsible for the quality of the workmanship and shall guarantee the work done for a period of twelve months from the date of completion of work as certified by the Engineer, and shall rectify, free of cost to BHEL, all defects arising out of faulty erection during the guarantee period starting from the date of completion of rectification. In the event of the contractor failing to repair the defective works within the time specified by the Engineer, BHEL may proceed to undertake the repairs of such defective works at the contractor's risk and cost, without prejudice to any other rights and recover the same from out of any moneys payable to the contractor or by other legal means.

- 33.0 **ARBITRATION** : All disputes between the parties to the contract arising out of or in relation to the contract, other than those for which the decision of the Engineer or any other person is by the contract expressed to be final and conclusive, shall after written notice by either party to the contract to the other party, be referred to sole arbitration of the General Manager or his nominee. The arbitration shall be conducted in accordance with the provisions of the Arbitration and Reconciliation Act, 1996. The parties to the contract understand and agree that it will be no objection that the General Manager or the person nominated as Arbitrator had earlier in his official capacity to deal directly or indirectly with the matters to which the contract relates or that in the course of his official duties had expressed views on all or any of the matters in dispute or difference. The award of the Arbitrator shall be final and binding on the parties to this contract. In the event of the Arbitrator dying, neglecting or refusing to act or resigning or being unable to act for any reason or his award being set aside by the Court for any reason, it shall be lawful for the General Manager or his successor, as the case may be, either to act himself as the Arbitrator or to appoint another Arbitrator in place of the outgoing Arbitrator in the manner aforesaid. The Arbitrator may, from time to time, with the consent of both the parties to the contract, enlarge the time for making the award. Work under the contract shall be continued during the arbitration proceedings. The venue of the arbitration shall be the place from which the contract is issued or such other place as the Arbitrator at his discretion may determine.

--X--X--

ANNEXURE-A

FINANCIAL VIABILITY

1. Owner's capital in the business (in case of Partnership, please mention percentage shares and amounts).
2. Quantum of business done during last three financial years. i) Rs.
ii) Rs.
iii) Rs.
3. Value of fixed Assets of the business in last three years. i) Rs.
ii) Rs.
iii) Rs.
4. Guarantee limits (if any) enjoyed by the firm.
5. Over draft limits (if any) enjoyed by the firm.
6. Please enclose audited profit and loss account and balance sheet for last 3 years (indicate no. of sheets).
7. Certificate from Scheduled Bank to prove Contractor's financial capacity to undertake the work duly indicating the financial limits the tenderer enjoys.

(Signature of tenderer)
With Stamp

NOTE:

All the above documents should be duly certified by auditors/ Bank as may be applicable.

ANNEXURE – B**ANALYSIS OF SIMILAR JOBS EXECUTED / IN PROGRESS**

| S.No. | Agency By whom Awarded | Location of project | Capacity & unit nos. | Scope of work | Date of award | Contract value |
|-------|------------------------------|------------------------|-------------------------|------------------|------------------|-------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |

| %age work completed and due date for completion | Date of completion if job is already over | No. of skilled/ unskilled workers deployed at peak | No. of Engrs.& Super- visors deployed at peak | Details of major T&P like cranes, Tractor Trailors, Winches, welding M/cs supplied ----- By Con- Tractor | By other Agency | Consumables by whom |
|---|---|---|--|---|--------------------|------------------------|
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |

(SIGNATURE OF TENDERER)
WITH STAMP

ANNEXURE – C

MONTHWISE MANPOWER DEPLOYMENT PLAN

| S.No. | Category | No. of Person available on roll of the Organisation | Month (Indicate No. of persons to be deployed in each month) | | | | | | |
|-------|----------|---|---|-----------------|-----------------|-----------------|-----------------|-----------------|-----------|
| | | | 1st | 2 nd | 3 rd | 4 th | 5 th | 6 th | and so on |
| 1. | | | | | | | | | |
| 2. | | | | | | | | | |
| 3. | | | | | | | | | |
| | | Total | | | | | | | |

(SIGNATURE OF TENDERER)
WITH STAMP

ANNEXURE – D

STATUS OF TOOLS & PLANTS AND IMTE

| S.No. | Name of Equipment | Quantity owned | Registration no. wherever Applicable | Documents enclosed for proof of Ownership | Present Location | Quantity proposed to be deployed for this job |
|-------|-------------------|----------------|--------------------------------------|---|------------------|---|
|-------|-------------------|----------------|--------------------------------------|---|------------------|---|

(B) MONTHWISE T&P DEPLOYMENT PLAN

| S.No. | Description of T & P | Month (Indicate No. to be deployed in each month) | | | | | | |
|-------|----------------------|--|-----------------|-----------------|-----------------|-----------------|-----------------|---------------------------|
| | | 1st | 2 ND | 3 rd | 4 th | 5 th | 6 th | 7 th and so on |

(SIGNATURE OF TENDERER)
WITH STAMP

ANALYSIS OF UNIT RATE QUOTED

| S.NO. | DESCRIPTION | PERCENTAGE OF THE UNIT RATE QUOTED | REMARKS |
|-------|---|--|---------|
| 1. | Salary & wages for staff & workers | | |
| 2. | Consumables | | |
| | (a) Gases | | |
| | (b) Welding Electrodes | | |
| | (c) P.O.L. | | |
| | (d) Others | | |
| 3. | Depreciation & maintenance for T&P | | |
| 4. | Depreciation & Maintenance for other items | | |
| 5. | Establishment and Administration expenses of site | | |
| 6. | Overheads | | |
| 7. | Profit | | |

(SIGNATURE OF TENDERER)
WITH STAMP

DECLARATION SHEET

I, -----hereby certify that, all the information and data furnished by me with regard to this Tender Specification No.-- ----- are true and complete to the best of my knowledge. I have gone through the specification, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.

I, further certify that I am the duly authorised representative of the under mentioned tenderer and a valid power of attorney to this effect is also enclosed.

Tenderer's Name & Address

Authorised representative's signature with name and address.

CHECKLIST AND SCHEDULE OF GENERAL PARTICULARS

NOTE : Tenderers are requested to fill in the following details and no column should be left blank

1. Name and address of the tenderer
2. Telegraphic/ telex address
3. Phone No. (Office)/ Fax No.
4. Name & designation of the official of the tenderer to whom all the references shall be made.
5. Tenderer's proposal No. & date
6. Whether EMD submitted (By cash/Pay order / bank draft) by.....
7. Validity of offer/ rates quoted for six months from the date of opening of tender Yes/No
8. Financial Status as per Clause 11.1 (in the format as per Annexure-A) Yes/No
9. Income tax Clearance certificate as per Clause 11.2 Yes/No
10. Details of experience as per clause 11.3 (in the format as per Annexure-B) Yes/No
11. Monthwise & Categorywise manpower deployment plan as per Clause 11.4 (in the format as per Annexure-C) Yes/No
12. Attested copy of power of attorney as per clause 11.5 Yes/No
13. Details about type of the firm as per clause 11.6 Yes/No
14. Status of T&P and monthwise deployment plan as per clause 11.7 (in the format as per Annexure-D) Yes/No
15. Analysis of unit rate quoted as per Clause 11.8 (in the format as per Annexure-E) Yes/No

16. Declaration sheet as per clause 11. 09
(in the format as per Annexure-F)

Yes/No

Date _____

(SIGNATURE OF TENDERER)
WITH STAMP

WITNESS
(SIGNATURES WITH FULL PARTICULARS)

1.

2.

BANK GUARANTEE FOR SECURITY DEPOSIT

B.G. NO.

Date

This deed of Guarantee made this ----- day of -----two thousand by ----- (Bank) hereinafter called the "The Guarantor" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns) in favour of M/s Bharat Heavy Electrical Limited (A Govt. of India Undertaking) a company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, Asiad, New Delhi – 110049 through its unit at Power Sector – Northern Region, Noida, Distt. Gautam Budh Nagar, (UP) hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof by deemed to include its successors and assigns)

WHEREAS -----(hereinafter referred to as the Contractor) have entered into a contract arising out of Letter of Intent no.----- dt.----- (hereinafter referred to as "the contract") for the construction of ----- with the company.

AND WHEREAS the contract inter-alia provides that the contractor shall furnish to the company a sum of Rs.----- (Rupees-----) towards security deposit for due and faithful performance of the contract in the form and manner specified therein.

AND WHEREAS the contractor has approached the Guarantor and in consideration of the arrangement arrived at between the contractor and the Guarantor, the Guarantor has agreed to give the Guarantee as hereinafter mentioned in favour of the company.

The Guarantor do hereby guarantee to the company the due and faithful performance, observance or discharge of the Contract by the contractor and further unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of Rs.----- (Rupees-----) against any claim by the company on them for any loss, damage, costs, charges and expenses caused to or suffered by the company by reasons of the contractor making any default in the performance, observance or discharge of the terms, conditions, stipulations or undertakings or any of them as contained in the contract.

The decision of the company whether any default has occurred or has been committed by the contractor in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them as contained in the

contract and / or as to the extent of loss, damage, costs, charges and expenses caused to or suffered by the company by reason of the contractor making any default in the performance, observance or discharge of any of the terms, conditions, stipulations or undertakings or any one of them shall be conclusive and binding on the Guarantor irrespective of the fact whether the contractor admits or denies the default or questions the correctness of any demand made by the company in any Court, Tribunal or Arbitration proceedings or before any other Authority.

The company shall have the fullest liberty without affecting in any way the liability of the Guarantor under this Guarantee, from time to time to vary any of the terms and conditions of the contract or extend time of performance by the contractor or to postpone for any time and from time to time any of the powers exercisable by it against the contractor and either enforce or forbear from enforcing any of the terms and conditions governing the contract or securities available to the company and the Guarantor shall not be released from its liability under these presents by any exercise by the company of the liberty with reference to the matters aforesaid or by reasons of time being given to the contractor or any other forbearance, act or commission on the part of the company or any indulgence by the company to the contractor or any other matter or thing whatsoever which under the law relating to sureties would, but for this provision have the effect of so releasing the Guarantor from its liability under this guarantee.

The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the contract and its claim satisfied or discharged and till the company certifies that the terms and conditions of the contract have been fully and properly carried out by the contractor and accordingly discharges this Guarantee, subject however, that the company shall have no claim under this Guarantee after ----- i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time, as the case may be) unless a notice of the claim under this Guarantee has been served on the Guarantor before the expiry of the said period in which case the same shall be enforceable against the Guarantor notwithstanding the fact that the same is enforced after the expiry of the said period.

The Guarantor undertakes not to revoke this Guarantee during the period it is in force except with the previous consent of the Company in writing and agrees that any liquidation or winding up or insolvency or dissolution or any change in the constitution of the contractor or the Guarantor shall not discharge the Guarantor's liability hereunder.

It shall not be necessary for the company to proceed against the contractor before proceeding against the Guarantor and the Guarantee herein contained shall be enforceable against them notwithstanding any security which the Company may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Guarantor hereunder be outstanding or unrealized.

Notwithstanding anything contained herein before, our liability under the Guarantee is restricted to Rs.----- (Rupees-----). Our guarantee shall remain in force until -----, i.e. (the present date of validity of Bank Guarantee unless the date of validity of this Bank Guarantee is further extended from time to time) unless a claim or demand under this guarantee is made against us on or before -- ----- we shall be discharged from our liabilities under this Guarantee thereafter.

Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts of at New Delhi / Delhi only.

The Guarantor hereby declares that it has power to execute this guarantee and the executant has full powers to do so on behalf of the Guarantor.

IN WITNESS whereof the ----- (Bank) has hereunto set and subscribed its hand the day, month and year first, above written.

Signed for and on behalf of the Bank

(Signatory No.-----)

WITNESSES

1. Name & Address

2. Name & Address

Notes :

1. The above BG shall be executed on the non-judicial stamp papers of adequate value procured in the name of the bank in the state where the bank is located.
2. The above BG is required to be sent by the executing bank directly to BHEL at the address where tender is submitted / accepted under seal cover.

LIST OF MEMBER BANKS

1. **State Bank of India**
CAG Branch,
10th Floor, Vijaya Building,
Barakhamba Road,
New Delhi – 110001.
2. **Canara Bank**
74, Janpath,
New Delhi – 110001.
3. **Punjab National Bank,**
74, Janpath,
New Delhi – 110001.
4. **Bank of Baroda,**
Corporate Banking Branch,
11th Floor, BOB Building,
Sansad Marg,
New Delhi – 110001.
5. **State Bank of Mysore,**
Antriksh Bhawan, K.G. Marg,
New Delhi – 110001.
6. **State Bank of Mysore,**
Industrial Finance Branch,
18, Ramanashree Arcade,
M.G. Road, Bangaloe – 560001.
7. **State Bank of Travancore,**
Travancore House, IF Branch,
K.G. Marg, New Delhi – 110001.
8. **Deutsche Bank,**
Tolstoy Marg,
New Delhi–110001.
9. **HDFC Bank Ltd.,**
5th Floor, HT House,
K.G. Marg,
New Delhi – 110001.
10. **Citi Bank N A**
Jeevan Vihar Building,
Sansad Marg,
New Delhi – 110001.
11. **Standard Chartered Bank,**
H2 Block, Connaught Place,
New Delhi – 110001.
12. **ICICI Bank Ltd.,**
ICICI Tower,
Bisham Pitamah Marg,
Pragati Vihar,
New Delhi – 110003.
13. **IDBI Bank Ltd.,**
19, K.G. Marg,
Surya Kiran Building,
New Delhi.
14. **HSBC Ltd.,**
ECE House,
28 KG Marg,
New Delhi – 110001.

ANNEXURE - I

AGREEMENT

Agreement No. and Date _____
Name of the Work _____
Name of the Contractor with full address _____
Value of work awarded _____
Letter of Intent No. and Date _____
Scheduled Commencement Date _____
Scheduled Completion Date _____

THIS AGREEMENT MADE THIS _____ DAY OF _____ 2006 between BHARAT HEAVY ELECTRICALS LIMITED (A Government of India Enterprise) a Company incorporated under the Companies Act, 1956, having its Registered Office at BHEL House, Siri Fort New Delhi- 110049 (herein after called BHEL) of the ONE PART.
AND

M/S _____ (hereinafter called the `Contractor') of the SECOND PART.

WHEREAS M/s -----state that they have acquired and possess extensive experience in the field of -----

And Whereas in response to an Invitation to Tender No. ----- issued by BHEL for execution of ----- the contractor submitted their offer No.-----dated -----And whereas BHEL has accepted the offer of the Contractor on terms and conditions specified in the Letter of Intent No.-----dated -----read with the references cited therein.

THIS AGREEMENT WITNESSES AND it is hereby agreed by and between the parties as follows:

1. That the contractor shall execute the work of -----and more particularly described in Tender Specification No -----including Drawings and Specifications (hereinafter called the said works) in accordance with and subject to terms and conditions contained in these presents, instructions to Tenderers, General Conditions of Contract, Special Conditions, Annexures, Letter of Intent dated -----and such other instructions, Drawings, Specifications given to him from time to time by BHEL.
2. The Contractor is required to furnish to BHEL Security deposit in the form of cash/ approved securities/ Bank Guarantee valid upto ----- for a sum of Rs.----- towards satisfactory performance and completion of the Contract.

3. The Contractor has furnished a Bank Guarantee bearing no.-----dated -----
-----for a sum of Rs.-----executed by -----
----- in favour of BHEL towards Security Deposit valid upto -----

OR

The Contractor has furnished to BHEL an initial Security Deposit of Rs.-----
in the form of cash / approved Securities/ B.G No.----- dated ----- for
Rs.-----executed by ----- in favour of BHEL valid upto -----
----- and has agreed for recovery of the balance Security Deposit by BHEL @
10% of the value of work done from each running bill till the entire security deposit is
recovered.

OR

The contractor has furnished to BHEL an initial Security Deposit of Rs.-----(Rs.-----
--- vide Bank draft No.-----dated -----and by adjusting EMD of Rs.-----
-----submitted vide Bank draft No.----- dt.-----) and has agreed for
recovery of balance Security Deposit by BHEL @ 10% of the value of work done
from each running bill till the entire security deposit is recovered.

4. The Contractor hereby agrees to extend the validity of the Bank Guarantee for such
further period or periods as may be required by BHEL and if the Contractor fails to
obtain such extension(s) from the Bank, the Contractor, shall pay forthwith or accept
recovery of Rs.----- from the bills in one installment and the contractor further
agrees that failure to extend the validity of the Bank Guarantee or failure to pay the
aforesaid amount in the manner specified above shall constitute breach of contract.
In addition to above, BHEL shall be entitled to take such action as deemed fit and
proper for recovering the said sum of Rs.-----.

OR

In case the contractor furnishes the bank guarantee at a later date the contractor
hereby agrees to extend the validity of bank guarantee for such further period or
periods as may be required by BHEL and if the contractor fails to obtain such
extension(s) from the bank, the contractor shall pay forthwith or accept recovery of
the amount of bank guarantee given in lieu of security deposit from the bills in one
installment and the contractor further agrees that failure to extend the validity of bank
guarantee or failure to pay the aforesaid amount in the manner specified above shall
constitute breach of contract. In addition to above, BHEL shall be entitled to take
such action as deemed fit and proper for recovering the said sum.

5. That in consideration of the payments to be made to the Contractor by BHEL in
accordance with this Agreement the Contractor hereby covenants and undertakes
with BHEL that they shall execute, construct, complete the works in conformity, in all
respects, with the terms and conditions specified in this Agreement and the
documents governing the same.
6. That the Contractor shall be deemed to have carefully examined this Agreement and
the documents governing the same and also to have satisfied himself as to the
nature and character of the Works to be executed by him.
7. That the Contractor shall carry out and complete the execution of the said works to
the entire satisfaction of the Engineer or such other officer authorised by BHEL,

within the agreed time schedule, the time of completion being the essence of the Contract.

8. That BHEL shall, after proper scrutiny of the bills submitted by the Contractor, pay to him during the progress of the said works such sum as determined by BHEL in accordance with this Agreement.
9. That this Agreement shall be deemed to have come into force from ----- the date on which the letter of intent has been issued to the Contractor.
10. That whenever under this contract or otherwise, any sum of money shall be recoverable from or payable by the Contractor, the same may be deducted in the manner as set out in the General Conditions of Contract or other conditions governing this Agreement.
11. That all charges on account of Octroi, Terminal and other taxes including sales tax or other duties on material obtained for execution of the said works shall be borne and paid by the Contractor.
12. That BHEL shall be entitled to deduct from the Contractor's running bills or otherwise Income Tax under Section 194 (C) of the Income Tax Act, 1961.
13. That BHEL shall be further entitled to recover from the running bills of the Contractor or otherwise such sum as may be determined by BHEL from time to time in respect of consumables supplied by BHEL, hire charges for tools and plants issued (Where applicable) and any other dues owed by the Contractor.
14. That it is hereby agreed by and between the parties that non- exercise, forbearance or omission of any of the powers conferred on BHEL and /or any of its authorities will not in any manner constitute waiver of the conditions hereto contained in these presents and the liability of the Contractor with respect to compensation payable to BHEL or Contractor's obligations shall remain unaffected.
15. It is clearly understood by and between the parties that in the event of any conflict between the Letter of Intent and other documents governing this Agreement, the provisions in the Letter of Intent shall prevail.
16. The following documents
 1. Invitation to Tender No-----
and the documents specified therein.
 2. Contractor's Offer No-----dated-----.
 3. _____
 4. _____
 5. _____
 6. Letter of Intent No_____ dated_____.

7. _____

shall also form part of and govern this Agreement.

IN WITNESS HEREOF, the parties hereto have respectively set their signatures in the presence of

WITNESS

1.

2.

(CONTRACTOR)
(to be signed by a person holding
a valid Power of Attorney)

WITNESS

1.

2.

(For and on behalf of BHEL)

**SECTION – I (a)
SPECIFICATION
FOR
HEALTH, SAFETY AND ENVIRONMENT (HSE)**

1.0 SCOPE

This specification establishes the Health, Safety and Environment (HSE) management requirement to be complied with by the Contractors during construction.

Requirements stipulated in this specification shall supplement the requirements of HSE Management given in relevant Act (s) /legislations, General Condition Contract (GCC). Special Conditions of Contract (SCC) and job specification where different documents stipulates different requirements, the most stringent be adopted.

2.0 REFERENCES

This document should be read in conjunction with following :

- General Conditions of Contract (GCC)
- Special Conditions of Contract (SCC)
- Scope of work
- Relevant IS Codes (refer Annexure-I)
- Reporting Formats (refer Annexure-II)

3.0 REQUIREMENTS OF HEALTH, SAFETY & ENVIRONMENT (HSE) MANAGEMENT SYSTEM TO BE COMPLIED BY CONTRACTORS.

3.1 MANAGEMENT RESPONSIBILITY

- 3.1.1 The Contractor to comply with HSE requirement at Construction sites as enclosed to cover commitment of their organization to ensure health, safety and environment aspects in their line of operations.
- 3.1.2 The HSE management system shall cover the HSE requirements including but not limited to what is specified under Para 1.0 and para 2.0 above.
- 3.1.3 Contractor shall be fully responsible for planning and implementing HSE requirements. Contractor as a minimum requirement shall designate/deploy the following to co-ordinate the above :
- No. of workers deployed upto 250 - Designate one safety Supervisor
 - Above 250 & upto 500 - Deploy one qualified and Experienced safety Engineer/ Officer
 - Above 500 - One additional safety engineer/ (for every 500 or less) officer, as above.
- Contractor shall indemnify & hold harmless Owner/BHEL & their representatives free from any and all liabilities arising out of non-fulfillment of HSE requirement.
- 3.1.4 The Contractor shall ensure that the Health, Safety and Environment (HSE) requirements are clearly understood & faithfully implemented at all levels at site.
- 3.1.5 BHEL shall promote and develop consciousness for Health, Safety and Environment among all personnel working for the Contractor. Regular awareness programmes and work site meetings shall be arranged on HSE activities to cover hazards involved in various operations during construction.
- 3.1.6 The Contractor shall arrange suitable first aid measures such as First Aid Box, trained personnel to give First Aid and install fire protection measures such as adequate number of steel buckets with sand and water to the satisfaction of BHEL/Owner.
- 3.1.7 Non-Conformance on HSE by Contractor (including his Sub-contractors) as brought out during review / audit by BHEL/Owner representative shall be resolved forthwith by Contractor. Compliance report shall be provided to BHEL.
- 3.1.8 The Contractor shall ensure participation of his Resident Engineer / Site-In-Charge in the Safety Committee / HSE Committees meetings arranged by BHEL / Owner. The compliance of any observations shall be arranged urgently. He shall assist BHEL / Owner to achieve the targets set by them on HSE during the project implementation.
- 3.1.9 The Contractor shall adhere consistently to all provisions of HSE requirements. In case of non-compliance or continuous failure in implementation of any of HSE provisions, BHEL / Owner may impose stoppage of work without any Cost & Time implication to BHEL / Owner and / or impose a suitable penalty for non-compliance with a notice of suitable period, upto a commulative limit of 1.0% (one percent) of Contract value. This penalty shall be in addition to all other penalties specified else

where in the contract. The decision of imposing stoppage of work, its extent & minority penalty shall rest with BHEL / Owner & binding on the Contractor.

- 3.1.10 All fatal accidents and other personnel accidents shall be investigated by a team of Contractor's senior personnel for root cause & recommended corrective and preventive actions. Findings shall be documented and suitable actions taken to avoid recurrences shall be communicated to BHEL / Owner. BHEL / Owner shall have the liberty to independently investigate such occurrences and Contractor shall extend all necessary help and co-operation in this regard.

3.2 HOUSE KEEPING

- 3.2.1 Contractor shall ensure that a high degree of house keeping is maintained and shall ensure interalia; the following :
- a) All surplus earth and debris are removed / disposed off from the working areas to identified locations (s).
 - b) Unused/Surplus Cables, Steel items and steel scrap lying scattered at different places within the working areas are removed to identified locations (s).
 - c) All wooden scrap, empty wooden cable drums and other combustible packing materials, shall be removed from work place to identified location(s).
 - d) Roads shall be kept clear and materials like : pipes, steel, sand boulders, concrete, chips and brick etc., shall not be allowed on the roads to obstruct free movement of men & machineries.
 - e) Fabricated steel structurals, pipes & piping materials shall be stacked properly for erection.
 - f) Water logging on roads shall not be allowed.
 - g) No parking of trucks/trolleys, cranes and trailers etc., shall be allowed on roads which may obstruct the traffic movement.
 - h) Utmost care shall be taken to ensure over all cleanliness and proper upkeep of the working areas.
 - i) Trucks carrying sand, earth and pulverized materials etc., shall be covered while moving within the plant area.

In case of non-compliance of any of above, BHEL shall have the liberty to get it done from some other agency at this risk and cost.

3.3 HEALTH, SAFETY AND ENVIRONMENT

- 3.3.1 The Contractor shall provide safe means of access to any working place including provisions of suitable and sufficient scaffolding at various stages during all operations of the work for the safety of his workmen, and BHEL / Owner. Contractor shall ensure deployment of appropriate equipment and appliances for adequate safety and health of the workmen and protection of surrounding areas.
- 3.3.2 The contractor shall ensure that all their staff and workers wear Safety Helmet and Safety shoes. Contractor shall also ensure use of safety belt, protective goggles, gloves etc., by the personnel as per job requirements. All these gadgets shall conform to relevant IS specifications or equivalent.
- 3.3.3 The Contractor shall assign to his workmen, tasks commensurate with their qualification, experience and state of health for driving of vehicles, handling and erection of material and equipments. All lifting equipments shall be tested certified for its capacity before use. Adequate and suitable lighting at every work place and approach there to, shall be provided by the Contractor before starting the actual operations at night. It is mandatory for contractor to get his workmen medically examined / checked for fitness of work assigned once a year and furnish the certificate to that effect from RMP / Govt. Hospital.
- 3.3.4 Hazardous and / or toxic materials such as solvent, coating or thinners shall be stored in appropriate containers.
- 3.3.5 All hazardous materials shall be labeled with the name of the materials, the hazards associated with its use and necessary precautions to be taken.
- 3.3.6 Contractor shall ensure that during the performance of the work, all hazards of the health of personnel, have been identified, assessed and eliminated.
- 3.3.7 Chemical spills shall be contained and cleaned up immediately to prevent further contamination.
- 3.3.8 All personnel exposed to physical agents such as ionizing or non-ionizing radiation, ultraviolet rays or similar other physical agents shall be provided with adequate shielding or protection commensurate with the type of exposure involved.
- 3.3.9 Where contact or exposure of hazardous materials could exceed limits or could otherwise have harmful effects, appropriate personnel protective equipment such as gloves, goggles, aprons, chemicals resistant clothing and respirator shall be used.
- 3.3.10 All persons deployed at site shall be knowledgeable of and comply with the environmental laws, rules & regulations relating to the hazardous materials substances and wastes. Contractor shall not dump, release or otherwise discharge or dispose off any such materials without the express authorization of BHEL / Owner.

4.0 DURING JOB EXECUTION

- 4.1 Implement Health, Safety and Environment requirements including but not limited to as brought out under para 3.0. Contractor shall ensure to :

- arrange workmen compensation insurance, registration under ESI Act, third party liability insurance etc., as applicable.
- arrange all HSE permits before start of activities (as applicable) like hot work, confined space, work at heights, storage of chemical / explosive materials and its use and implement all precautions mentioned therein.
- Submit timely the completed checklist on HSE activities, Monthly HSE report, accident reports, investigation reports etc., as per BHEL / Owner requirements. Compliance of instructions on HSE shall be done by Contractor and informed urgently to BHEL / Owner.
- Ensure the Resident Engineer / Site-Incharge of the Contractor shall attend all the Safety Committee / HSE meetings arranged by BHEL/Owner. In case of his absence from site that a second senior most person shall be nominated by him in advance and communicated to BHEL/Owner.
- Display at site office and work locations caution boards, list of hospitals, emergency services available.
- Display posters, banners made available by BHEL for safe working to promote safety consciousness.
- Assist in HSE audits by BHEL / Owner and submit compliance report.
- Generate and submit HSE records / report as per HSE plan.
- Appraise BHEL / Owner on HSE activities at site.

ANNEXURE - I

RELEVANT IS – CODES FOR PERSONAL PROTECTION

| | |
|------------------------------|---|
| IS: 2925-1984 | Industrial Safety Helmets |
| IS: 4770-1968 | Rubber gloves for electrical purposes |
| IS: 6994, 1973 (Part-I) | Industrial Safety Gloves (Leather & Cotton Gloves) |
| IS: 1989-1986 (Part I & III) | Leather safety boots and shoes |
| IS: 3738-1975 | Rubber knee boots |
| IS: 5557-1969 | Industrial and Safety rubber knee boots |
| IS: 6519-1971 | Code of practice for selections, care and repair of Safety footwear |
| IS: 11226-1985 | Leather Safety footwear having direct moulding sole |
| IS: 5983-1978 | Eye protectors |
| IS: 9167-1979 | Ear protectors |
| IS: 3521-1983 | Industrial Safety belts and harness |

ANNEXURE – II

1.0 HEALTH, SAFETY & ENVIRONMENT (HSE) PLAN

PROJECT: ----- CONTRACTOR :-----

DATE :----- OWNER :-----

(To be prepared by each construction Agency)

| ACTIVITY DESCRIPTION | PROCEDURE/ W.I/ GUIDELIES | CODE OF CONFOR- MANCE | PERFORMING FUNCTIONS | | | AUDIT FUNCTION |
|-------------------------|------------------------------|-----------------------------|----------------------|--------------|---------------|--------------------------------------|
| | | | PERFOR- MER | CHECK- ER | APPRO- VER | CUSTOMER REVIEW AI REQUIREMENT |

PREPARED BY

REVIEWED BY

APPROVED BY
(RESIDENT ENGINEER)

2.0 MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (1/6)

PROJECT:----- CONTRACTOR:-----

DATE :----- OWNER:-----

INSPECTION BY:-----

Note: Write 'NA' wherever the item is not applicable.

| ITEM | YES | NO | REMARKS | ACTION |
|------|-----|----|---------|--------|
|------|-----|----|---------|--------|

HOUSING KEETING

Waste containers provided and used

Sanitary facilities adequate and clean

Passageways and Walkways Clear

General neatness of working areas

Others

PERSONNEL PROTECTIVE EQUIPMENT

Goggles: Shelds

Face protection

Hearing protection

Safety Shoes provided

Hand protection

Safety Belts

Others

EXCAVATIONS / OPENINGS

Openings properly covered or barricaded

Excavations shored

Excavations barricaded

Overnight lighting provided

Other

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd.. 2/6)

| ITEM | YES | NO | REMARKS | ACTION |
|---------------------------------------|-----|----|---------|--------|
| WELDING, CUTTING | | | | |
| Gas cylinders chained upright | | | | |
| Cables and hoses not obstructing | | | | |
| Screens or shields used | | | | |
| Flammable materials protected | | | | |
| Fire extinguisher (s) accessible | | | | |
| Other | | | | |
| SCAFFOLDING | | | | |
| Fully decked platforms | | | | |
| Guard and intermediate rails in place | | | | |
| Toe boards in place | | | | |
| Adequate shoring | | | | |
| Adequate access | | | | |
| Other | | | | |
| LADDERS | | | | |
| Extension side rails 1 m above | | | | |
| Top of landing | | | | |
| Properly secured | | | | |
| Angle + 70 from horizontal | | | | |
| Other | | | | |

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd.3/6)

| ITEM | YES | NO | REMARKS | ACTION |
|--|-----|----|---------|--------|
| <u>HOIST, CRANES AND DERRICKS</u> | | | | |
| Condition of cables and sheaves OK | | | | |
| Condition of slings, chains, hooks & eyes O.K. | | | | |
| Inspection and maintenance logs maintained | | | | |
| Outriggers used | | | | |
| Signs/barricades provided | | | | |
| Signals observed and understood | | | | |
| Qualified operators | | | | |
| Other | | | | |
| <u>MACHINERY, TOOLS AND EQUIPMENT</u> | | | | |
| Proper instruction | | | | |
| Safety devices | | | | |
| Proper cords | | | | |
| Inspection and maintenance | | | | |
| Other | | | | |
| <u>VEHICLE AND TRAFFIC</u> | | | | |
| Rules and regulations observed | | | | |
| Inspection and maintenance | | | | |
| Licensed drivers | | | | |
| Other | | | | |

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd.4/6)

| ITEM | YES | NO | REMARKS | ACTION |
|--|-----|----|---------|--------|
| TEMPORARY FACILITIES | | | | |
| Emergency instructions posted | | | | |
| Fire extinguishers provided | | | | |
| Fire-aid equipment available | | | | |
| Secured against storm damage | | | | |
| General neatness | | | | |
| In accordance with electrical requirements | | | | |
| Other | | | | |
| FIRE PREVENTION | | | | |
| Personnel instructed | | | | |
| Fire extinguishers checked | | | | |
| No smoking in Prohibited areas | | | | |
| Hydrants Clear | | | | |
| Other | | | | |
| ELECTRICAL | | | | |
| Proper wiring | | | | |
| ELCB's provided | | | | |
| Ground fault circuit interrupters | | | | |
| Protection against damage | | | | |
| Prevention of tripping hazards | | | | |
| Other | | | | |

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd.5/6)

| ITEM | YES | NO | REMARKS | ACTION |
|------|-----|----|---------|--------|
|------|-----|----|---------|--------|

HANDLING AND STORAGE OF MATERIALS

Properly stored or stacked

Passageways clear

Other

FLAMMABLE GASES AND LIQUIDS

Containers clearly identified

Proper storage

Fire extinguishers nearby

Other

WORKING AT HEIGHT

Erection plan

Safety belts and lanyards; chute lines

Other

ENVIRONMENT

Chemical and other Effluents properly disposed

Cleaning liquid of pipes disposed off properly

Water used for hydrotesting disposed off as
Per agreed procedure

Lubricant Waste/Engine Oil properly disposed

Waste from Canteen, offices, sanitation etc.,
Disposed properly

Disposal of surplus earth, stripping materials,
Oily rags and combustible materials done
Properly

MONTHLY HSE CHECKLIST CUM COMPLIANCE REPORT (Contd.6/6)

| ITEM | YES | NO | REMARKS | ACTION |
|--|-----|----|---------|--------|
| Green belt protection | | | | |
| Hygienic conditions at labour camps O.K? | | | | |
| Availability of First Aid facilities | | | | |
| Proper sanitation at site, office and Labour camps | | | | |
| Arrangement of medical facilities | | | | |
| Measures for dealing with illness | | | | |
| Availability of Potable drinking water For workmen & staff | | | | |

Signature of Resident
Engineer with Seal

3.0 ACCIDENT CUM FIRE REPORT
(To be submitted by contractor after every accident within 24 hours of accident)

Report : _____

Name of Site: _____

Date: _____

CONTRACTOR _____

NAME OF THE INJURED _____

FATHER'S NAME _____

SUB-CONTRACTOR M/S _____

DATE & TIME OF ACCIDENT _____

LOCATION _____

BRIEF DESCRIPTION OF ACCIDENT

CAUSE OF ACCIDENT

NATURE OF INJURY/DAMAGE

MEDICAL AID PROVIDED/ACTIONS TAKEN

INTIMATION TO LOCAL AUTHORITIES

DATE:

SIGNATURE OF CONTRACTOR
WITH SEAL

TO: SITE-IN-CHARGE/BHEL

1 COPY

4.0 SUPPLEMENTARY ACCIDENT & INVESTIGATION REPORT

Project: _____ Supplementary to Report No. _____
(Copy enclosed)

Site: _____ Date: _____

CONTRACTOR _____

NAME OF THE INJURED _____
FATHER'S NAME _____
SUB-CONTRACTOR M/S _____
DATE & TIME OF ACCIDENT _____
LOCATION _____

BRIEF DESCRIPTION & CAUSE OF ACCIDENT

NATURE OF INJURY/DAMAGE

COMMENTS FROM MEDICAL PRCTICETIONER, WHO ATTENDED THE VICTIM / INJURED

SUGGESTED IMPROVEMENT IN THE WORKING CONDITION, IF ANY

LOSS OF MANHOURS AND IMPACT ON SITE WORKS

ANY OTHER COMMENT BY SAFETY OFFICER

DATE: _____ SIGNATURE OF CONTRACTOR
WITH SEAL

TO: SITE-IN-CHARGE/BHEL 1 COPY

**5.0 MONTHLY HEALTH, SAFETY & ENVIRONMENT (HSE) REPORT
(To be submitted by each Contractor)**

Actual work start Date: _____ For the month of _____

Project: _____ Report No. _____

Name of the Contractor: _____ Status as on: _____

Name of Work: _____ Name of safety officer _____

| ITEM | THIS MONTH | CUMMULATIVE |
|----------------------------------|------------|-------------|
| Total Strength (Staff + Workmen) | | |

Number of HSE meetings organized at site

Number of HSE awareness programmes
Attended at site

Whether workmen compensation policy taken Y/N

Whether workmen compensation policy is valid Y/N

Whether workmen registered under ESI Act Y/N

Number of Fatal Accidents

Number of Loss Time Accidents (Other than Fatal

Other accidents (Non Loss Time)

Total No. of Accidents

Total man-hours worked

Man-hour loss due to fire and accidents

Compensation cases raised with Insurance

Compensation cases resolved and paid to workmen

Remarks

Date

Safety Officer/Resident Engineer
(Signature & Name)

GURU NANAK DEV THERMAL POWER PROJECT

PSEB
BATHINDA

**STORAGE SHEDS & OTHER INFRASTRUCTURE FACILITIES TENDER
SPECIFICATIONS**

R&M OF 2 X 110 MW (UNIT 3 AND 4)

SECTION: III

SPECIAL CONDITIONS OF THE CONTRACT

SECTION - III
SPECIAL CONDITION OF CONTRACT

| Clause No. | Title |
|-------------------|---|
| 34.0 | Scope of Work |
| 35.0 | Instruction to Tenderers |
| 36.0 | Contractor's Supervision |
| 37.0 | Supervisory Staff & workmen |
| 38.0 | Tools & Plants / IMTEs |
| 39.0 | Material |
| 40.0 | Execution of the work |
| 41.0 | Methods of measurement |
| 42.0 | Deviation |
| 43.0 | Valuation of deviation |
| 44.0 | Compliance to regulation & byelaws |
| 45.0 | Facilities to be provided by BHEL/ Contractor |
| 46.0 | Progress reporting |
| 47.0 | DRAWING & DOCUMENTS |
| 48.0 | Delay & Extension of Time |
| 49.0 | Price Variation |
| 50.0 | Income tax & Sales Tax |
| 51.0 | Time Schedule |
| 52.0 | Terms of payment |
| 53.0 | Insurance |
| 54.0 | Rate schedule cum BOQ |
| 55.0 | Final Bill |
| 56.0 | Liquidated Damages |
| 57.0 | Security Deposit |
| 58.0 | Others |

SECTION-III SPECIAL CONDITIONS OF CONTRACTS

34.0 SCOPE OF WORK

34.1 The tender Specifications cover all works for development and construction of BHEL storage and store sheds at site for Guru Nanak Dev Thermal Power Project at Bathinda, district Bathinda, State of Punjab, India.. The stores are to be developed on the land given by NTPC within powerhouse site. This includes earth work i.e. Cutting and Leveling of land including rolling and compaction as per the specifications/drawings/instructions, plain & reinforced cement concrete, area fencing, area lighting, high mast lighting retaining walls (if required), drains, supply of all materials required such as reinforced steel, structural steel, cement, bitumen, sand, graded stones, gravel/binding earth, aggregates, pipes, Columns, purlins, trusses, colored roof sheets, side claddings, electrical items and any other materials to complete the work, Fabrication and Erection of structures at site stores, edge angles, steel / wooden doors , windows, reinforcement, scaffolding, form work, masonry work, WBM roads, plumbing, sanitation, sewage, electrical works etc. including supply of all materials labour, consumables, tools & plants, transportation, storage, sample testing, octroi, applicable taxes etc., and Plantation of new Trees & Plants at site and office site as instructed by Engineer-in-charge.

34.2 The scope of work shall generally include but not limited to the construction of the following. The contractor is required to carry out all the items indicated in the tender including the rate schedule.

- The location for the closed/semi closed storage sheds, storage and office complex are on raised platform./leveled and compacted area
- Cutting, leveling& compaction of land as per instruction of Engineer-in-charge.
- Disposal of extra debris at the nearby places ,if required, not more than 2 - 3 Km
- Culverts and necessary drains.
- Fencing of storage yard complex.
- Electrification and lighting of indoor and outdoor storage area.
- Water bound Macadam roads.
- Internal electrification work
- Construction of security posts along with toilet, entry gates at the stores
- Construction of office, closed storage/semi-closed sheds
- Plumbing, sanitation and sewerage work
- Septic Tank/soak pit
- Plantation and relocation of existing Trees & Plants
- Safety at Site
- Arrangement at own cost all manpower and materials required for completion of work.
- Records of consumables, man power report and work progress
- Quality, Inspections and testing
- Taxes and Duties, octroi etc.,
- The work over and above this tender specification are to be carried out as per the decision of BHEL Enginer- in- charge

Detailed specifications has been detailed in Annexure A enclosed.

PLANTATIONS

In order to protect Environment and as per the statutory requirement of Forest and Horticulture departments of that area, close co-ordination with the assigned authorities shall be maintained and prior permission for any cutting of existing tree or plant shall be obtained by the contractor to avoid any stoppage or hurdle in the progress of work. The Contractor is required to cut / relocate some of the existing plants / trees and to implant and maintain at least 100 new plants / trees of assorted type at BHEL stores, office within first month of the contract and maintain it till the tenure of the contract. No separate payment will be made for this work.

34.3 The work under this contract shall be carried out as per specifications, special conditions of contract, technical specifications, rate schedule, drawings etc., In case specifications are found to be incomplete CPWD specifications shall be followed as per site BHEL engineers instructions and approval.

- 34.4 **If there is any extra work, over and above the scope specified, it shall be carried out as per the prevailing CPWD latest rate schedule with applicable prevailing cost index. For non-scheduled items, market analysed rates + OH & Profits @15% shall be admissible.**
- 34.5 Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, electricity, compressed air, water and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
- 34.6 Furnishing test reports for the products used or intended to be used, shall be submitted if so desired by the engineer.
- 34.7 Carrying out topographic survey of the entire area of the stores land and establish levels and coordinates at suitable intervals, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.
- 34.8 The nature and extent of work involved are as per the requirement mentioned. The successful tenderer shall submit detailed proposed working drawings of following for approval of BHEL during execution. (The general sketches of complex of 25000 Sqm etc., showing BHEL requirements are enclosed.)
- a) Layout plan office, storage area and for closed/semi closed storage sheds.
 - b) Layout of security cabin.
 - c) Supporting Structure detail for PVC water tanks.
 - d) Truss standard details.
 - e) Fencing Details.
 - f) Details of poles and cable laying for area lighting.
 - g) Details of Main Gates
 - h) Electrical layout
- 34.9 Man Months requirements for misc. works of BHEL - NA
- 34.10 BHEL-Power Sector (NR) is ISO 9001-2000, ISO 14001-1996, OHSAS 18001-1999, BS 7799 and SA-8000 certified company. Quality of work, to customer's satisfaction and system requirements is the essence of these certifications. The contractor in all respects will organize his work, systems, environment, process control documentation, tools, plant, inspection, measuring and testing equipments etc. as per instructions of BHEL engineer.**
- The contractor shall also comply with applicable legislation and regulations with regards to Health, Safety and Environmental aspects (HSE) for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage and he will be responsible for Health, Safety & Environment management at site for the construction activities to be carried out by them in accordance with requirements given under section I (a) of GCC.**
- 34.11 Besides provision with regard to SAFETY under Clause 27, Contractor shall note that Explosives shall not be used on the work by contractor except with permission in writing of the ENGINEER and in manner and to the extent to which he has prescribed. Where explosives are used, the same shall be stored in a special magazine to be provided by and at the cost of the contractor who shall be liable for all damages, losses and injury to any person or property and shall be responsible for complying with all statutory obligations in these respect. The contractor should have the valid license for carrying out the blasting work and also for storage of explosives.
- 34.12 The contractor shall comply with following towards Social Accountability;**
- (a) The contractor shall not employ any employee less than 15 years of age in pursuant to ILO convention. If any child labour were found to have been engaged , the Contractor shall be levied with expenses of bearing his education expenditure which will include stipend to substantiate appropriate education or employ any other member of family enabling to bear the child education expenditure.
 - (b) The contractor shall not engage Forced/Bonded Labour and shall abide by abolition of Bonded Labour System(Abolition) Act, 1976.
 - (c) The contractor shall maintain Health & safety requirement as stipulated in the Contract and Contract Labour(Regulation & Abolition) Act,1970.
 - (d) The Contractor shall abide by UN convention w.r.t Human Rights and shall be liable for Discrimination/Corporal punishment for failure in meeting with relevant requirements.
 - (e) The Contractor shall abide the requirement of Contract Labour(Regulation & Abolition) Act,1970 for working hours.

(f) The Contractor shall abide by the Statutory requirement of Minimum Wages Act 1948, payment of Wages Act 1936.

(g) The Contractor shall arrange potable drinking water to its employees & workers.

34.13 Contractor has to ensure availability of adequate First Aid facilities with trained nurse. Contractor has to maintain contact with local hospital having ambulance, scanning & other ultra modern medical facilities required during emergency.

35.0 INSTRUCTIONS TO TENDERERS

35.1 **The tenderers are advised to physically visit the site and fully acquaint themselves with site conditions, transportation routes, various distances and the fact that other contractors would be working in this area their structures are to be protected. The material brought and stacked for construction should not make hindrance to other contractors. Necessary precaution and arrangements including sprinkling of water during work as acceptable to BHEL for safety & security for the above have to be made by the contractor. No claim will be entertained by BHEL on ground of lack of knowledge and the contractor's rates shall be deemed to have taken this into account.**

35.2 The contractor, in the event of this work awarded to him, shall establish an office at site and keep posted a recognized, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the `Engineer' or his duly recognized representative, communicated to the contractor's representative at site office will be deemed to have been communicated to the contractor at his legal address.

35.3 The Tenderer should quote the prices keeping in view of any increase in cost for labour, material transportation, construction consumables, diesel / petrol and other lubricants etc. No revision in the quoted and accepted prices and rates shall be accepted by BHEL.

36.0 CONTRACTOR'S SUPERVISION

36.1 The Contractor shall himself supervise the execution of the Contract and shall appoint a competent Engineer / agent approved by BHEL Engineer to act in his place.

36.2 The Contractor shall employ an Engineer having at least a Degree of Bachelor in Civil Engineering' from a recognized university having experience for carrying out any work with a contract value exceeding Rupees Fifty Lacs, and minimum one supervisor having at least a `Diploma in Civil Engineering' from a recognized college, for work with a contract value exceeding Rs.Ten lacs and also one electrical supervisor having experience for carrying out similar any work

36.3 The employment of an Engineer as aforesaid shall not be necessary if the Contractor himself is in possession of a recognized technical qualification and is in the opinion of the Engineer capable of receiving instructions of the Engineer and of executing the work to the satisfaction of the Engineer.

36.4 If the Contractor fails to appoint a suitable Engineer as aforesaid, the Engineer shall have full powers to suspend the execution of work and stop payment of any money that may have become due until such date as a suitable Engineer 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.

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

36.6 The Contractor representative shall be in attendance at the site during all working hours and shall superintend the execution of work with such additional assistance in each grade, as the Engineer may consider necessary.

36.7 The Contractor or his accredited representative shall attend, when required and without making any claim for doing so, either the office of the Engineer or the work site to receive instructions.

36.8 The Engineer shall have full powers, and without assigning any reason, to require the Contractor immediately to cease to employ in connection with this contract any Agent, servant or employee whose continued employment is, in his opinion, undesirable.

37.0 SUPERVISORY STAFF AND WORKMEN

37.1 The contractor shall deploy all the experienced skilled, semiskilled and unskilled workmen required for all the works under this specification. BHEL reserves the right to decide on the suitability of the workers and other personnel who will be deployed by the contractor. BHEL reserves the right to insist on removal of any employee of the contractor at any time, if they find him unsuitable and the contractor shall forth with removes him.

37.2 The supervisory staff including qualified Engineers deployed by the contractor shall ensure proper out-turn of work and discipline on the part of the labour put on the job by the contractor and in general see that the works are carried out in a safe and proper manner and in coordination with other labour and staff deployed directly by BHEL or other contractors of BHEL / BHEL's Client / other agency.

37.3 The work shall be executed under the usual conditions like rain, insufficient space, improper approach roads etc., and effecting major construction work and in conjunction with numerous other operations at site. The contractor and his personnel shall cooperate with other personnel / contractor, coordinating his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.

- 37.4 The contractor's supervisory staff shall execute the work in the most substantial and workman like manner in the stipulated time. Accuracy of work and aesthetic finish are essential part of this contract. The contractor shall be responsible to ensure that assembly and workmanship conform to the dimensions and tolerances given in the drawings / documents / instructions given by BHEL Engineer from time to time.
- 37.5 It is the responsibility of the contractor to engage his workmen in round the clock shifts or on overtime basis for achieving the targets set by BHEL. The contractor's finally accepted rates shall include all these contingencies. The contractor shall deploy the necessary number of qualified and approved fulltime electrician at his cost to maintain the temporary electrical installations and other related areas.
- 37.6 During the course of construction, if the progress is found unsatisfactory, or in the opinion of BHEL, if it is found that the skilled workmen like masons, carpenter, bar binder, welder, piling rig operators, fitters, technicians etc. deployed are not sufficient, BHEL after giving reasonable opportunity to the contractor, will induct on the work the required workmen in addition to contractor's workmen to improve the progress and all charges incurred for engaging the additional workmen as per requirement with overheads shall be recovered from the contractor's running bills.
- 37.7 If the contractor or his workmen or employees shall break, deface, injure or destroy any part of a building, road kerb, fence, enclosure, water pipes, cables, drains, electric or telephone posts or wire, trees or any other property or to any part of erected components etc., the contractor shall make the same good at his own expense or in default, BHEL may cause the same to be made good by other workmen or by other means and deduct the expenses (of which BHEL's decision will be final) from any money due to the contractor.
- 37.8 The monthwise manpower deployment plan to be submitted as per format (at Annexure-C to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required manpower, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account. Separate persons shall be identified for quality and safety at site.
- 38.0 TOOLS AND PLANTS / IMTEs**
- 38.1 All the T&P / IMTEs, which are required for successful and timely completion of work covered under these specifications shall be arranged and provided by the contractor at his own cost in working condition. Contractor shall make his own arrangement for maintenance of all the tools and plants, having adequate stock of spares and consumables to minimize the down time.
- 38.2 In the event of the failure of contractor to bring necessary and sufficient T&Ps/ and IMTEs, BHEL will be at liberty to arrange the same at the risk and cost of contractor including transportation cost of same from any of BHEL site/place and hire charges as applicable shall be deducted from contractor's bill. Decision of BHEL in this regard shall be final and binding on contractor.
- 38.3 All distribution boards, connecting cables / welding cables, wire ropes, hoses etc. including temporary air/water / electrical connections etc. shall have to be arranged by the contractor at his own cost.
- 38.4 All supervision and labour required for maintenance and the contractor at his own cost shall arrange attending breakdowns.
- 38.5 Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, Manila ropes, winches and slings, road rollers, bull dozers/JCB etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL Engineer for inspection as and when required. Identification for such T&Ps will be done as per BHEL Engineer's advice. 62
- 38.6 Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection measuring and Test equipment). The IMTEs shall have test/ calibration certificates from authorized / Govt. approved / accredited agencies traceable to National / International standards. Each IMTE shall have a label indicating calibration status i.e. date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL Engineer for control.
- 38.7 Retesting / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer with in the contract price. The contractor will also have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e. repeat the readings taken by that instrument, failing which BHEL may deploy IMTEs and retake the readings at contractor's cost.
- 38.8 BHEL shall have lien on all T&P, IMTEs & other equipment of the Contractor brought to the site for the purpose of construction of stores. BHEL shall continue to hold the lien on all such items throughout the period of contract. The Contractor and/or his Sub-contractors shall remove no material brought to the Site from the Site without the prior written approval of the Engineer.

38.9 The month wise T&P deployment plan to be submitted as per format (at Annexure-D to general conditions of contract) is only to assess the capability as well as understanding of the contractor to execute the work. It shall be the contractor's responsibility to deploy the required T&P, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.

39.0 MATERIALS

- 39.1 The contractor shall at his own expenses provide all stores and materials for all civil, mechanical, and electrical works including cement and steel required for the work.
- 39.2 All stores and materials to be provided by the Contractor shall be of the best kind in conformity with the specifications laid down in the contract or as per relevant Indian standard and the Contractor shall, if requested by the Engineer, furnish proof to the satisfaction of Engineer that the materials so comply.
- 39.3 The Contractor shall, at his own expense and without delay, supply to the Engineer samples of materials proposed to use in the works. The Engineer shall within seven days of supply of samples or within such further period as he may require will intimate to the Contractor in writing, whether samples are approved by him or not. If samples are not approved, the Contractor shall forthwith arrange to supply to the Engineer for his approval fresh samples complying with the specifications laid down in the Contract. Any delay in approval of samples (original or fresh ones) shall not make the contractor eligible for any compensation.
- 39.4 The Engineer shall have full powers to require removal of any or all of the materials brought to site by the Contractor which are 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 shall be at liberty to have them removed by other means. The Engineer shall have full powers to procure other proper material to be substituted for rejected materials and in the event of the Contractor refusing to comply; he may cause the same to be supplied by other means. All costs, which may attend upon such removal and / or substitution, shall be borne by the Contractor.
- 39.5 The Contractor shall indemnify BHEL, its representatives or employees against any action, claim or proceeding relating to infringement or use of any patent or design or any alleged patent or design rights and shall pay any royalties or other charges which may be payable in respect of any article or material or part thereof included in the Contract. In the event of any claim being made or action being brought against BHEL or any agent, servant or employee of BHEL in respect of any such matters as aforesaid, the Contractor shall immediately be notified thereof, provided that such indemnity shall not apply when such infringement has taken place in complying with the specific directions issued by BHEL but the Contractor shall pay any royalties or other charges payable in respect of any such use, the amount so paid being reimbursed to the Contractor only if the use was the result of any drawings / specifications issued after submission of the tender.
- 39.6 The Engineer 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 may require for the purpose. If no tests are specified in the Contract, and the Engineer requires such tests, the Contractor shall provide all facilities required for the purpose and the charges for these tests shall be borne by the Contractor only. The cost of materials consumed in tests shall be borne by the Contractor in all cases except when otherwise provided.
- 39.7 In addition the Contractor shall perform / submit at his own cost such tests / samples as may be required by the Engineer out of the materials used by the contractor except for the costs of materials used in such tests/ samples.
- 39.8 After acceptance of the Contract, if Contractor desires BHEL to supply any other materials, such material may be supplied by BHEL, if available, at rates to be fixed by the Engineer along with prevailing departmental charges (current rate of 30%). BHEL reserve the right not to issue any material. The non-issue of such material will not entitle the Contractor for any compensation whatsoever either in time or in cost.
- 39.9 Material 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. Storage and safe custody of material shall be the responsibility of the contractor.
- 39.10 BHEL's officials concerned with the Contract shall be entitled at any time to inspect and examine any materials intended to be used in or on the works, either on the Site or at factory or workshop or other place(s) where such materials are assembled, fabricated, 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.

- 39.11 All materials brought to the Site shall become and remain the property of BHEL and shall not be removed off the Site without the prior written approval of the Engineer. But whenever the Works are finally completed and advance, if any, in respect of any such material is fully recovered, the Contractor shall at his own expense forthwith remove from the Site all surplus material originally supplied by him and upon such removal, the same shall re-vest in and become the property of the Contractor.
- 39.12 It shall be the responsibility of the contractor to obtain prior approval of BHEL, regarding suppliers, type of electrodes etc. before procurement of welding electrodes / TIG wires. On receipt of electrodes at site these shall be subjected to inspection and approval by BHEL. The contractor shall inform BHEL details regarding type of electrodes, batch No. date of expiry etc. and produce test certificate for each lot / batch with correlation of batch/ lot no. with respective test certificate. No electrode will be allowed to be used without valid test certificate.
- 39.13 All charges on account of Octroi, terminal or sales tax and other duties on material obtained for the works from any source shall be borne by the contractor.

40.0 EXECUTION OF WORK

- 40.1 The work shall be executed in a workman like manner and to the entire satisfaction of the Engineer and as per technical specification issued with tender, IS codes, CPWD specifications/UP PWD specifications as applicable. In case of conflict, the decision of the Engineer shall be final & binding.
- 40.2 The Engineer will communicate or confirm his instructions to the Contractor in respect of the execution of the work in a "Work Site Order Book" maintained at his office and the Contractor shall visit this office daily and shall confirm receipt of such instructions by signing the relevant entries in this book. Such entries will rank as order or notices in writing within the intent and meaning of these conditions.
- 40.3 Only BHEL approved make of electrodes will be used. All electrodes shall be heated and dried in the electric electrode-drying oven to the required temperature for the period specified by the Engineer before these are used in erection work. All welders shall have electrodes drying portable oven at the work spot. The electrodes brought to site will have valid manufacturing test certificate. The test certificate will have co-relation with the lot no. / batch no. given on electrode packets. No electrodes will be allowed to use in the absence of above requirement. The thermostat and thermometer of electrode drying oven will be also calibrated and test certificate from Govt. approved/ accredited test house traceable to National / International standards will be submitted to BHEL before putting the oven in use. Periodical calibrations for the same shall also be arranged by the contractor within the finally accepted rates.

40.4 SETTING OUT

- 40.4.1 All the works shall be set out to the true lines, grades and elevation indicated on the drawing. The contractor shall be responsible to locate and set out the works. Only one grid reference line and benchmark all be made available for setting out the works under the contract. This reference lines shall be used, as datum for the works under the contract and the contractor has to establish for his work area at available points horizontal and vertical control points. The contractor shall inform BHEL well in advance of the times & places at which he wishes to do work in the area allotted to him so that suitable datum points established by him are checked by BHEL / Customer to enable the contractor to proceed with the works. Any work done without being properly located may be removed and / or dismantled by BHEL / Customer at contractors expense.
- 40.4.2 The contractor shall at his own expense take all proper and responsible precautions to preserve and maintain these datum marks to its true position. In the event of these marks being disturbed or obliterated by accident or due to any other cause whatsoever, the same may be deemed necessary placed by BHEL / Customer at contractor's expenses.

40.5 SITE DRAINAGE

- 40.5.1 All water including sub-soil water which may accumulate on the Site during the progress of the works or in trenches and excavations, including monsoon period shall be removed by the contractor from the Site to the satisfaction of the Engineer. It will also be responsibility of the contractor to de-water all the foundation pits, trenches with suitable de-watering methods like, pumping out, well point system etc. Considering the depth of water table at plant site. All such expenditure on de-watering shall be deemed to be included in quoted rates.

40.6 INSPECTION AND STAGE APPROVAL OF THE WORK

- 40.6.1 The owner or his duly authorised representative shall have at all reasonable times access to the contractor's premises or works and shall have the power to inspect drawings or any portion of the work, examine the materials and workmanship and shall have the authority to reject any work. This

would be implemented through joint inspection by the representative of the owner and BHEL and in the form of joint protocols without any extra claims and loss of time and amount.

- 40.6.2 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 when each stage is ready. In default of such notice being received, the Engineer 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 BHEL Engineer there on shall be final and conclusive.

40.7 UNCOVERING AND MAKING GOOD

- 40.7.1 The Contractor shall uncover any part of the Works and/or make openings in or through the same as the Engineer may from time to time direct for his verification and shall reinstate and make good such part to the satisfaction of the Engineer. If any such part has been covered up or put out of view after being approved by the Engineer and is subsequently found on uncovering to be executed in accordance with the Contract, the expenses of uncovering and / or making opening in or through, reinstating and making good the same shall be borne by BHEL. In any other case all such expenses shall be borne by the Contractor.

40.8 DISCREPANCIES AND ADJUSTMENT OF ERRORS

- 40.8.1 The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawings and figures dimensions in preference to scale and special conditions in preference to general conditions.
- 40.8.2 In case of discrepancies between schedules of quantities, the specification and / or the drawings, the following order of preference shall be observed.
- (a) Description in schedule of quantities.
 - (b) Special conditions
 - (c) Drawings
 - (d) Technical Specifications
 - (e) General conditions of contract

If there are varying or conflicting provisions made in any one document forming part of the contract, the Engineer shall be the deciding authority with regard to the document.

- 40.8.3 Any error in description, quantity in schedule of quantities or any omission there from shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised there in according to the drawings and specifications or from any of his obligations under the contract.
- 40.8.4 If on check there are found to be differences between the rates given by the contractor in words and figures or in the amount worked out by him in the schedule of quantities and general summary, the same shall be adjusted in accordance with the following rules:
- (a) In the event of discrepancies between description in words and figures quoted by a tenderer, the lesser of the two will be treated as valid rate.
 - (b) In the event of an error occurring in the amount column of schedule of quantities as a result of wrong extension of the unit rate and quantity, the unit rate shall be regarded, as firm and extension shall be amended on the basis of the rate.
 - (c) All errors in totaling in the amount column and in carrying forward totals shall be corrected.
 - (d) The totals of various sections of bill of quantities amended shall be carried over to the general summary and the tendered sum amended accordingly. The tendered sum so altered shall, for the purpose of tender, be substituted for the sum originally tendered and considered for acceptance instead of the original sum quoted by the tenderer. Any rounding of quantities or in sections of bill of quantities or in general summary, by the tenderer, shall be ignored.
- 40.8.5 If neither drawing nor specification contain any mention of minor details of construction which in the opinion of the Engineer whose decision shall be final and conclusive, are reasonable and obviously and fairly intended for satisfactory completion of 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.

40.9 SAFETY CODE

- 40.9.1 BHEL-Power Sector (NR) is ISO 9002-2000 certified company and has been recommended for ISO 14001-1996 and OHSAS 18001 and CII certification. Work quality to customer's satisfaction, system requirements, health, safety & environmental protection are the basic essence of this certification. The contractor in all respects will organize his work, systems, process control documentation, T&P, inspection, measuring and testing equipment etc. Meeting above requirements as per instructions of BHEL engineer. The contract shall also comply with applicable legislation and regulations with regards to Health, safety and environmental aspects for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage.

40.9.2 Besides provision with regard to SAFETY under Clause 27, Contractor shall note that Explosives shall not be used on the work by contractor except with permission in writing of the ENGINEER and in manner and to the extent to which he has prescribed. Where explosives are used, the same shall be stored in a special magazine to be provided by and at the cost of the contractor who shall be liable for all damages, losses and injury to any person or property and shall be responsible for complying with all statutory obligations in these respect. The contractor should have the valid license for carrying out the blasting work and also for storage of explosives.

40.10 NUISANCE

40.10.1 The Contractor shall not at any time do, cause or permit any nuisance on Site or do anything which shall cause unnecessary disturbance or inconvenience to owners, tenants or occupiers of other properties near the Site and to the public generally.

40.11 MATERIAL OBTAINED FROM EXCAVATION

40.11.1 Materials of any kind obtained from excavation on the Site shall remain the property of BHEL / its client and shall be disposed of as the Engineer may direct, at no extra cost.

40.12 TREASURE, TROVE, FOSSILS etc.

40.12.1 All fossils, coins, articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the site shall be the absolute property of BHEL / BHEL's client and the Contractor shall take reasonable precautions to prevent his workmen or any other person from removing or damaging any such article or thing, shall immediately upon discovery thereof and before removal acquaint the Engineer with such discovery and carryout the Engineer's directions as to the disposal of the same.

40.13 PROTECTION OF WORKS

40.13.1 Trees designated by the Engineer shall be protected from damage during the course of the Works and earth level within 1 meter of each such tree shall not be charged. Where necessary, such trees shall be protected by providing temporary fencing.

40.13.2 The contractor shall provide and maintain at his own expense all lights, guards, fencing and watching when and where necessary or required by the Engineer for the protection of the Works or for the safety and convenience of those employed on the Works or the public.

40.13.3 The contractor shall have total responsibility for protecting his works till it is finally taken over by the Engineer. No claim will be entertained by the Engineer for any damage or loss to the contractor's works and the contractor shall be responsible for the complete restoration of the damaged works to its original condition to comply with the specifications and drawings. Should any such damage to the contractor's works occur because of other party not under his supervision or control, the contractor shall make his claim directly with the party concerned. The contractor shall not cause any delay in the repair of such damaged works because of any delay in the resolution of such disputes. The contractor shall proceed to repair the work immediately and no cause thereof will be assigned pending resolution of such disputes.

40.14 RECORD FOR MATERIALS CONSUMED

40.14.1 The contractor shall maintain and furnish to the Engineer the record of materials consumed in the works for each activity. The statement showing the theoretical vis-à-vis actual consumption of specified materials, such as structural /reinforcement steel, cement, bitumen, lead, paint etc., shall be enclosed along with the running bills submitted by the contractor. Contractor has to also furnish the test results of the concrete cubes, bricks, stone aggregates and other materials used in the work as per IS specifications.

40.15 PROTECTION OF EMBEDMENTS, BOLTS ETC

40.15.1 The contractor shall ensure proper protection to the satisfaction of the Engineer, of all bolts, inserts, embedment etc. From weather etc/ by greasing, rapping them with gunny bags or canvas or by any other means as directed by Engineer. Cost of such protections shall be deemed to be included in the rates quoted for the item.

40.16 CLEARANCE OF SITE AND REPAIRS.

40.16.1 Contractor has to clear the site / area where mechanical and electrical erection work is to be commenced / or in progress. The contractor shall remove construction materials and equipment lying in the vicinity and causing obstruction in the erection work within 24 hrs. Notice. In case, he fails to clear the site, this will be done at his risk & cost by BHEL.

40.17 QUALITY ASSURANCE

40.17.1 The contractor has to establish / arrange at site the field testing facilities for testing of civil construction materials and concrete cubes for ensuring the proper quality, grade and strength of the materials used in the construction in line with approved field quality check list of BHEL/ its client. Contractor has to submit detailed report for testing of all material used

etc. All testing shall be done as per IS code specifications/ BHEL's quality plan. If further test is required by the engineer to be carried from outside laboratory, the cost of the same shall be borne by the contractor.

40.18 COMPLETION OF WORK

- 40.18.1 The works shall be completed to the entire satisfaction of the Engineer and in accordance with the completion schedule as specified in the Contract, and all unused stores and materials, tools, plant, equipment, temporary buildings, site office, labour hutments and other things shall be removed and the site and work cleared of rubbish and all waste materials and delivered up clean and tidy to the satisfaction of the Engineer at the Contractor's expenses.
- 40.18.2 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. Such work however shall not be treated as have been completed until the extra works are executed to the satisfaction of Engineer. The Guarantee period shall commence only after handing over of the entire works.
- 40.18.3 The Engineer shall certify to the contractor the date on which the work is completed and the date thereof.

40.19 RECORDS AND MEASUREMENTS

- 40.19.1 All items having a financial value shall be entered in BHEL measurement Book so that a complete record is obtained of all works performed under the Contract.
- 40.19.2 Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.
- 40.19.3 The measurements shall be taken jointly by any person duly authorised on the part of BHEL and by the Contractor.
- 40.19.4 The Engineer shall give reasonable notice in writing to the Contractor of appointment for measurement.
- 40.19.5 The Contractor shall, without extra charge, provide assistance with appliances and other things necessary for measurement and shall bear all the cost of measurement of his work.
- 40.19.6 Measurement shall be entered in 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 the behalf of BHEL, a note to that effect will be made in 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.
- 40.19.7 If, as a result of such objection, it becomes necessary to re-measure the work wholly or in part the expense of such re-measurement shall be borne by the contractor.
- 40.19.8 If the Contractor's representative fails to attend when required, the Engineer shall have power to proceed by himself to take measurements and in that case these measurements shall be accepted by the Contractor as final.
- 40.19.9 The Contractor shall, once in every month, submit to the Engineer details of his claims for the work done by him upto and including the previous month which are not covered by this Contract Agreement in any of the following respects:
- (a) Deviation from the items and Specifications provided in the tender.
 - (b) Extra items/new 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.

41.0 METHOD OF MEASUREMENT

- 41.1 Method of measurements if not specified in the tender, shall be as per relevant IS Codes / CPWD codes / PWD codes.

42.0 DEVIATION

- 42.1 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. 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 Engineer in writing and incorporated in the Contract.
- 42.2 The Engineer 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 the percentage set out in the tender documents. The value of all additions and deductions shall be added to or deducted from the Contract sum. (Whenever the Engineer intends to exercise such a right his intentions shall specify the deviations which are to be made, the lumpsum 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 within seven days from the date of such order, but under no circumstances shall the work be stopped (unless so ordered by the Engineer) owing to differences or controversy that may arise from such an objection. In the absence of such a notification of objection by the Contractor, he will be deemed to have accepted the order and the conditions stated therein.

43.0 VALUATION OF DEVIATIONS

Rates for deviated items or new items of work shall be as follows:

- 43.1 If the rates for the additional, altered or substituted work are specified in the Contract for the work, the Contractor is bound to carry out the additional, altered or substituted work at the same rates as are specified in the Contract for the work.
- 43.2 If the rates for the additional, altered or substituted work are not specifically provided in the Contract for the work, the rates will be derived from the rates for a similar class of work as are specified in the Contract for the work or it shall be carried out as per the prevailing CPWD latest rate schedule with applicable prevailing cost index.
- 43.3 If the rates for the altered, additional or substituted work cannot be determined in the manner specified in above clauses the rate for such part or parts will be determined by the Engineer on the basis of prevailing market rates when the work was done and the decision given in this behalf shall be final and binding on the Contractor. Rate analysis will be worked on CPWD manual of rate analysis as guidance.
- 43.4 If the rates for the altered, additional or substituted work cannot be determined in the manner specified in above clauses, then the contractor shall within 7 days of the date of receipt of order to carry out the work inform the Engineer of the rate at which it is his intention or charge for such class of work, supported by analysis of the rate or rates claimed, and the Engineer shall determine the rate or rates on the basis of prevailing market rates and pay the Contractor accordingly. However, the Engineer, by notice in writing, will be at liberty to cancel his order to carryout such class of work and arrange to carry it out in such manner, as he may consider advisable. But under no circumstance the Contractor shall suspend the work on the plea of non-settlement of rates falling under the clause or claim any compensation on that account. Elements of profit, overheads, supervision and establishment charges will be taken as 15% over direct cost.

44.0 COMPLIANCE TO REGULATIONS AND BYELAWS

- 44.1 The Contractor shall conform to the provisions of any statute relating to the work and regulations and bylaws of any local authority and of any water and lighting Companies or Undertaking 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, notice specifying the variation proposed to be made and the reasons therefore and shall not carryout any such variation until he has received instructions from the Engineer in respect thereof. The Contractor shall be bound to give all notices required by statute, regulations or bye-laws as aforesaid and to pay all fees and taxes payable to any authority in respect thereof.

45.0 FACILITIES TO BE PROVIDED BY BHEL / CONTRACTOR

- 45.1 BHEL shall provide free of charge limited open space for office and store inside the stores area at site. It is the responsibility of the contractor to construct sheds for his purposes, provide all utilities as a part of his scope of work.
- 45.2 Contractor shall be responsible for providing all necessary facilities like residential accommodation transport, electricity, water, medical facilities etc. as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him. In case if the land for labour colony is provided by PSEB the same shall be provided to the contractor on similar terms and conditions to the contractor to accommodate their labourers.
- 45.3 Free Construction power for the purpose shall be provided byPSEB/ BHEL. In case if the same could not be arranged / abrupt in that case the same is to be arranged by the contractor from local electricity authorities or by arranging through his own DG set for the construction purpose within the awarded price. Contractor at his own cost also shall do further distribution of power for the purpose of construction. All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply. The contractor shall have no claims for the construction power interruptions and it shall not be considered an excuse for delay of works. The contractor may have his own arrangements for back up power supply. Non-availability of construction power cannot be considered a valid reason to justify delay in completion of the awarded work.
- 45.4 Provision of distribution lines of power from the central points to the required place with proper distribution boards observing the safety rules laid down by the authorities of the state shall be done by the contractor, supplying all the materials like cables, distribution board, switch boards, TPN, CBS, ELCBS/ MCCBS / Copper / Brass clamps, copper conductor, change over switches pipes etc. at his own cost. If any failure is caused in supply of the power and water, it is the responsibility of the contractor to make alternate arrangements at his cost. The contractor shall adjust his working shift / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 45.5 In case of power cuts / load shedding no compensation for idle labour or extension of time for completion of work will be given to contractor.

- 45.6 Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, contractor's material storage area etc. within finally accepted rates.
- 45.7 **Water for Construction /Drinking purposes** shall be arranged by the contractor at his own cost. It will be the responsibility of the Contractor to satisfy himself that the water drawn by him is fit for construction/ consumption and adequately treat such water at his cost when it is not found fit for the said purposes. The Contractor should make arrangements for storage of sufficient quantity of water required for work.
- 45.8 No claim for damages will be entertained by the Company on account of interruptions of water supply or limitation of quantity of water as aforesaid or on account of the water so taken being not fit for construction purposes or on any other account in connection with such water supply.
- 45.9 The Contractor shall during the progress of the work, provide, erect and maintain at his own expenses all necessary temporary workshops, stores, consumables, offices, etc. Required for the proper and efficient execution of the work. The planning, setting and erection of these buildings shall have the approval of the Engineer and the Contractor shall at all times keep them tidy and in a clean and sanitary condition to the entire satisfaction of the Engineer.
- 45.10 On completion of work or as and when required by BHEL, all the temporary buildings, structures, pipe lines, cables etc. Shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, same will be got done by the Engineer and expenses incurred shall be recovered from the contractor along with prevailing overhead. The decision of BHEL Engineer in charge in this regard shall be final.

46.0 PROGRESS REPORTING

- 46.1 Contractor is required to draw mutually agreed monthly programme in consultation with BHEL well in advance. Contractor shall ensure achievement of agreed programme and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
- 46.2 Weekly progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled programme shall be discussed for actions to be taken for achieving targets. The programme for subsequent week shall also be presented by contractor for discussions. The contractor shall constantly update/ revise his work programme to meet the overall requirement. All quality problems shall be discussed during above review meetings. Necessary preventive and corrective action, shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of non-conformities.
- 46.3 The contractor shall submit weekly and monthly progress reports, materials reports, consumables (gases / electrodes) report and other reports as per Performa considered necessary by the Engineer.
- 46.4 The progress report shall indicate the progress achieved against planned, with reasons indicating delays , if any, and shall give the remedial actions which the contractor intends to take to make good the slippage or lost time, so that further works again proceed as per the original programme and the slippage do not accumulate and effect the overall programme.
- 46.5 The daily manpower reports shall clearly indicate the manpower deployed, categorywise specifying also the activities in which they are engaged.

47.0 DRAWING AND DOCUMENTS

- 47.1 The contractor shall visit the site and get acquaint himself with the topography of the land to be leveled for the purpose of construction of closed and open stores area. and see for himself the basic layout of the stores at that place. Based on that layout, contractor shall submit the drawing for the closed storage shed with all the structural details along with the foundation details and associated civil works. The basic layout drawing is enclosed with the tender. The detailed drawing plan is to be submitted by the contractor along with the tender submission.
- 47.2 The data furnished in various annexures enclosed with this tender specification are only approximate and for guidance. However, during the execution the change in the design and in the quantity may occur as is usual in any such large scale of work.
- 47.3 Should any error or ambiguity be discovered in the specification or information the contractor shall forthwith bring the same to the notice of BHEL before commencement of work. BHEL's interpretation in such cases shall be final and binding on the contractor.
- 47.4 Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.

48.0 DELAY AND EXTENSION OF TIME

- 48.1 If, in the opinion of the Engineer, the work is delayed
- (a) By reason of abnormally bad weather, OR
 - (b) By reason of serious loss or damage by fire, OR
 - (c) By reason of civil commotion, local combination of workmen, strike or lockout, affecting any of the trades employed on the work, OR

- (d) By delay on the part of the agency or tradesmen engaged by the BHEL in executing work not forming part of the Contract, OR
(e) By reason of any other cause which in the absolute discretion of the Engineer is beyond the Contractor's control,

Then in any such case, the Engineer (or higher authority) may make fair and reasonable extension in the completion dates of the individual items of work or the Contract as a whole. Such extension which will be communicated to the Contractor by the Engineer 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 but shall nevertheless use constantly his best endeavor to prevent or make good the delay and shall do all that may reasonably be required to the satisfaction of the Engineer to proceed with the work.

49.0 PRICE VARIATION

49.1 The finally accepted rates for scope of work as defined in this tender are subjected to price variation provisions as per following formula:

$$P1 = \frac{0.75 \times P0 (F1 - F0)}{F0}$$

P1=Increase in billing amount (variation) for the particular month of billing.

P0 = Gross billed amount for the month as per contract provisions.

F1 = All India CPI published by Labour bureau, Simla, Govt. of India, for Industrial workers (Base 1982 =100) applicable for the month under consideration i.e. for which bill has been raised.

F0 = All India CPI published by Labour bureau, Simla, Govt. of India, for Industrial workers (Base 1982 =100) [applicable for the month of opening of technical bid.](#)

49.2 Price variation as per above formula will be calculated and paid on the total contract value (excluding payments towards extra works and over run, if any) on month to month basis from the date of award. BHEL however reserves the right to freeze variation for that much of duration of delays, from time to time, which are entirely attributable to the contractor. **Price variation on last 4 % of CV will be based on average index.**

49.3 With the provision of price **variation** as per above clauses NO CLAIM / COMPENSATION/OVER RUN on account of any increase whatsoever, (irrespective of whether escalation are steep/ unanticipated or not compensated by the above escalation provisions in full towards minimum wages, consumables, coarse / fine aggregates, steel, wood, electrodes, gases or any other item / reason) will be payable during the entire period of execution including extended period, if any. **50.0 INCOME TAX, SALES TAX, VAT ETC.**

50.1 **TDS under Income Tax, Sales Tax, VAT etc**, if any, shall be deducted at prevailing rates on gross invoice value from the running bills unless Exemption Certificate from appropriate Authority / Authorities is furnished.

50.2 **Price quoted shall be inclusive of all taxes except service tax.** The service tax, [as legally leviable & payable by the contractor](#) under the provisions of applicable law/act, shall be paid by BHEL as per contractor's bill. However, contractor shall have to submit proof of service tax deposited by them immediately after the deposit but not later than the next bill submitted after the due date of deposit. The contractor shall furnish proof of Service Tax registration with Central Excise Division covering the services covered under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by contractor on BHEL for this project The contractor shall obtain prior approval of BHEL before billing the service tax amount. With introduction of Cenvat credit rules 2004 which came into force w.e.f. 10.09.2004, excise duty paid on input goods including capital goods used for providing the output service and service tax paid on input service can be taken credit of against the service tax payable on output service. **As such, while offering the rates, the contractors may take into account the benefit of above provisions as the cost of input to contractors will be the cost net of excise duty and service tax and adjust their offer price accordingly to make it more competitive.** 50.3 In VAT applicable States, "Tax Invoice" if required under the relevant State VAT law shall be submitted alongwith other compliances as per concerned VAT Act. 50.4 Contractor shall get his organization registered with concerned [sales tax/VAT](#) authorities within 15 days of award of this contract, if applicable. The delay on this account and delay in bringing the material shall be to contractor's account and no extension of time shall be allowed on this account. The sales tax/VAT registration for this contractor shall be forwarded to BHEL within 30 days from the date of LOI. In case the contractor is already registered for sales tax/VAT with Govt. Authorities he must quote his registration no, while submitting their tender. 50.5 Contractor has to make his own arrangement at his cost for completing the formalities, if required, with Sales Tax/VAT Authorities, for bringing their materials, plants, and equipment at site for the execution of the work under this contract.

51.0 TIME SCHEDULE

51.1 The contractor is required to commence the work within 10 days from the date of issue of letter of intent unless BHEL decides to fix any other later date. However, BHEL Engineer will certify the actual date of start of work after adequate mobilisation of materials, manpower and T&P by the contractor.

51.2 Entire work under this contract is required to be completed, in all respect including handing over, within **3 MONTHS** from the schedule date of start of work as per the programme / milestones indicated by BHEL. In case of delay of work due to reasons not attributable to the contractor, time extension will be granted by BHEL but in no case over run compensation will be payable. Contractor has to mobilize adequate resources to meet BHEL commitments as indicated from time to time. The contractor has to meet the following milestone dates of the project, which are as per current commitments to customer:

MILE STONES COMPLETION

Land cutting & development within 1/2 month

Construction of open storage area & Security kiosk within 2 months

Building of closed storage sheds 1sheds within 2 months

Building of semi closed storage shed within 2.5 months

Completion all miscellaneous works within 3 months and handing over

51.3 The work under the scope of this contract is deemed to be completed in all respects, only when all the works are carried out as per satisfaction of BHEL. The decision of BHEL on completion date shall be final and binding on the contractor.

52.0 TERMS OF PAYMENT

52.1 The Contractor shall be paid monthly running bill to a maximum of 96% of the value of the work actually executed on site as per rate schedule, provided the work has been executed to the satisfaction of the Engineer. The Engineer may after a measured bill allow & certify payment to the contractor on the basis of abstract measurement bill submitted by the contractor. From these amount recoveries such as advances, security deposit taxes etc. would be made. The certificate of the Engineer regarding such approval and passing of sums so payable shall be final and conclusive against the contractor.

52.2 The 1.5% of Contract Value shall be payable on completion of all pending work, rework wherever required, site clearing and reconciliation of materials.

52.3 The balance 2.5% of contract value will be payable on submission and passing of Final bill. The certificate of Engineer regarding such approval and passing of sums shall be final and conclusive against the contractor.

NOTE: Above payment at 52.2 and 52.3 shall be released after working out the contract value based on actual work carried out.

52.4 Any certificate relating to the work done may be modified by any subsequent interim certificates or by the final certificates and no certificate of the Engineer supporting an advance payment shall of itself be conclusive evidence that any work or materials to which it relates are in accordance with the contract.

53.0 INSURANCE

Besides provisions under clause no. 29.0 of GCC regarding insurance, the following shall also be applicable. The contractor shall also take care of the same while submitting their offer.

53.1 The contractor shall arrange the insurance for any liability arising out of storage and installation of the items under installation. The insurance cover should also include for the damage to the surrounding property in the vicinity of the work area.

54.0 RATE SCHEDULE CUM BOQ/VARIATION

54.1 Contractor shall fully understand description and scope of work before quoting. The scope of work and responsibility of the contractor as mentioned under these specification shall be covered within the quoted / finally accepted rates.

54.2 The Tenderer shall quote the prices/rates for entire scope of work as per the rate schedule only, in part II price bid (Original). Conditional price bids or price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.

54.3.1 Quantities mentioned in the rate schedules are approximate only and liable for variation due to change of scope of work/variation in schedule of quantities, changes in design etc. **However in case the finally executed total contract value reduces beyond minus 30% only as compared to awarded contract value, the contractor will be eligible for compensation as per following provisions.**

“ The actual executed value shall be raised by 10% subject to the condition that the total value of work executed plus increase as above shall be limited to 70% of the awarded contract value.”

54.4 Contractor's total quoted price as per rate schedule will be taken as tentative only. The contractor undertakes to erect /commission actual quantities against each item as per project requirement and accordingly the final contract price shall be adjusted on the basis of quantities actually erected at site and payments will also be regulated for the same. The contractor confirms that unit rates quoted above take care of such variation during execution stage.

55.0 FINAL BILL

55.1 As soon as possible after the completion of the work to the satisfaction of the Engineer, the Contractor shall prepared a certified final accounts on BHEL forms, in duplicate. It shall be accompanied by the all abstracts, vouchers, etc. in support thereof and shall be prepared in the manner prescribed by the Engineer.

56.0 LIQUIDATED DAMAGES(LD) 56.1 For delay in completion of work attributable to the contractor, the LD shall be applicable at the rate of ½% of the contract value per week of delay or part thereof limited to a ceiling of 10% of the contract value as mentioned under clause no.25.5 of the GCC of the tender.

57.0 SECURITY DEPOSIT

57.1 The contractor shall submit Security Deposit within 15 days from the date of issue of LOI as per clause no. 16.2 of the General Conditions of Contract (GCC). In case the contractor opts to furnish Bank Guarantee as a part of Security Deposit, the BG shall be issued as per the Performa enclosed as per Annexure-H of the GCC and also that the BG should be issued preferably through any of the Member Banks listed on Page No. 34(a) of the GCC;

For BG through any other Nationalized Bank (Not covered in the list of Member Banks of GCC), the discretion of its acceptance shall lie solely with BHEL.

58.0 OTHERS

58.1 In case of any contradiction between General Conditions of Contract (GCC) and Special Conditions of Contract (SCC), the latter shall prevail.

58.2 **The tenderers are advised to actually visit the site and fully acquaint themselves with site conditions, location of stores, transportation routes, Local taxes, toll charges and levies, local labour minimum wages & prevailing wage agreements at site, quantum of work etc. before quoting their rates for this work. BHEL shall not be responsible in any way for non-familiarisation of site conditions. Once the tenderer has quoted for the work, it is implied that he has ascertained various site condition and NO CLAIM whatsoever will be entertained by BHEL on any such account.**

58.3 **The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of pre-qualification evaluation / Techno-commercial bids and acceptance of customer. BHEL reserves the right to reject the bidders with unsatisfactory past performance in the execution of a contract. BHEL's decision in this regard shall be final & binding.**

58.4 The contractor in the event of this work awarded to him, shall establish a site office at site and keep posted an authorised responsible officer who should hold a valid power of attorney for the purpose of the contract. Any or order or instruction of the Engineer or his duly authorised representative shall be communicated to the contractor's representative at site office and the same will be deemed to have been communicated to the contractor at his legal address.

**INDICATIVE LIST OF T & P TO BE ARRANGED BY THE
CONTRACTOR AT HIS OWN COST**

| Sl. No. | EQUIPMENT | QTY |
|---------|---|---|
| 1 | CONCRETE MIXTURE M/C of SUITABLE CAPACITY | AS PER Work REQUIREMENT |
| 2 | CONCRETE VIBRATORS | AS PER Work REQUIREMENT |
| 3 | LOADERS, BACKHOE, EXCAVATOR, EARTH COMPACTOR, PLOUGHING TRACTOR UNIT, DOZER , OTHER EARTH MOVING EQUIPMENTS FOR GRADING/LEVELLING | AS PER Work REQUIREMENT |
| 4 | TRUCKS/LORRIES | AS PER Work REQUIREMENT |
| 5 | WATER TANKER | 1 NO Minimum |
| 6 | DEWATERING PUMP | AS PER Work REQUIREMENT |
| 7 | WINCHES | AS PER Work REQUIREMENT |
| 8 | WELDING MACHINES | AS PER Work REQUIREMENT – MINIMUM- 2 SETS |
| 9 | PORTABLE OVENS | AS PER Work REQUIREMENT |
| 10 | ROAD ROLLERS | AS PER Work REQUIREMENT |
| 11 | TOOLS AND METERS FOR ELECTRICAL WORK | AS PER Work REQUIREMENT |

Notes:

1. The above list specifies only major T&P (may not be complete to be deployed by the contractor). All additional / other tools and plants including lorries/trucks, tools & tackles, devices, machines, measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work at [BATHINDA site](#) shall also be deployed by the contractor within finally accepted rate / price.
2. Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

INDICATIVE LIST OF IMTEs TO BE ARRANGED BY THE CONTRACTOR AT HIS OWN COST

| SL NO | EQUIPMENT | QTY |
|-------|--|--------------------|
| 1 | THEODOLITE | 1 NO |
| 2 | DUMPY LEVEL | 1 NO |
| 3 | MEASURING TAPE | AS PER REQUIREMENT |
| 4 | COMPRESSION STRENGTH TESTING EQUIPMENT | AS PER REQUIREMENT |
| 5 | CONSTRUCTION MATERIAL TEST EQUIPMENT | AS PER REQUIREMENT |
| 6 | CONCRETE CUBE MOULD (150 X 150 X 150) mm | AS PER REQUIREMENT |
| 7 | CONCRETE slump cone | AS PER REQUIREMENT |
| 8 | COARSE AGGREGATE SIEVES & SAND SIEVER | AS PER REQUIREMENT |
| 9 | SIEVE SHAKER | AS PER REQUIREMENT |
| 10 | HEATING OVEN | AS PER REQUIREMENT |

NOTES:

1. The above list specifies only major IMTEs (may not be complete to be deployed by the contractor). Contractor has to have arrangements for material & concrete testing. All additional / other IMTEs / measuring instruments etc. in good and safe working conditions which are required for satisfactory & timely completion of work shall also be deployed by the contractor within finally accepted rate / price.
2. Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

**CERTIFICATE OF DECLARATION FOR CONFIRMING THE KNOWLEDGE
OF SITE CONDITIONS**

We,.....
... Hereby declare and confirm that we have visited the project site under the subject namely,and acquired full knowledge and information about the site conditions, wage structure, Industrial climate and total work involved. We further confirm that the above information is true and correct and we will not raise any claim of any nature due to lack of knowledge of site condition.

Tenderer's Name and Address.

Place:

(Signature of the Tenderer's
With stamp)

Date:

NON DISCLOSURE AGREEMENT

Memorandum of Understanding

BHEL PSNR is committed to Information Security Management System as per Information Security Policy.

M/s.....
providing.....service to BHEL PSNR, Noida hereby undertake to comply with the following in line with Information Security Policy of BHEL PSNR;

To maintain confidentiality of documents & information which shall be used during the execution of the Contract.

The documents & information shall not be revealed to or shared with third party which shall not be in the business interest of BHEL PSNR.

(
M/s. BHEL, PSNR)

(
M/s.....)

GENERAL SCOPE OF WORK

TENDER NO.: [DLI/BHAT3&4/R&M-INFRA/07_051](#)

CONSTRUCTION OF STORAGE SHED AND OTHER INFRASTRUCTURE FACILITIES AT R&M WORKS OF 2 X 110 MW GURU NANK DEV THERMAL POWER STATION, UNITS 3 & 4, AT BATHINDA, DISTRICT BATHINDA, STATE OF PUNJAB, INDIA.

A. SCOPE OF WORK

1. The Scope for construction of GNDTP, Bathinda site Closed, Open stores and BHEL Office includes:
 - Site clearance
 - Earth work including excavation, filling, compaction, leveling and grading
 - Plain & Reinforced cement concrete and Masonry (Full and half brick work)
 - Area Fencing & Area lighting
 - Structural & reinforcement steel work, GS sheet roofing/side cladding
 - Scaffolding & Formwork
 - Drainage, Sanitary, Sewage & Water supply
 - Finishing work including plastering, flooring, painting etc.
 - MS open able/fixed glazing for door/windows
 - Road work
 - Water supply arrangements.
 - Fire safety
 - Electrification of Stores by providing Incoming cable, Main Distribution Board, Wiring for all installation Light fixtures, power sockets, wall mounting fans, Exhaust fans, Energy meter etc.
 - Supply of two nos. portable cabins (Bunk House) as per specifications.

The scope includes supply of all materials Labour, consumables, tools & plants, transportation, storage, sample testing, etc., and any other materials to complete the work.

2. The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably implied and necessary for completion of the job as a whole all as desired and as directed by the engineer. The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements.
3. Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the “Bill of Quantities”, shall include but not be limited to the following:
 - a) Furnishing all Labour, materials, supervision, construction plans, equipment supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provided by the engineer during the course of works.
 - b) Furnishing samples of all materials required by the engineers for testing / inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
 - c) Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
 - d) Giving all notices, paying all fees, taxes etc. in accordance with the general conditions of contract, that is required for all works including temporary works.
 - e) Arranging manufacturer’s supervision for items of work done as per manufacturer’s specifications when so specified.

- f) Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.
4. The contractor shall be fully responsible for the proper and accuracy layout, alignment, orientation of all elements of the construction work which shall be carried out by him accurately in accordance with drawings and obtaining clarifications from BHEL/Architects if required by him, including for any discrepancy if any, before the work is executed by him. The setting out and the construction work shall be carried out by suitable precision instruments and checked from time to time and got approved. The contractor shall provide all equipment and instruments as required at the site at his own cost.
5. BHEL-Power Sector (NR) is ISO 9001-2000, ISO 14001-1996 and OHSAS 18001-1999 certified company. Quality of work, to customer's satisfaction and system requirements is the essence of these certifications. The contractor in all respects will organize his work, systems, environment, process control documentation, tools, plant, inspection, measuring and testing equipments etc. as per instructions of BHEL engineer.

The contractor shall also comply with applicable legislation and regulations with regards to Health, Safety and environmental aspects for minimizing risk arising from occupational health, safety hazards, controlling pollution and wastage.

B. OPEN AND CLOSED STORES

The Stores shall be developed to the built up area of Approx. 1600 Sqm. Stores will consist of 1 no. Closed stores of size 40 m x 15 m and 1 no. semi closed stores with open sides of size 50m x 20 m and BHEL Office of size 15m X 10m app.

THE LAYOUT PLAN OF THE STORES & BHEL OFFICE IS ATTACHED FOR REFERENCE.

The Store area shall be cleared of all vegetation, scrap and debris. The office shall be made of structural steel Tubular columns, truss, compound purlins, side ties, bottom ties, wind ties of minimum 25mm x 5mm over the roof sheets along the purlins, as specified (drawings attached for reference). The columns are erected with holding down foundation bolts in the RCC 1:1.5:3 (using 20 mm size coarse aggregate) foundation of pedestal size 1400mm high 600 x 600 mm minimum and raft size 900 x 900 x 300mm. The raft is to be provided with a reinforcement of 12mm bars @ 150mm C/C both ways and the pedestal is to be provided with 4 no.16mm & 8 no. 12 mm bars vertically with a minimum 'L' of 150mm and with 12mm stirrups @ 170 C/C. The foundation is to rest over 100 mm PCC on firm rock / ground as instructed / approved by Engineer-in-charge. Corrugated galvanized steel sheets 22 G with zinc coating not less than 120 gm/m² shall be provided with polymer coated J or L hooks, 8 mm nut bolts including a coat of approved steel primer for roofing and side cladding with appropriate anchoring, fixing and drainage arrangements. Approved quality Enamel paint shall be used for painting work to MS and GS sheets. The wall above foundation brickwork of width 35 mm (500 mm) is of brick masonry of 23cm width course, to a height of 4600 mm above GL, in cement mortar 1:6 and plastered with CM 1:5. Below foundation brickwork PCC 1:4:8 for a minimum thickness of 75mm is to be laid. The DPC level shall be 450 mm above the existing Ground level. The Store flooring consists of raising the Ground level by filling good earth and yellow sand layer of 100mm and 80 mm PCC over which approved CC flooring is to be laid. The cantilever portion is of 1000 mm wide plinth protection as specified. Extended roofing shall also be provided as per the instructions of the Engr. I/C. For toilets RCC counter tops to be provided with wall tiles up to the height of door lintel level. The all round walls shall be of 230 mm and 115 mm thick brick work as instructed up to a height of 2800 mm above floor finish level sealed with the GS sheet roofing as per the satisfaction of the Engr I/C, a DPC course of CM 1:5, 40 mm thick with water proof compound is to be laid if reqd. The inside plastered surface is to be distempered/white washed with two coats minimum over a priming coat and the outside plastered surface is to be painted with approved snowcem or equivalent cement paint with two coats minimum over a priming coat. The doors and window frames and shutters are to be made of approved fixed/openable MS glazing with MS frame as per relevant I.S. and Drawings. The flush door shutters minimum 35mm thick, solid core block board, with both side laminated with thick to 0.8 to 1mm. The windows glazing shall be with glass panel of 4mm thick the Frames are to be provided with MS grill of 8 mm thick bars @ 150 mm as per instruction of the Engr I/C. The door & windows are to be properly fixed with the wall as specified. The doors will have flush shutters, with all fixtures like aldrops, tower bolts, handles, locking arrangement, wind stopper etc. and similarly the windows will have fixtures like hook and eye, tower bolts, minimum of two handles, etc. The ceramic washbasins will be of size 550mm min. approved colour & make. All the sanitary fittings shall be of approved colour and make. All required G.I. water lines (min 15mm dia), sewer lines (100mm – 150mm), soak pit of minimum 1.2mm dia and depth to suit at site, fixtures required for proper functioning like traps, chambers wall plugs, clamps, screws, (low height fibre made) Flushing cisterns of minimum 5Ltr capacity each. Taps for water washbasins & toilets along with soap

dish etc. are in the contractor's scope. Contractor to note no fixtures, specials or any material will be given for any work which are required for the completion of works.

To electrify 01 No. closed shed, 1 no of open shed & Yard lighting shall be as follows:

Providing common main panel to cater requirement of all total layout, laying incoming cable for the above panel from the outside nearest source, providing feeder panel, lights & sockets requirement etc., laying interconnecting panel between common main panel and feeder main panel, providing MCB distribution board to cater lights, sockets & fans requirement.

Providing 30 Nos. of 150W metal halide fittings and making wiring for the same.

Providing earth electrode and earth conductors as per requirement.

The scope of work has to be completed in the entire manner to meet the functional requirement by covering all the left out allied work in BOQ thereby to commission the system as a whole.

All the material used to be approved by Engineer-in-charge and in case of non-availability of approved make of material; BHEL Engineer-in-charge is authorized to substitute the same.

Complete Electrification along with necessary lighting-fixtures, fans, necessary cables, MCB, ELCB, Main switch, Energy meter, Junction box, switches, switch boards, Plug points etc. are in the contractor's scope so that installation is fully safe & meets local authorities statutory requirement. The necessary covers required for the MCB, energy meter etc., are to be provided by the contractor. Necessary ear-thing along with earth pit required as per the standards is to be provided by the contractor.

Providing 10 Nos. of 150W metal halide low bay flood light fitting per store of 600 sq.mtr. i.e. one fitting for 40 sq.mtr. Location to be worked out by contractor for uniform distribution of lighting in consultation with the OEM and duly approved by BHEL.

Providing 4Nos. of 15/5Amps Single phase socket and 1No. of 20Ampts – 3 phase socket per store.

Providing 1No. of pedestal fan & 2No. of air circulator & 2Nos. of heavy duty exhaust fan per store.

Providing 6Nos. of 250W SV lamp in all corners / front side roof of the store as outside lighting.

Providing 6Nos. 250W SV lamp for gate, security watch tower roof/available post and fencing as required.

Electrification of store office.

Outgoing switch provision:

| | |
|---------------------------------------|------------------|
| 100 Amps | - Crane |
| 63 Amps | - Office |
| 2 x 63Amps | - Mask light |
| 3 x 32 Amps | - Store lighting |
| Cabling for panel & all outgoing load | |

Ring power Distribution system with tapping at 10 points

The contractor should note while quoting the tender, there may be minor variations in the scope/quantity extra and it is to be taken care while execution for total completion and no extra payments will be given for any such variations.

The Plinth level of the building may be revised at site in view of existing site conditions. The relevant Indian standards are to be followed for all works.

The entire scope of work is with the contractor and BHEL will not provide any material, manpower etc. for the satisfactory completion of work. The decision of the Engineer-in-charge is final and binding.

C. FENCING & LIGHTING: Fencing and lighting of all covered and open area including ear thing as per the requirement and statutory provisions.

D. ROADS AND DRAINS

Store area shall have a 5m wide (as per requirement) approach road for free and safe movement of vehicles in storage area. The area shall also have adequate drainage to avoid accumulation of water in storage area and on the roads. At least 600 no. RCC sleepers (0.20x0.15x2.00) for material storage shall also be provided.

WATER SUPPLY SYSTEM

GNDTP, Bathinda site is operational and water supply lines exist in the plant. Water supply is to be taken from existing water lines to meet office and store requirement with necessary piping, fittings and valves.

E: PREAMBLE TO BILL OF QUANTITIES FOR ELECTRICAL WORKS:

1. The contractor shall prepare the layout/location of the electrical installation and get approval of the same.
2. Samples of all the fixtures to be submitted to the BHEL engineer for approval before supply and installation of the same.
3. Necessary civil works/base/foundations to be included for installation of fixtures shall be in the quoted rates.
4. All light fixtures shall be supplied with lamps.
5. Installation work shall be complete with testing and commissioning of the same.
6. All fluorescent tube light fixtures shall be complete with control gear and power factor correction capacitors.
7. Necessary down rods, hanging or fixing arrangement etc. (unless otherwise specified) shall be part of the fixtures.

F: REGULATION & STANDARDS:

The installation shall comply with the following acts/rules/specifications amended upto date:

- a. Indian Electricity Act
- b. Indian Electricity Rules
- c. Code of Practice for Electrical wiring Installation IS 732 of 1963 amended up to date.
- d. CPWD Specifications for internal electrification.
- e. The work shall also conform to any special requirement of Local Electricity Department
- f. The necessary Fire Regulations as per latest National Code Book
- g. Wherever the specifications given herein call for higher standards of material/workmanship, then these shall take precedence over (a) to (e) stated above.
- h. The general layout of wiring points, switches and plug points shall be as per approved drawings. The exact location of points, fittings and fixtures may be altered to suit site requirements and the contractor shall have no claim for extra on this account.

G. System/Details of Wiring:

- a. Wiring shall be with FRPVC insulated, stranded copper conductor cables of 1100 volts grade ISI marked. The wiring shall run in PVC conduits above the false ceiling and on surface in PVC channels with double interlocks (conduits & channels to be got approved from BHEL Engineers).
- b. Minimum size of PVC conduits for electrical wiring shall be 19 mm dia. and the wiring should run in separate conduits and PVC channels of suitable size as per applicable standard.
- c. Number of points in each light circuit and power circuit shall be as per approved drawings.
- d. Size of Cable shall be as under:
 - i. 1.5/2.5 sq. mm FRPVC insulated stranded conductor cable of 1100 volts grade ISI marked for light circuits and light points and 5 Amps. Plug sockets.
 - ii. 6 sq. mm FRPVC insulated copper conductor cable of 1100 volts grade ISI marked for power points for 15 Amps plug sockets.
 - iv. All sub-mains shall be as per approved drawings.
 - v. FRPVC insulated single core stranded copper conductor cables of 1100 volts graded ISI marked for sub-main.
- e. Looping system of wiring shall be used invariably throughout the installation. Live wire shall only be tapped from the controlling switch and neutral from outlet. Tap off joints in the pull boxes/draw boxes will not be permitted.
- f. For each 15 Amps power point outlets one 6 pin (6A/15A) switch socket controlled by 15 Amps switch shall be provided.

- g. On one of the switch plates of all the rooms in each dwelling unit, one indicator lamp shall be provided. This shall be preferably the switch plate near the entrance door to the particular room.

H. DISTRIBUTION BOARDS

Distribution boards (DBs)

1. Distribution board shall be located as directed by the BHEL engineer and as shown on the drawings.
2. Distribution Boards shall be wall-mounted cubicle type
3. The D.B's shall conform to protection clause IP-42 and be dust and vermin proof. They will be of double door construction with hinged 'doors.

I EARTHING

There shall be 2 Nos. Earth pit for Store. The earth pit shall be of pipe Earth Electrode type. Using GI pipe of minimum 100mm dia. Both the electrodes to be connected to each other with 21 X 5 mm thick GI strip or 25 mm GI pipe. The minimum distance of electrodes should be 3 mtrs. The pit shall be filled with required salt & charcoal.

J EARTH WIRE

In storage yard the connection from Electrode to Distribution Board to be provided with 8 Swg. GI wire from each Electrode and in office the earthing connection to be taken from two risers of earthing grid through two Earth conductors. From D B to power socket & switch board to be provided by 1.5 Sqg. PVC insulated green colour Cu conductor to be laid along with the wiring..

K PLANTATION: Supply plants in earth/cement pot for office use.

L MATERIALS:

All materials for fittings accessories etc. to be incorporated in this work shall be ISI marked as per the approval of BHEL, and if Indian standards have not been issued then it shall be as per the approval of BHEL.

M SWITCHES:

All 5 and 15 Amp switches shall be fire retardant polycarbonate plastic modular plate type. All 5 Amps. Socket shall be 5-pin type. All 15 Amp socket shall be 6-pin type suitable for 15/5Amp. All switches, sockets, controlling the lights or fans shall be connected to the phase wire of the circuit. Switches shall be located at 900 mm above finished floor level unless otherwise indicated on drawings, or as directed by BHEL.

N. WALL SOCKET PLATE :

All 5 and 15 Amp socket outlet shall be 5 and 6 pins respectively. Each outlet shall have a switch located beside the socket. The earth terminal of the socket shall be connected to the earth wire.

O WIRING :

All internal wiring shall be carried out with PVC insulated wires of 1100 volts grade. The circuit wiring for points shall be carried out in looping in system and no joint shall be allowed in the length of the conductors. Circuit wiring shall be laid separate conduit originating from distribution board to switch board for light/fan. A light/fan switchboard may have more than one circuit but shall have to be of same phase. Looping circuit wiring shall be drawn in same conduit as for point to point or in light/fan switch boards. A separate earth wire shall be used for point wiring, colour coded wire shall be used for phase and black colour wire for neutral. Circuit wiring shall be carried out with red, yellow or blue colour PVC insulated wire for RYB phase wire respectively and black colour PVC insulated wire for the neutral wires. Bare or insulated green colour copper wire shall be used as earth continuity conductor and shall be drawn along with other wires.

Care shall be taken in pulling the wires so that no damage occurs to the insulation of the wire. Before the wires are drawn into the conduit, the conduits shall be thoroughly cleaned of dust and dirt. Drawing & jointing of copper conductor wires & cables shall be as per CPWD Specifications.

P JOINTS :

All joints shall be made at main switches, distribution board socket and switch boxes only. No joints shall be made in conduits & junction boxes. Conductors shall be continuous from outlet to outlet.

Q MAIN AND SUBMAINS :

Mains and Sub main cable where called for shall be of the rated capacity and approved make. Every main and sub main shall be drawn into an independent adequate size conduit. Adequate size draw boxes shall be provided at convenient locations to facilitate easy drawings of the sub main & main cables. As independent earth wire of proper rating shall be provided for every sub main. Three-phase sub main shall be provided with two-earth wire.

Where mains and sub mains cables are connected to the switchgear, sufficient extra lengths of sub main and mains cable shall be provided to facilitate easy connections and maintenance for termination of cables, during crimping type cable socket/lugs shall be provided. Same colour code as for circuit wiring shall be followed.

R. LOAD BALANCING:

Balancing of circuits in three phase installation shall be planned before the commencement of wiring and shall be strictly adhered to.

S. COLOUR CODE FOR CIRCUIT & SUBMAIN WIRING:

Colour code for circuit & sub main wiring installation shall be Red, Yellow, Blue for three phased Black for neutral and yellow/green or green only for earth in case of insulated earth wire.

T. LIGHTING FIXTURE AND FANS :

- (a) The contractor shall supply and install lighting fixtures including but not limited to lamps, ballasts, accessories, fixing hardware necessary for installations, as shown on the drawings, as required.
- (b) All fixtures shall be delivered to the site complete with suspension accessories, canopies, hickey, casing, sockets, holders, reflectors, ballasts, diffusing material, louvers, plaster frames, recessing boxes, etc. all wired and assembled.
- (c) Fixtures, housing, frame or canopy, shall provide a suitable cover for fixture outlet box or fixture opening.
- (d) Fixtures shall comply with all applicable requirements as herein outlined unless otherwise specified or shown on the drawings.
- (e) Fixtures shall bear manufacturer's name and the factory inspection label.
- (f) Fixtures shall be completely wired and constructed to comply with the IEE wiring regulations requirements for lighting fixtures, unless otherwise specified
- (g) Re-clamping the fixture shall be possible without having to remove the fixture from its place.
- (h) Lamps of the proper type, wattage and voltage rating shall be furnished and installed in each fixture.
- (i) Fluorescent fixtures shall be wired with rated size PVC covered wire. No splice or tap shall be located within an arm, stem or chain. Wire shall be continuous from splice in outlet box of the building wiring system to lamp socket or to ballast terminals.

U FIXTURE SAMPLES:

Detailed catalogue for all fixtures or if so required by the BHEL sample fixtures shall be submitted for prior approval of BHEL before orders for the fixtures are placed.

V. DISTRIBUTION BOARDS:/SWITCH FUSE UNITS

- The distribution boards with enclosures, bus bars, neutral links and earth links shall be of original manufacturer's only.
- D.B's shall be fixed on the walls in an approved manner and the damage to walls made good as per original.

W MOULDED SWITCH & SOCKETS:

Type of plug and sockets as approved shall be used. Panel mounted type controlled by DP/4P MCB depending upon single phase/three phase supply and have insulated extended earthing terminal and degree protection IP-56.

X. PORTABLE CABIN / BUNK HOUSE SPECIFICATIONS

1. PRINCIPAL DIMENSIONS:

| | | |
|------------------------------|--|--------------------------------------|
| Overall length : 6000 mm | Overall length including skid : 6600 mm | |
| Overall width : 2440 mm | Overall height with skid and lifting lug : 2890 mm | |
| Nominal Internal Dimensions: | | |
| Length : 5750 mm | Width : 2190 mm | Height (Clear Head Room) : 2210 mm |

Permissible Tolerance : +/- 10 mm

2. GENERAL DESIGN AND CONSTRUCTION :

SHELL:

The shell structure shall comprise of sidewalls, end walls and self draining roof.

SKID:

The Bunk House shall be mounted on a skid arrangement made of two build-up I sections having 3 Nos. cross members of formed C section. At the end of skid, suitable formed section made of steel conforming to IS: 2062 shall be connected.

Materials of structural steel members shall conform to IS:2062 Grade A

BASE FRAME / FLOOR SYSTEM:

The main structural elements of the under frame shall be formed C section from minimum 3.15 mm thick sheets conforming to IS: 1079 Grade O/ IS: 2062 Grade A. This under frame shall support the. PVC Sheet tiles of 2 mm thickness of size 300x300 mm of reputed make shall be laid over the MDF board with Bitumen preservative paint.

SIDE & END WALLS:

The sidewalls shall be made of wall posts, corrugated panels and top cant rails. The cladding panels shall be made of min. 1.6 mm thick steel sheet conforming to IS: 1079 Gr.

ROOF:

Self draining roof shall be made of 1.6 mm thick steel sheets conforming to IS: 1079 Grade O, adequately stiffened by roof bows of pressed channel. The roof shall be having a positive camber allowing water to drain away under static conditions..

3. SURFACE TREATMENT AND PAINTING:

The surface preparation of all fabricated steel components shall be done by manual grit blasting to achieve SA-2 quality finish, followed by one coat of zinc based primer and two coats of epoxy paint by air spray method. The under frame and skid shall be painted with bituminous / red lead paint of reputed make. Necessary marking/ logos shall be provided as per the instruction of BHEL

4. INSULATION:

Average 75 mm thick thermal insulation with resin bonded fiber glass wool having density of 16 kg/m³ and conforming to IS: 8183 shall be provided on the side walls, end walls and roof, with proper fixing arrangement.

5. INNER PANELLING:

The paneling of side walls and end walls shall be of min. 1 mm thick resin bonded plastic decorative laminate sheets fixed on min. 8 mm thick commercial quality plywood. The roof panels shall be min. 4 mm thick commercial quality plywood of same specification covered with min. 1 mm thick resin bonded plastic decorative laminate of same quality and design as in the case of inner panels. All wall and roof panels shall be supported by suitable M.S. Frame work.

6. DOORS:

One steel door at the main entry of the bunk house shall be provided in the desired location. The overall dimension of the main entry door shall be 1981 x 800 mm (H x W).

The peripheral edges of the door shall be provided with rubber seal to prevent ingress of water and dust. The door panel shall be outward opening type with single leaf closing panel. The door shall be provided with manually operating type locking arrangements from both internal and external side..

7. WINDOWS:

The windows shall be provided in the desired location having overall dimensions 585x800 mm (H x W). Stainless Steel fly-proof mesh in suitable framework shall also be provided in the windows. The windows shall be provided with steel rain-shed made from min. 2 mm thick sheet (IS:1079 Gr.O) from outside.

8. STEPS/STAIRS:

Fabricated steel steps of detachable type having two/three treads shall be provided in each bunk house for getting inside at main entry door.

9. ELECTRICALS:

PVC insulated copper wire of ISI mark shall be used for the wiring. This wiring shall be done in PVC conduits. As a measure of safety, continuous copper earth wire shall be provided as necessary. For lighting circuits, 3/1.09 cable and for heavy-duty circuits, such as air conditioners, heating circuits, 7/1.22 cable shall be used. DOL switches of capacity 250V/15 Amps shall be provided for air conditioners. For connecting power supply to bunk houses, 3 pin input industrial socket of 32 Amps capacity shall be provided. Concealed type (2x36) roof hanging florescent light shall be provided as per the layout arrangements. In addition, four nos. each of 15 Amps and 5 Amps 3 pin sockets shall be provided at suitable locations inside the bunk house. All the lamps, fans, exhaust fans, plug points etc. shall have independent slash/piano type switches of required rating inside the bunkhouse. Ceiling fans shall be of Crompton, or equivalent of reputed make. All electrical points & switches shall be of Anchor or equivalent make. Necessary circuit breakers i.e. MCB & ELCB shall be provided. Junction Box shall

be provided out side on the bunk house for telephone connections with suitable connecting points inside the bunk house.

10. HANDLING AND TRANSPORTATION:

Necessary arrangement shall be provided at top four corners for safe and easy lifting and transportation of the bunkhouse.

11. TARFELTING:

The roof surface is to be painted with one coat of "Bitumen Primer" before laying Hessian based finished tar felt in two layers as basic waterproofing material. Blown Grade Bitumen in three layers 1.5 Kg/M2 are to be used as the bonding materials. Fine sand is to be finally sprinkled over the last layer of bitumen.

Y. APPROVED MAKE OF MATERIALS

- | | |
|---------------------------------------|---|
| 1. CERAMIC TILES: | SOMANI NITCO JOHNSON GOLD COIN KAJARIA |
| 2. ENAMEL PAINTS: | BERGER ICI ASIAN PAINT NEROLAC |
| 3. OIL BOUND DISTEMPERS: | ASIAN BERGER ICI NEROLAC |
| 4. FLUSH DOORS: | KUTTI DURO MYSORE KITPLY CENTURY GREEN PLY |
| 5. CEMENT: | ACC JAYPEE ULTRATECH J K BIRLA GUJ. AMBUJA |
| 6. REINFORCEMENT/STR STEEL: | SAIL TATA JINDAL KAMDHENU |
| 7. DOOR CLOSERS: | AMAR DOOR KING HARDWYN DORSET |
| 8. SOIL WASTE PIPE : | SRIF, RAIN WATER RIFCO, RIF |
| 9. GI & MS PIPES : | SURYA, PRAKASH JINDAL-HISSAR TATA |
| 10. GI FITTINGS (MALLEABLE) : | UNIK, KS, ZOLOTO |
| 11. BALL VALVES (Upto 50 mm dia) : | ZOLOTO AM, |

- | | |
|--|----------------------------|
| | RBB, ITALY, AUDCO |
| 12. GUN METAL/BRASS : VALVES | ZOLOTO, LEADER, SANT |
| 13. STONEWARE PIPES & GULLY TRAPS : | PERFECT, ANAND |
| 14. CAST IRON S/S PIPES AND FITTINGS : | ELECTRO STEEL, KESORAM |
| 15. INDIAN WC ORISSA TYPE: (a) ORISSA PAN 580X440 MM HINDWARE-20004/ CERA, PARRY | |
| 16. WASH BASIN: (a) OVAL WASH BASIN SIZE 500X400 MM : HINDWARE, PARRY (b) ROUND WASH BASIN SIZE 490 MM DIA UNDER COUNTER: HINDWARE, PARRY | |
| 17. URINAL FLAT BACK SMALL: HINDWARE-60001 | |

APPROVED MAKE OF MATERIALS (ELECTRICAL)

I. LT CABLES:

**SINGLE CORE COPPER CONDUCTOR
1100 V GRADE PVC/FRLS
CABLES (STANDARD/FLEXIBLE):**

- | | |
|---|---|
| 1. PVC INSULATED WIRES: | FINOLEX, BATRA HENLAY RALLISON POLYCAB |
| 2. FRLS INSULATED WIRES : | FINOLEX, BATRA HENLAY RALLISON, POLYCAB |
| 3. ARMOURED LT CABLES PVCAA-IS-1554 (PART-I) XLPE-IS-7098 (PART-I): | NICCO BATRA HENLAY RALLISON POLYCAB |

II. ELECTRICAL ACCESSORIES:

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| 1. SWITCHES AND SOCKETS: | ANCHOR, MK, LT (MODULAR TYPE SWITCHES) |
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III. ELECTRICAL EQUIPMENT:

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| 1. EXHAUST FANS: | ALSTOM CROMPTON GC/ Almonard |
| 2. LIGHT FITTINGS: | CROMPTON, PHILIPS WIPRO BAJAJ |
| 3. AIR CIRCULATOR: | ORIENT, CROMPTON, GC, Almonard, USHA |
| 4. CFL & FL LAMPS: | PHILIPS, OSRAM, WIPRO |
| 5. KWH METERS ETC: | BHEL, GE, L & T, HAVELS |
| 6. MCCBs , MCB & DBs (10 KA) : | MDS, L&T-HAGGER, HPL HAVELS EURO |
| 7. EARTH LEAKAGE CIRCUIT BREAKER: | MDS, L&T-HAGGER, HPL, HAVELS, EURO KENBAR |
| 8. FUSE SWITCH/SWITCH FUSE UNIT | HAVELL, GE, CROMPTON, L&T. |

IV. PORTABLE CABIN / BUNK HOUSE:

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| PERFECT PROFILES, SINTEX, VIRAL OR ANY PRE APPROVED MAKE BY ENGR I/C |
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