

TENDER NO. **BHEL/ NR/SCT/YE-MARIB PH-II/CIVIL/727**

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**TENDER NO. BHEL/ NR/SCT/YE-MARIB PH-II/CIVIL/727**

**TENDER SPECIFICATIONS**

**FOR**

**“TOTAL CIVIL, STRUCTURAL & ARCHITECTURAL WORKS FOR 400 MW  
MARIB PHASE-II GAS TURBINE POWER STATION PROJECT AT  
MARIB, YEMEN”**

**PART I – TECHNICAL BID**



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



ISO 9001, ISO 14001 and  
OHSAS 18001 certified  
company  
SubContract and Purchase  
Deptt.

**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northern Region,**  
Plot No. 25 , Sector - 16A ,  
Distt. Gautam Budh Nagar, NOIDA – 201 301 (INDIA)  
Phone: 0091-0120-2515476 / 2515464 / 2515479  
Fax 091-0120-2515464 / 2515467  
Email: [sca@bhelsnr.co.in](mailto:sca@bhelsnr.co.in) / [msd@bhelsnr.co.in](mailto:msd@bhelsnr.co.in)

**TENDER NO. : [BHEL/ NR/SCT/YE-MARIB PH-II/CIVIL/727](#)**

**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  
“ All the [Civil, structural & architectural works of 400 MW Marib phase-II Gas turbine power station project at Marib, Yemen.](#)”

### [TENDER NO. BHEL/ NR/SCT/YE-MARIB PH-II/CIVIL/727](#)

#### QUALIFYING REQUIREMENTS:

1.0 Tenderers who wish to participate should have successfully executed during last seven years:

1.1 At least one similar civil work of industrial/power project including casting of Turbine-Generator Deck of one unit of 60 MW 'OR' Gas turbine foundation of one unit of 100 MW ( frame-9E of GE or equivalent) 'OR' higher rating.

'AND'

1.2 Atleast one single similar work of around 500 MT structural steel fabrication & erection related to construction of industrial / power projects.

#### 2.0 Financial Turnover:

2.1 Party should have an average annual turnover of minimum of Indian Rs. 605 Millions (Rupees six Hundred & five Millions only) 'OR' USD 12.95 Millions 'OR' EUROS 10.08 Millions 'OR' YEMEN RIALS 2936 Millions during preceding three years (2006-07, 2007-08 and 2008-09). Bidders shall submit audited balance sheets and profit & loss account in support of this.

**3.0** Bidders are required to enter into an Integrity Pact (IP) with BHEL against this tender / contract as per Annexure VII of this NIT by signing and stamping all the pages of IP by authorized representative. Bidder, who do not comply with this requirement shall not be considered against this tender.

#### 4.0 Tie Up Arrangement

4.1 If a Tenderer has done only one of the two works given at 1.1 & 1.2 above i.e either civil or structural, he may have a proper tie-up, subject to approval of BHEL, with an experienced party for the other work (i.e. work not executed by them). The composition of the Tie-up arrangement and role and responsibility of each constituent must be well defined and the

**document submitted shall clearly indicate who shall be the lead partner.** In such an arrangement, after award of work, the Tie up partner through the Prime Bidder shall submit an additional BG to the tune of 0.5% of contract value in favour of BHEL within 30 days of issue of LOI.

- 4.2 In such a case, the number of partners including the Lead Partner shall not exceed two. The tenderer (Lead Partner) shall give an undertaking that the responsibility of execution of entire work shall lie with him and also that in case of dissolution of Tie up, the Lead Partner shall be liable for completing the work as per the terms of contract without any additional cost to BHEL or without affecting project schedule. Legal documents of tie up agreement, signed by both the partners, shall be submitted as a part of technical bid.
- 4.3 For the purpose of qualifying requirements as given at SL NO. 2.1 above i.e Financial Turnover, the financial position of Prime Bidder only shall be considered

**OTHER INSTRUCTIONS:**

**(i) The Tender Documents comprise of following:**

- (a) General Conditions of Contract
- (b) Special Conditions of Contract, Tender Notice, Project Synopsis etc.
- (c) Rate Schedule
- (d) Detailed Technical Specifications(Section 'C' & Section 'D').

**Bidders may kindly note that we are unable to host the Detailed Technical Specifications Section of this tender in BHEL web page, since the same are voluminous. This will be available in hard copy with us. Hence bidders are requested to obtain total tender specification from BHEL PSNR before submission of offer 'OR' bidders can make a request by e-mail by giving their mail ID so that these specifications, which are not available on web, can be sent by mail. Bidder who submits the incomplete bid will be disqualified from this tender.**

- (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 10/09/2010](#). Request for issue of tender document should clearly indicate Tender No. and work.

- (iv) **Tenders must be submitted to the undersigned in Room No. 104 latest by 10/09/2010 at 15.00 Hrs.(IST)**
- (v) Earnest Money Deposit (EMD): Refundable, Non-interest bearing **EMD of Rs 2,00,000/-** shall be deposited by Account Payee Pay Order 'OR' Demand Draft in favour of " Bharat Heavy Electricals Limited" payable at Delhi/NOIDA . Those bidders who have already deposited ' One Time 'EMD' of Rs. 2,00,000/- with BHEL, PSNR, NOIDA need not submit EMD with the present tender.
- (vi) Tenders not accompanied with Full Earnest Money Deposit, as indicated above, will not be considered.
- (vii) 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.
- (viii) Bidders shall enter into an Integrity Pact (IP) with BHEL as per format given at Annexure – VII of this NIT. The bidders are required to return this Integrity Pact (IP) along with Techno- Commercial bid (Part-I), duly signed and stamped by the authorized signatory who signs the bid. It may be noted that only those bidders who have entered into such an IP with BHEL would be competent to participate against this NIT i.e. entering into this pact is a preliminary qualification for the bidders. The Independent External Monitor against this NIT shall be **Shri Kanwarjit Singh, IRS (Retd), D6/12, Vasant Vihar, G.F, New Delhi – 110057**
- (ix) BHEL reserves the right to accept or reject any or all tenders without assigning any reason whatsoever.
- (x) BHEL takes no responsibility for any delay/loss of documents or correspondences sent by courier/post.
- (xi) **BHEL reserves the right to go for a Reverse Auction instead of Opening the submitted sealed bid, which will be decided after technical evaluation.** As such, the bidders should submit their best prices in the 'Sealed Price Bid'. However, bidders are required to confirm their acceptance of "General terms and conditions" governing RA specifically in their technical bid. The "General terms and conditions" governing RA are given in the SCC of the NIT. Bidders are also required to furnish following details in their techno-commercial bid, for this purpose (RA).  
Authorization of representative who will participate in the on line Reverse Auction Process;
  - A) Name and Designation of official
  - B) Postal Address (Complete)
  - C) Telephone Nos. (Land line & Mobile both)
  - D) FAX No.
  - E) E-mail address
- (xii) Name of Place/ State/ Country, wherefrom he will participate in the RA.
- (xiii) Unsolicited rebate/discount shall not be accepted after bid opening.
- (xiv) Tenders once submitted to BHEL, shall not be returned.

**Sr. DGM/SCP**



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Sub-Contract and  
Purchase Deptt.

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### TENDER NOTICE

LAST DATE OF SALE : 10/09/2010(12.30 hrs. IST)  
DUE DATE OF SUBMISSION : 10/09/2010 (15.00 hrs. IST)

NIT NO. / NAME OF WORK
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<p><b>TENDER NO. <a href="#">BHEL/ NR/SCT/YE-MARIB-PH-II/CIVIL/727</a></b></p>
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<p>Sealed tenders are invited from the contractors fulfilling qualifying requirements as given in tender document for “All the civil, structural &amp; architectural works for 400 MW Marib phase-II Gas turbine power station project at Marib, Yemen.”</p>
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#### NOTES:

1. The complete tender documents can be downloaded from BHEL Web Site, [www.bhel.com](http://www.bhel.com).
2. All corrigenda, addenda, amendments and clarifications to this Tender will be hosted in this web page and not in the newspaper.

Sr. DGM/SCP

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

**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

The Site of Power Plant (Marib ) is approximately 230 Km from Sana'a capital town of Yemen and is located in the east of Yemen. Marib is the most famous ancient city in Yemen. The old city of Marib lies in the Sabeen plains on the outskirts of the east Yemen desert Mafazet Saihad'. It's strategic position lends itself to its important role in history, as it controlled the ancient incense routes. It was a meeting point for caravans coming from the Qana port on the Arabian Sea coast, crossing the Wadi

Present order is for supply and installation of 400 MW Gas Turbine v94.2 ( 4 nos ) for Marib Phase- II on EPC basis.

The site conditions are as follows:-

- |                         |  |
|-------------------------|--|
| i) Climate              | : Mostly desert; hot and humid along west coast; temperate in western mountains affected by seasonal monsoon; extraordinarily hot, dry, harsh desert in east<br>Terrain narrow coastal plain backed by flat topped hills |
| ii) Geographical        | : 15 00 N, 48 00 E   |
| iii) Natural hazards    | : Sandstorms and dust storms in summer   |
| iv) Ambient Temperature | : max up to 45 degree C.   |
| v) Altitude             | : 1100 m above MSL   |
| vi) Currency            | : Yemeni Rial (YER)  |
| vii) Languages          | : Arabic   |

## **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 at once 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.

**NOTE: The conversion rate from INR to US \$ shall be the exchange rate of State Bank of India as prevailing on the date of technical bid opening**

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 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 + 2 (TWO) 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 normally be accepted. however, if the tenderer insists for certain deviations to the conditions, financial implication thereof shall be loaded to the quoted price for evaluating the tenderer's offer.

## 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 Performa 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 payroll 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 energized 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 24 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---

**FINANCIAL VIABILITY**

1. Owner's capital in the business (incase 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 and tonnage	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		Consumables by whom
				By Con- Tractor	By other Agency	
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 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	and so on
1.									
2.									
3.									
Total									

---

(SIGNATURE OF TENDERER)  
WITH STAMP

**ANNEXURE – D**

**(A) STATUS OF TOOLS & PLANTS**

S.No.	Name of Equipment	Quantity owned no.	Registration 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 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup> and so on

(SIGNATURE OF TENDERER)  
WITH STAMP

**ANNEXURE - E**

**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

**ANNEXURE - F**

**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.

**ANNEXURE - `G'****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.

**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 \_\_\_\_\_ 2000 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)

**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 be 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 forebear 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
2. ABN AMRO Bank N.V.
3. Bank of Baroda
4. Canara Bank
5. CITI Bank N.A.
6. Corporation Bank
7. Deutsche Bank AG
8. HDFC Bank Ltd.
9. The Hongkong and Shanghai Banking Corporation Ltd.
10. ICICI Bank Ltd.
11. IDBI Ltd.
12. Punjab National Bank
13. Standard Chartered Bank
14. State Bank of Travancore
15. State Bank of Hyderabad
16. Syndicate Bank
17. Indian Bank
18. Oriental Bank of Commerce
19. Kotak Mahindra Bank Ltd.

**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)

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

**b. 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<br>(for every 500 or less) | - One additional safety engineer/ 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 DESCRIP TION	PROCEDURE/ W.I/ GUIDELIES	CODE OF CONFOR- MANCE	PERFORMING FUNCTIONS			AUDIT FUNCTION CUSTOMER REVIEW AUDIT REQUIREMENT
			PERFOR- MER	CHECK- ER	APPRO- VER	

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: Shields

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
<b>WELDING, CUTTING</b>				
Gas cylinders chained upright				
Cables and hoses not obstructing				
Screens or shields used				
Flammable materials protected				
Fire extinguisher (s) accessible				
Other				
<b>SCAFFOLDING</b>				
Fully decked platforms				
Guard and intermediate rails in place				
Toe boards in place				
Adequate shoring				
Adequate access				
Other				
<b>LADDERS</b>				
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
<b>HOIST. CRANES AND DERRICKS</b>				
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				
<b>MACHINERY, TOOLS AND EQUIPMENT</b>				
Proper instruction				
Safety devices				
Proper cords				
Inspection and maintenance				
Other				
<b>VECHICLE AND TRAFFIC</b>				
Rules and regulations	observed			
Inspection and maintenance				
Licensed drivers				
Other				

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

ITEM	YES	NO	REMARKS	ACTION
<b>TEMPORARY FACILITIES</b>				
Emergency instructions posted				
Fire extinguishers provided				
Fire-aid equipment available				
Secured against storm damage				
General neatness				
In accordance with electrical requirements				
Other				
<b>FIRE PREVENTION</b>				
Personnel instructed				
Fire extinguishers checked				
No smoking in Prohibited areas				
Hydrants Clear				
Other				
<b>ELECTRICAL</b>				
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
<b>HANDLING AND STORAGE OF MATERIALS</b>				
Properly stored or stacked				
Passageways clear				
Other				
<b>FLAMMABLE GASES AND LIQUIDS</b>				
Containers clearly identified				
Proper storage				
Fire extinguishers nearby				
Other				
<b>WORKING AT HEIGHT</b>				
Erection plan				
Safety belts and lanyards; chute lines				
Other				
<b>ENVIRONMENT</b>				
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)

To: SITE-IN-CHARGE,BHEL

1 COPY

**SECTION - III**

**SPECIAL CONDITION OF CONTRACT**

<b>Clause No.</b>	<b>Title</b>
34.0	General Scope of Work
35.0	Instructions to Tenderer
36.0	Contractor's Supervision
37.0	Supervisory Staff & workmen
38.0	Tools & Plants / IMTEs
39.0	Materials
40.0	Issue of Fabricated Structure Steel
41.0	Execution of work
42.0	Methods of measurement
43.0	Deviation
44.0	Valuation of deviation
45.0	Compliance to regulation & bylaws
46.0	Facilities to be provided by BHEL/ Contractor
47.0	Progress reporting
48.0	Drawings & documents
49.0	Delay & Extension of Time
50.0	Price Variation and over run
51.0	Taxes and Duties
52.0	Time Schedule
53.0	Terms of payment
54.0	Insurance
55.0	Rate schedule / Variation
56.0	Others

### **SECTION-III**

#### **SPECIAL CONDITIONS of CONTRACTS**

##### **34.0 GENERAL SCOPE OF WORK**

- 34.1 All civil, structural and Architectural works for main plant , auxiliaries including housing complex which includes site grading and leveling, earth work in excavation, backfilling and disposal of surplus earth, concreting including reinforcement and formwork, masonry / block work, plastering, painting, un insulated / sandwiched insulated metal wall cladding, roofing including permanent steel decking, flooring, acid and alkali resistant lining, doors / windows, ventilators , fire proof doors, under deck insulation, false ceiling, roof water proofing, dismantling of existing structures if required, RCC, Steel structure, erection of all fabricated steel structure and misc. steel, paving, gravel filling, pre cast covers, trestle, cable ducts / duct banks, expansion joints, rain water pipe, water supply, toilet fitting, lift well, sewerage, insulation, gate / valves, damp proofing, water proofing of under ground structures, fencing, land scaping, final grading and site clearance before handing over and other auxiliary items of work etc., as well as including supply of all materials except those proposed to be supplied by BHEL, consumables, labour, Tools and plants, transportation and storage, sample testing etc. all complete as per BOQ, specifications and drawings for proper and successful execution of the job for **400 MW Marib Phase-II Gas Turbine Power Plant Project Station, at Marib, Yemen .**

All the works shall be carried out in accordance with British standards, DIN, American Standards, Indian Standards or any Internationally recognised standards as given in BOQ/ Tech. Specifications. Latest T&Ps and IMTEs is required to be used as per International practices.

The following works but not limited to, shall generally form the scope of work :

1. Detail survey & Geotechnical investigation.
2. Site leveling / Grading including backfilling.
3. Construction of plant boundary wall and gate.
4. Foundation for Gas Turbines and Generators and all the necessary auxiliaries.
5. Switch gear and control Building
6. Fire water pump area.
7. Civil and structural work for transformer yard incl. fencing and misc outdoor equipment foundations, cranes etc.
8. Civil and structural work for fuel oil unloading facilities pump house & trenches etc.
9. Roads, culverts, paved areas , plinth protections around buildings, finish grading including civil works associated with road lighting and plant area lighting.
10. Storm water drainage System
11. Sanitary & sewerage System
12. Civil work for plant waste effluent treatment & disposal system.

13. Non plant buildings including administrative building, security & gate house, sheds, overhead tanks, ware house and workshop, car park, canteen etc.
  14. Housing complex including roads, boundary, drainage, landscaping, plantation incl. irrigation system etc.
  15. Landscaping & plantation including necessary irrigation system for plant.
  16. Any other civil work not included in the preceding items but may be required for complete requirement of the plant
  17. Electrical Building
  18. Air Washer Room
  19. Bypass Stack Foundation
  20. Cable & pipe Trenches
  21. Pipe rack
  22. Earthing mats / copper rod.
- 34.2 **Field Quality Plans is to be submitted by successful bidders within 45 days of award of work. However all contractors will submit sample Field quality Plans along with their offers.**
- 34.3 The detailed scope of work and the technical requirements for work to be executed under this specification shall be as per Specifications C ( PE- TS -H32 – 600-C002 ) and Section - D ( PE –TS-999-600-C001 Sub Section 1 to 20 ,22) - enclosed with this tender document
- 34.4 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 as desired and as directed by the engineer.
- 34.5 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.
- 34.6 Any other building / facilities / structures / foundations ( stated / unstated ) that would be required as per system requirements for smooth operation and maintenance of plant shall be in the bidder's scope of work .
- 34.7 The Bidders shall be responsible for its Scope of Work with respect to General Conditions of Contract and specifications, compliance to applicable standards including those applicable for safety norms etc. except those specifically stated / agreed otherwise elsewhere.
- 34.8 The bidders shall submit its construction schedule to match the over all schedule enclosed.
- 34.9 **The final agreed rates for items indicated in price bid (Part-II) shall be firm through out the contract period till execution and successful handing over the Plant to Customer. No PVC & ORC shall be payable to contractor.**

34.10 **ALSO INCLUDED IN THE SCOPE**

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 or 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.
- 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 are 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.

34.11 **BHEL-Power Sector (NR) is an 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. The Contractor will be responsible for Health, Safety & Environment management (HSE) at site for the construction activities to be carried out by them in accordance with requirements given under section I (a) of GCC and elsewhere in this tender document. The contractor, who is awarded the work, shall have to sign an MOU w.r.t implementation of HSE conditions with BHEL (Safe Work Practices).**

34.12 **The customer M/s. PEC and / or their Consultant may depute their representative for checking and supervision of important stages of work. The contractor shall be required to provide all facilities for inspection of works at no extra cost to BHEL. Any defect in quality of work or deviations from drawings / specifications pointed out during such inspection shall be made good by the contractor as instructed by the BHEL Engineer, without any cost implication to BHEL.**

**Tenderer may note that all necessary system related to entry of men, vehicle & material, safety & security systems, work permit system etc. as applicable will have to be followed by the contractor.**

### **34.13 CLEANING UP AND ENVIRONMENTAL PROTECTION**

34.13.1 Contractor shall at all times, keep its work areas at the Site in a neat, clean and safe condition. Waste material shall be removed by Contractor from work areas on a continuous basis. Upon completion of any portion of the work, Contractor shall promptly remove all of its Construction Equipment, any Plant temporary structures and surplus materials not be used at or near the same location during later stages of work. Upon completion of the work, Contractor shall at its expense, satisfactorily dispose of all buildings, rubbish, unused materials and other equipment and materials belonging to it or used in the performance of the work, including return of any unused salvageable materials supplied by BHEL / Owner for incorporation into the work to Owner's warehouse or storage area on Site. Contractor shall leave the premises in a neat, clean and safe condition. In the event of Contractor's failure to comply with the foregoing the same may be accomplished by BHEL/ Owner at Contractor's expense.

34.13.2 Contractor's operations should be so performed as to prevent accidental spillage of contaminants, debris or other pollutants and waste into streams or underground water sources. Such pollutants include, but are not restricted to sanitary waste aggregate processing tailings, concrete curing water, oil or petroleum products, mineral salts and thermal pollution. Dewatering operations should be conducted in a manner to prevent muddy water from being discharged into streams. Settling ponds or other approved means should be used. Turbidity increases in the streams must be avoided and methods of reducing turbidity increases must be adopted. Waste water from aggregate processing, concrete batching, must not enter streams without using settling ponds, gravel filters or other processes so as not be harmful to fish.

34.13.3 Abatement of air pollution should be observed by Contractor by use of devices to control, prevent and minimize emissions to the atmosphere. Dust from Contractor operations, as far as practicable should be minimized. Exhaust gases due to poor engine adjustments must be avoided and engines not operated until corrective adjustments are made. Dust control by sprinkling or other methods must be adopted to avoid and reduce the dust nuisance. Burning of waste materials, brush or trees shall only be done when atmosphere conditions are favourable, as determined by BHEL / Owner. Clean-up to prevent accumulation of waste materials and rubbish should be enforced. Disposal of waste materials by burial should not contaminate ground water supplies. Excessive noise levels should be controlled.

### **34.14 ENVIRONMENTAL PROTECTION**

#### **34.14.1 Applicable Standards**

The project must conform to the local standards of the Republic of Yemen. The following standards and / or regulations are to be applied.

#### **34.14.2 Environmental Quality Standards**

The discharge of pollution in water and air as well as noise levels shall meet with the stipulations of Local Pollution Control Board as well as other Acts of the Government. It is a pre-condition that irrespective of what is stated in Statutory regulations or any other act or norms, the tender stipulated environmental qualities standards are the minimum requirements and shall be fulfill in toto.

### **34.14.3 Fundamental Requirements of Environmental Protection for Power Plants**

#### **34.14.3.1 General Principals**

To protect the environment, Power Plant construction should comply with state regulations, carry out composition and review system for Environmental Impact Assessment (EIA) report

#### **34.14.3.2 Water Pollution Prevention and Control**

The plant construction should be designed to economize on water use and to set up a water management system featuring equilibrium between water feed and water discharge

Waste water such as oily waste generated in construction of phase –II plant shall be collected in local area sump pits for disposal to off-site by means of portable pumps or vaccum trucking

### **34.15 SAFETY**

Contractor shall execute the work and conduct its operations at the Site in compliance with all applicable laws, regulations and standards, including those governing safety and the Safety Programme submitted by Contractor and approved by BHEL / Owner. Contractor shall direct its personnel to take all precautions necessary to protect against and prevent injury to personnel and damage to property. Contractor shall continuously inspect the work and supervise its personnel to determine and enforce compliance with the above provisions. Contractor shall cooperate with other contractors and subcontractors and shall respond promptly to the direction of BHEL / Owner for the purpose of implementing the Safety Program.

Contractor shall submit a written Safety Program with details appropriate to the work to be performed for BHEL / Owner's review. Such review shall not relieve Contractor of its responsibility for safety, nor shall it be construed as limiting in any manner the Contractor's obligation to undertake any action that may be necessary or required to establish and maintain safe working conditions at the Site.

Contractor shall designate a qualified Safety Representative. Such Safety Representative shall attend all project monthly safety meetings and participate fully in all acativities outlined in Contractor's Safety Program.

Contractor shall maintain reports of all accidents and injuries and shall furnish BHEL / Owner a monthly summary of injuries and man-hours lost due to injuries. Contractor shall report immediately any accidents occurring at the Site or enroute to or from the Site.

Contractor shall hold regularly scheduled meetings to instruct its personnel on safety practices and the requirements of its Safety Program. Contractor shall furnish safety equipment and enforce the use of such equipment by its personnel.

### **34.16 QUALITY**

#### **General**

As a means of assuring that the quality characteristics of each phase of the work fulfills the requirements of the project, the contractor / principle sub contractor shall be an entity which has a documented Quality Management System. The Quality Management shall be

capable of providing the required Quality planning. Quality control, Quality assurance for all phases of the work covering, storage, erection, construction and testing for all equipment, materials and services. The BHEL / Owner (as an audit client) reserves the right to audit all such elements in all phases of work for its effectiveness/conformity directly or thro' an authorized representative. However, such audits will be limited and may be determined prior to the order by the BHEL / Owner. The audit right in no way relieves the Contractor from performing the necessary application of his own system requirements.

#### **Quality Management System**

Contractor Quality Management System shall meet the requirements of ISO 9001. Contractor shall demonstrate compliance with this requirement by submitting a copy of their Quality Manual.

### **35.0 INSTRUCTIONS TO TENDERERS**

- 35.1 The Tenderer are advised to physically visit the site and fully acquaint themselves with site conditions, safety norms to be followed during working, 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 a office at site and keep posted an authorised, responsible officer with valid Power of Attorney for the purpose of the contract. Any order or instructions of the `Engineer' or his duly authorised 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 **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.**

### **36.0 CONTRACTOR'S SUPERVISION**

- 36.1 From the commencement of construction activities at site, the Contractor shall either himself supervise the execution of the Contract 'OR' shall appoint a competent Engineer / agent (having at least a `Degree of Bachelor in Civil Engineering' from a recognised university) approved by the Engineer as the Incharge (hereinafter referred to as "Site Incharge" to act in his stead. The Site Incharge shall be present at the site throughout normal working hours except when on leave, sick or absent for reasons connected with proper performance of the contract. Whenever the Site Incharge is absent from the site, a suitable person shall be appointed to act as his or her deputy.
- 36.2 The employment of an Engineer / Agent as aforesaid shall not be necessary if the Contractor himself is in possession of a recognised technical qualification and is in the opinion of the Engineer capable of receiving instructions of the Engineer and of executing the work to the satisfaction of the Engineer .
- 36.3 If the Contractor fails to appoint a suitable Engineer / Agent 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 / Agent is appointed and the Contractor shall be held responsible for the delay caused to the work and no extension of time on this account shall be given to him.

- 36.4 Orders given to the Contractor's Engineer / Agent shall be considered to have the same force as if they had been given to the Contractor himself.
- 36.5 The Contractor or his Agent shall be in attendance at the site during all working hours and shall supervise the execution of work with such additional assistance in each grade as the Engineer may consider necessary.
- 36.6 The Contractor or his accredited Agent 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.
- 36.7 The BHEL Engineer shall have full powers to instruct the Contractor to arrange for immediate termination of services, in connection with this contract, of any Agent, servant or employee whose continued employment is, in his opinion, undesirable, without assigning any reason.

### **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 these specifications. 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 forthwith remove him. Such person shall not again be employed for the purpose of 'OR' in connection with the Contract. Any person so removed shall be replaced as soon as possible by a competent substitute with information to BHEL.
- 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, sufficient space, improper approach roads etc., 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 workmanlike manner in the stipulated time. Accuracy of work and aesthetic finish are essential parts 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 shifts or on overtime basis for achieving the targets set by BHEL. The contractor's finally accepted rates shall include all these contingencies.
- 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 recover from the contractor's 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 month wise 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.

**EMPLOYMENT OF WORKERS , WORKING TIME ETC.**

- 37.9 It shall be the responsibility of the Contractor to pay salaries and other benefits to its employees/personnel engaged by it as per the agreement with them, and in keeping in line with the local laws in Yemen. The Contractor shall submit to Site Manager, BHEL Site, Yemen regularly, the details/statement of wages paid to its workers in India/back home (as applicable ) , besides wages paid in Yemen.
- 37.10 All traveling and transportation expenses including air fares etc ( as applicable ) shall be borne by the Contractor for all his employees. The Contractor shall also bear air fare and other expenses ( as applicable ) for those employees sent back to their place on account of misconduct, disobedience, improper behavior, sickness, unsatisfactory work or any other reason whatsoever.
- 37.11 Contractor shall arrange, passport, visas, work permit / license, clearance & exemptions from Ministries / Govt. Bodies / Customer, with all expenses / fees etc. for their employees, liaison with Government and other statutory bodies, meeting all statutory & regulatory Codes, Acts, Standards, for successful execution of contract for entire duration of contract. All expenses for all these activities will be borne by the Contractor.
- 37.12 The delay in obtaining the passports and other travel documents or compliance with the various formalities for the deputation of the contractor's personnel shall not absolve the contractor from his obligations under the Contract including completion of the work strictly in accordance with the time schedule.
- 37.13 The Contractor shall in all dealings with persons in his employment have due regard to all recognised festivals, days of rest/weekly off, and religious or other customs in Yemen and shall make special arrangements whenever the exigencies of the construction program demand that work shall proceed during such festivals and days of rest.
- 37.14 The Contractor shall not otherwise than in accordance with Yemen State Laws import, sell, give, barter, or otherwise dispose of any alcoholic liquor or drugs or any arms or ammunition to any person or persons whatsoever, nor permit or suffer any such importation, sale, gift, barter, or other disposal by his employees.
- 37.15 The Contractor shall submit a request to PEC through BHEL for issue of an identity card to each and every person employed at the Site by him along with passport size photographs and other documents as may be required for the purpose.

- 37.16 No person will be allowed to enter the project premises without an identity card. All identity cards will be surrendered by the Contractor to PEC through BHEL in respect of each person on completion of assignment of such person.
- 37.17 The Contractor shall at all times take all requisite precautions and use his best endeavors to prevent any riotous or unlawful behavior by or amongst the labourers and others employed by him for the purpose of or in connection with the Contract and for the preservation of the peace and the protection of the inhabitants and the security of property on or in the neighborhood of the Site.
- 37.18 The Contractor shall in collaboration with, and to the requirements of, any duly constituted medical or sanitary authority, ensure that suitable arrangements are made on the Site for the maintenance of health, the prevention and overcoming of epidemics, and for adequate first-aid, welfare, and hygiene services.
- 37.19 The Contractor, his partners, foreign workers and employees and their families shall not be involved by any manner in any political activity during their residence in the Employer's country.
- 37.20 Contractor shall, if required to do so by BHEL / Owner, remove from the Site any Contractor personnel who, in the opinion of BHEL / Owner, misconducts himself, is incompetent or negligent in the performance of his duties, is dishonest, or is uncooperative. Such personnel shall not be again employed at the Site without the written permission of BHEL / Owner. The costs for removal of such personnel and for providing his replacement shall be at Contractor's expense.
- 37.21 The scheduled work week at the site is based on 60 hours, Saturday through Thursday. However, Contractor shall plan to work such hours, shifts, or overtime as required to execute the work in accordance with time schedule given in the contract/site requirement.

**38.0 TOOLS AND PLANTS / IMTEs (Inspection measuring and Test equipments).**

- 38.1 All T&Ps and IMTEs which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition for **Phase-II. Modern civil construction equipments & IMTEs** are required to be used as per international practices. **BHEL shall not provide any T&P.** 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 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.
- 38.2 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.
- 38.3 Consolidation of ground and arrangement of sleepers / sand bag filling etc. for safe operation / movement of equipment including cranes / trailers etc. shall be the responsibility of the contractor at his cost.
- 38.4 Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, Manila ropes, winches and slings 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.
- 38.5 Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection measuring and Test equipment). The IMTEs shall have test/ calibration certificates from authorised /

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.

- 38.6 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.
- 38.7 BHEL shall have lien on all T&P, IMTEs & other equipment of the Contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract. No material brought to the Site shall be removed from the Site by the Contractor and/or his Sub-contractors without the prior written approval of the Engineer.
- 38.8 **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 materials including cement, normal reinforcement steel, gas , paints, welding electrodes etc. required for the work. Structural steel and special ( fusion bonded epoxy coated ) reinforcement steel (wherever indicated in BOQ ) will be provided by BHEL free of cost from BHEL Store. Most of structural steel shall be provided in fabricated form. However, site fabrication, wherever required, shall be paid as per the item rate indicated in the BOQ.
- 39.2 All 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 International/Indian standard and the Contractor shall, if requested by the Engineer, furnish proof to the satisfaction of Engineer that the materials so comply. **Only Sulphate Resistant Cement conforming to ASTM C150 Type V and Type I shall be used for all Substructures and Super structures respectively. All reinforcement steel to be supplied by the bidder shall have fusion bonded epoxy coating . For further details refer to Section C of the technical specifications .**
- 39.3 The Contractor shall, at his own expense and without delay, supply to the Engineer samples of materials proposed to be used 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 for 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 be incurred 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 and / or 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 such tests are required by the Engineer, 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 BHEL 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 The Contractor shall be responsible for the transport of their tools, plant and equipment and construction materials, from their place of origin to the Site .
- 39.14 All charges on account of Octroi, terminal or sales tax and other duties / levies on materials obtained by the contractor for the works from any source shall be borne by the contractor.

#### **40.0 ISSUE AND ACCOUNTING OF REINFORCEMENT AND STRUCTURAL STEEL**

- 40.1 Fabricated structural steel (like trusses, columns, purlins etc.) for structural steel work items only (except for items where supply by contractor is envisaged like anchor bolts, doors etc.) will be issued by BHEL at free of cost for permanent work only from BHEL / PEC's stores or other issue points as specified by the Engineer. Necessary indents shall be raised by the contractor as per procedure laid down by the Engineer about 7 days in advance of the actual requirement for incorporation in the works.
- 40.2 Materials will be issued only for permanent works and not for making templates, other temporary works, enabling works etc. and the same shall not be taken into account for purpose of material reconciliation.
- 40.3 The contractor shall bear all other costs including the lifting, carting from issue points to works site/contractor's stores, custody and handling etc. and return of surplus/serviceable materials to Owner's stores to be designated by the Engineer-in-charge and all expenditure will be made by the contractor.
- 40.4 Fabricated structural steel shall be issued in available lengths / shapes and no claims for extra payment on account of issue / handling of non standard lengths / shapes will be entertained. For the purpose of billing and accounting only linear measurement will be taken and weight will be calculated as per the IS / Applicable Standards Co-efficient. The difference in unit weight as per IS / Applicable Standards and actual as issued, if any shall be to the contractor's account and contractor shall quote the rates for corresponding item to take care of such difference.
- 40.5 Issue of stores material is subject to availability and the contractor shall not be entitled to any claim or compensation for non-supply or delay in the supply under any circumstances. The material will be issued generally during the working hours.
- 40.6 In the case of steel materials, the same shall be issued generally on the basis of linear measurement and the corresponding weight will be calculated as per Indian Standard. For the purpose of billing & accounting, only linear measurement will be taken and any difference in weight based on linear measurement & actual weight shall be to contractor's

account. Quoted price shall be deemed to include the above & the permissible wastage mentioned. No claim whatsoever shall be entertained on account of wastage & difference in weight as referred to above.

- 40.7 The Contractor shall bear all incidental costs including site lifting, carting from issue points to site / contractor's store, custody and handling etc., and return of surplus / serviceable / scrap materials to Owner's Storage points designated by the Owner etc. and no separate payment for such expenditure shall be made.
- 40.8 The theoretical consumption of reinforcement steel and structural steel required for the work will be calculated on the basis of approved drawings / joint measurements. In the case of Cement, the theoretical consumption shall be decided by the Engineer as mentioned above and his decision in this regard shall be final and binding on the Contractor. Reinforcement and structural steel shall be measured by weight in tones. The weight will be arrived at by multiplying the used length by the sectional weight. The sectional weight will be same as were applied at the time of issue. Standard hooks, cranks, bends and authorised laps, chairs, separator pieces etc. specified in drawing or instructed by engineer as required shall be measured and paid for. No payment shall be made for binding wires, spacer block etc. required for keeping the steel in position unless otherwise specified in the contract. No extra payment will be made for modification of already embedded reinforcement, if required due to faulty fabrication or placement.
- 40.9 The contractor shall submit proper account of material / material reconciliation statement for the material drawn by him from stores once in every three months. Failing compliance of this requirement further issue of steel to the contractor may be suspended and no claim of compensation for delay in execution on this account shall be entertained.
- 40.10 All the steel thus issued shall be properly accounted for as per the following permissible wastage over the theoretical quantity / consumption incorporated in the works.

<u>Item</u>	<u>Area</u>	<u>Permissible variation</u>
(a) Reinforcement bars	For all works except piling	3 %
	For piling works	5 %
(b) Structural steel	Accountable (visible)	4 %
	Un accountable (invisible)	1 %

**40.11 SCRAP & SERVICEABLE MATERIALS**

- a) All structural steel of length above 2 M except M.S. Plates shall be considered as serviceable materials provided the materials is in good and acceptable condition. Structural steel in length less than 2 M shall be treated as scrap.
- b) Plates having both sides greater than 1 Metre OR If any side is less than 1 M but greater than 0.5 M and the total area is equal or greater than 2 Sq. Metre shall be considered as serviceable.
- c) All reinforcements measuring 2 M and above in length shall be treated as serviceable materials provided they are in good and acceptable condition. Reinforcements in less than 2 M length shall be treated as scrap.

- 40.12 Any unused / serviceable quantity of reinforcement steel & structural steel not returned in good condition & wastages / loss / consumption beyond specified / agreed limits shall be charged at penal rate of USD 1500 per MT for reinforcement steel & USD 1750 per MT for structural steel respectively at the time of preparing final bill, during finalisation of the contract. The decision of Engineer-in-charge with regard to applicability of penal rates shall be final & binding upon the contractor.
- 40.13 Since the steel is being issued free of cost, the scrap generated shall belong to BHEL.
- 40.14 The cement stores shall be open for supervision and verification by the Engineer-in-charge or his authorised representative by any time when the Engineer-in-charge feels the need to do so.
- 40.15 The Contractor will have to submit their design mix for different grades of Concrete keeping in view the requirements stipulated in BS or International standard or IS:456 ,specifically regarding slump and Water Cement ratio and Specific Gravity of Materials brought to site as analysed in the laboratories. The design shall be used upon absolute volume method and theoretical consumption of Cement shall be worked out on this basis. For other than above designated mix Concrete items, the coefficients for consumption of cement shall be adopted as per International Standard practice.

#### **41.0 EXECUTION OF WORK**

- 41.1 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/ International specifications as applicable. In case of conflict, the decision of the Engineer shall be final & binding.
- 41.2 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.
- 41.3 Semi automatic welding (GMAW) process shall be used for structures etc to the maximum possible for better quality. 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 be used 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 calibration for the same shall also be arranged by the contractor within the finally accepted rates.

#### **41.4 SETTING OUT**

- 41.4.1 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 bench mark 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.

- 41.4.2 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.

#### **41.5 SITE DRAINAGE**

- 41.5.1 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.

#### **41.6 INSPECTION AND STAGE APPROVAL OF THE WORK**

- 41.6.1 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.

- 41.6.2 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 the Engineer thereon shall be final and conclusive.

#### **41.7 UNCOVERING AND MAKING GOOD**

- 41.7.1 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.

#### **41.8 DISCREPANCIES AND ADJUSTMENT OF ERRORS**

- 41.8.1 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.

41.8.2 In case of discrepancies between schedule 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 of Contract
- (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.

41.8.3 Any error in description, quantity in schedule of quantities or any omission therefrom shall not vitiate the contract or release the contractor from the execution of the whole or any part of the works comprised therein according to the drawings and specifications or from any of his obligations under the contract.

41.8.4 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.

41.8.5 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

## **41.9 HEALTH, SAFETY & ENVIRONMENT (HSE)**

41.9.1 Besides provision with regard to SAFETY under Clause 27 of GCC, 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. **Further, the contractor is required to provide proper Safety Net System wherever the hazard of fall from height is present as per instructions of BHEL Engineer at site. The safety net shall be duly tested and shall be of International standards and the nets shall be located as per site requirement to arrest or to reduce the consequences of a possible fall of persons working at different heights.**

- 41.9.2 Besides provision with regard to SAFETY under Clause 27 of GCC, the contractor 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 of this document.** The contractor shall continuously take special care to ensure the safety and prevention of human and equipment accidents and maintain good sanitary conditions in and around the site. All the construction work and plant operation must be carried out in the safest possible manner. The Engineer reserves the right to stop any process which, in the Engineer's opinion, is being performed dangerously. In this case the contractor must immediately adhere the requisite safety precautions and any delays attributed to the work stoppage on this account shall not affect the agreed contractual finishing dates.

**The contractor shall appoint dedicated full-time Qualified Safety Officers who shall have full authority to ensure that all necessary safety precautions are observed by the Contractor's employees and sub-contractors.** These appointees shall have full responsibility for the safety of all personnel within the contractor's area of the works.

Some of the common safety rules to be followed during working are as follows :-

- No outsider is allowed to enter construction area without permission.
- No body is allowed to enter at construction site without Safety Shoe.
- Never enter work area without Safety helmet & chin strap in place.
- No climbing/working allowed without proper safety belt above 2 m. height.
- Do not exceed the speed limit of vehicles 25 Kmph within premises.
- No debris obstacles allowed on the roads & passages.
- To maintain record of all accidents/incidents. All accidents/incidents need to be reported to site Incharge & also need to be investigated (formats & procedure should be finalized)
- Do not walk on pipelines or false ceiling.
- Maintain good Housekeeping at work site.
- No photography/ Videography allowed without permission
- Infrastructure to be developed for carrying out jobs properly in a safe manner.
- Weekly co-ordination meeting of all Safety engineers with BHEL safety officer.
- Monthly safety meeting with Site In-charges.
- Reports: Weekly/monthly/annual HSE report format should be finalized.
- All Safety equipment must be International standards & checked by Safety officer before use.
- Bamboo/wooden Scaffolding material not allowed.
- LPG cylinders not allowed for gas cutting.

- Good House keeping. Separate waste bins to be used for flammable & non flammable material.
- Safety awareness programs for workers by display of boards, posters, competitions, talks etc.
- Deployment of Safety Supervisors
- Testing certificates for lifting tools & tackle and inspection at regular intervals, besides thorough inspection prior using the same.
- Provision & maintenance of fire extinguishers at construction site & material stores.
- Display of emergency telephone numbers at various locations.
- For work in confined space use 24 V lamp fitting & use tools with air motors or electric tools with max. 24 V.
- Checking of tags of equipments like grinding machine, welding machine, gas cutting set etc. by supervisors before use.
- Provision of Fall arrestors & double lynyard safety belt

#### **41.9.3 Contractor shall arrange for following provisions of HSE**

1. Contractor has to maintain contact with local hospital having scanning & other modern medical facilities required during emergency including ambulance.
2. Contractor has to ensure pre employment medical check for all staff & workers.
3. **The Contractor shall provide and maintain proper sanitary facilities including Toilets/Urinals and drinking water at site for the use of workers and ensure that workers make use of them for maintaining cleanliness and health environment.**
4. Contractor has to ensure that adequate First Aid facilities with trained male nurse are available at work site for emergency purpose. This emergency set-up should include, but not limited to, following
  - Male nurse (in shifts)
  - Oxygen set up
  - Breathing apparatus
  - Eye wash facility
  - Stretcher
  - Trauma blanket
  - Medicines.

**The Contractor shall arrange and maintain ambulance at site for entire contract period for subject work. This emergency facility set up including ambulance, male nurse etc. will be shared by BHEL and its other contractors working at same project at no extra cost to BHEL and its sub-contractors.**

In case, under unavoidable circumstances , if the ambulance is not available, the contractor will have to arrange for the same as under clause 41.9.3.1 mentioned above.

**41.9.4 Additional safety requirement of BHEL's Customer, if any, shall be provided by the Contractor without any extra cost. Non adherence of safety requirements will attract penalty, which shall be as follows;**

- a) Penalty equivalent to USD 15 for the first violation.
- b) Penalty equivalent to USD 30 for the subsequent violations.
- c) For serious lapses, as decided by BHEL, even fines upto USD 500 at a time can be imposed.

The Contractor shall be fully responsible for accidents caused due to him or workmen's negligence or carelessness in regard to the observance of the safety requirements and shall be liable to pay compensation for injuries.

The amount towards penalties as above will be deducted from running bills of the Contractor. The amount so collected above will be utilized for supporting the safety activities at site. The decision of BHEL on above will be final and binding on the Contractor.

**41.9.5 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 abide by UN convention w.r.t Human Rights and shall be liable for Discrimination/Corporal punishment for failure in meeting with relevant requirements.
- (c) The Contractor shall arrange potable drinking water to its employees & workers

**41.10 NUISANCE**

41.10.1 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.

**41.11 MATERIAL OBTAINED FROM EXCAVATION**

41.11.1 Materials / Debris 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.

**41.12 TREASURE , TROVE , FOSSILS etc.**

41.12.1 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.

#### **41.13 PROTECTION OF WORKS**

- 41.13.1 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 changed. Where necessary, such trees shall be protected by providing temporary fencing.
- 41.13.2 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.
- 41.13.3 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.

#### **41.14 RECORD FOR MATERIALS CONSUMED**

- 41.14.1 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.

#### **41.15 PROTECTION OF EMBEDMENTS, BOLTS ETC.**

- 41.15.1 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.

#### **41.16 CLEARANCE OF SITE AND REPAIRS.**

- 41.16.1 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.

#### **41.17 QUALITY ASSURANCE**

- 41.17.1 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.

#### **41.18 COMPLETION OF WORK**

- 41.18.1 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.
- 41.18.2 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.
- 41.18.3 The Engineer shall certify to the contractor the date on which the work is completed and the date thereof.

#### **41.19 RECORDS AND MEASUREMENTS**

- 41.19.1 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.
- 41.19.2 Lump sum omissions will be entered for deduction. Measurement shall be restricted to that required to ascertain the financial liability of BHEL under the contract.
- 41.19.3 Work which fails to be measured in details shall be measured physically without reference to any local custom that may obtain excepting where it may otherwise be directed in the tender documents. The measurements shall be taken jointly by any person duly authorised on the part of BHEL and by the Contractor.
- 41.19.4 The Engineer shall give reasonable notice in writing to the Contractor of appointment for measurement.
- 41.19.5 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.
- 41.19.6 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.
- 41.19.7 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.
- 41.19.8 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.

41.19.9 The Contractor shall, once in every month, submit to the Engineer details of his claims for the work done by him up to 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 Contract documents.
- (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.

#### **42.0 METHOD OF MEASUREMENT**

42.1 Method of measurements shall be as per standard specifications included in the tender. For other items measurements shall be as per relevant IS Codes/ International Standard.

#### **43.0 DEVIATION**

43.1 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.

43.2 The Engineer may deviate, either by way of addition or deletion, 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 lump sum assessment or the proposed basis of payment, the extra time allowed, if any, and the date for completion of the entire contract). Any objection by the contractor to any matter concerning the order shall be notified by him in writing to the Engineer 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.

#### **44.0 VALUATION OF DEVIATIONS**

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

44.1 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.

44.2 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.

- 44.3 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.
- 44.4 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 to 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.

#### **45.0 COMPLIANCE TO REGULATIONS AND BYELAWS**

##### **45.1 Permits**

Contractor shall procure and pay for all permits, registrations , licenses required for performance of the Contract Works and shall furnish any bonds security or deposits required to permit performance of its Works hereunder.

- 45.2 The contractor shall observe the provisions of effective legislation in Yemen especially with respect to labour, wages and social security legislation and insurance on works, goods, transport means archeology, custom, taxes(including income tax), training etc. and shall bear any expenses required including permits & licenses necessary for starting work.

#### **46.0 FACILITIES TO BE PROVIDED BY BHEL / CONTRACTOR**

##### **46.1 CONTRACTOR – FURNISHED UTILITIES AND FACILITIES**

- 46.1.1 Contractor shall at its expense, arrange for develop and maintain utilities and facilities at the site to execute the work under the contract, including but not limited to the following:
- a) **Illumination:** Contractor shall provide light sufficient to safety perform work at night or when daylight is inadequate or obscured, including illumination of the access to the place of work.
  - b) **First Aid Facilities:** Contractor shall provide first aid facilities for the treatment of its employees who may be injured or become ill while engaged in the performance of work under the Contract. Contractor will make available such First Aid facilities to other contractors and Owner's employees on a "when available basis" and subject to reasonable charges for service rendered.
  - c) **Temporary Field Offices:** Contractor shall provide off site field offices and change facilities for its employees.
  - d) **Fire Prevention / Protection :** Contractor shall provide a fire prevention/protection program including fire protection equipment to mitigate the possibility of fires. Contractor's recommended fire prevention/protection program shall be subject to Owner's review.
  - e) **Potable Water:** Contractor shall provide potable water for use by its employees.

- f) Construction Service Water and Fire Water: Contractor shall provide water for use during construction of the Plant, including fire protection by local arrangement / installation of required Bore wells at his own cost.
  - g) **Toilet facilities:** Contractor shall provide adequate toilet facilities for all Contractor personnel.
  - h) **Trash disposal at an off-side location:** Contractor shall provide its own trash disposal site at an off-site location as approved by the Engineer
  - i) **Security for Site and off-site facilities:** Contractor shall provide all the necessary security measures for all its on-site and off-site facilities.
  - j) **Identification badges:** Contractor shall provide proper identification badges for all its personnel, including visitors.
- 46.2 BHEL shall provide limited open space, for office , storage shed & labour colony . It is the responsibility of the contractor to construct sheds, provide all utilities and dismantle and clear the site after completion of work or as and when required , as a part of his scope of work.
- 46.3 Contractor shall be responsible for providing all necessary facilities like residential accommodation, transport , electricity( thru DG sets), water( bore wells), medical facilities etc. as required under various labour laws and statutory rules and regulations framed there under to the personnel employed by him.
- 46.4 **Construction power, for construction purposes as well as office , stores use will be arranged by contractors by DG sets including further distribution at his own cost for the entire duration of the contract .** The contractor should have adequate spare capacity in DG Sets to take care of breakdowns . The Contractor shall submit the proposal / scheme for the same for approval of Engineer . All wiring must comply with local regulations and will be subject to Engineer's inspection and approval before connecting supply. Required calibrated energy meter for measurement of power consumed has to be arranged / installed by Contractor at his cost.
- 46.5 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. The contractor shall adjust his working shift / hours accordingly and deploy additional manpower if necessary so as to achieve the targets.
- 46.6 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.
- 46.7 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.
- 46.8 Contractor shall arrange for construction water within the quoted rates by making adequate bore wells. Contractor has to satisfy himself that the water brought by him is fit for construction / consumption and to submit the test report from reputed laboratory and adequately treat such water at his cost when it is not found fit for the said purposes.

- 46.9 The Contractor shall make arrangements for storage of sufficient quantity of water required for work.
- 46.10 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.
- 46.11 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 this regard shall be final.

#### **47.0 PROGRESS REPORTING**

- 47.1 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.
- 47.2 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.
- 47.3 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.
- 47.4 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 slippages do not accumulate and effect the overall programme.
- 47.5 The daily manpower & equipment reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged and daily equipment report indicating major construction equipment in working order etc.

#### **48.0 DRAWINGS AND DOCUMENTS**

- 48.1 The detailed drawings, specifications available with BHEL engineers will form part of this tender specification. These documents will be made available to the contractor during execution of work at site. The contractor will also ensure availability of all drawings / documents at work place.

- 48.2 Necessary drawings / documents to carry out the construction work will be furnished to the contractor by BHEL on loan which shall be returned to BHEL Engineer at site after completion of work . Contractor shall ensure safe storage and quick retrieval of these documents.  
The following detail designs and drawings shall form the scope of Contractor for which necessary input / schematic drawings shall be furnished by BHEL
- a) Bar bending schedule
  - b) Shuttering form work
  - c) Metal decking, sandwiched metal roofing, insulated / non insulated wall cladding.
  - e) False ceiling & false flooring
  - f ) Toilet internal sanitary and plumbing drawings
  - g ) Aluminum sections for doors and windows.
- 48.3 The contractor shall maintain a record of all drawings and documents available with him in a register as per format given by BHEL Engineer. Contractor shall ensure use of pertinent drawings / data / documents and removal of obsolete ones from work place and return to BHEL.
- 48.4 The data furnished in various annexure enclosed with this tender specification are only approximate and for guidance. However, the change in the design and in the quantity may occur as is usual in any such large scale of work.
- 48.5 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.
- 48.6 Deviation from design dimensions should not exceed permissible limit. The contractor shall not correct or alter any dimension / details, without specific approval of BHEL.
- 48.7 All as build layouts and other as build changes shall be submitted in soft and hard copies as per instruction of BHEL Engineer.

#### **49.0 DELAY AND EXTENSION OF TIME**

- 49.1 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.

#### **50.0 PRICE VARIATION AND OVERRUN**

50.1 The finally accepted rates for scope of work as defined in this tender shall remain FIRM throughout the contract period including extended period, if any. NO PRICE VARIATION / COMPENSATION / OVER RUN on account of any increase whatsoever, will be payable during the entire period of execution including extended period, if any.

#### **51.0 TAXES & DUTIES**

51.1 **The price quoted shall be inclusive of all taxes/duties including custom duty, as applicable.** The contractor shall be responsible for payment of all taxes, duties, fees, levies etc. as per prevalent laws at Yemen and compliance to all local regulations.

51.2 All construction equipment required by contractor or its sub-contractors to perform the works pursuant to the contract shall be exempted from duties or impositions imposed under the laws of the Republic of Yemen provided that such items are either consumed in performance, re-exported or transferred to owner at the conclusion of the contract.

51.3 **Custom duties for importation of Plant, equipment including spare parts and consumables, must pay by contractor (5%) according to Yemeni laws. Custom duties cost shall be reflected separately in the price schedule.**

51.4 Taxes as required to be deducted at source as per Local Yemen Laws / Indian Law (applicable in case of only those contractors having their office in India), if any, at prevailing rates shall be deducted on gross invoice value from the running bills unless Exemption Certificate from appropriate Tax Authority is furnished.

#### **52.0 TIME SCHEDULE**

52.1 The contractor is required to commence the work within 15 days from the date of issue of letter of intent unless BHEL decides to fix any other later date. However, the actual date of start of work will be certified by BHEL Engineer after adequate mobilisation of materials, manpower and T&P by the contractor.

52.2 **Entire work under this contract is required to be completed, in all respect including handing over, within 30 MONTHS from the schedule date of start of work** as per the programme / milestones indicated by BHEL. **However, finishing works shall be allowed to be completed upto two month after synchronization of last unit.** 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 mobilise adequate resources to meet BHEL commitments to customer as indicated from time to time. In case due to reasons not attributable to the contractor, the work gets delayed and additional manpower / resources have to be mobilized so as to expedite the work to meet various milestones, same shall be done within the quoted rates, at no extra cost to BHEL.

**52.3 Project Period Schedule**

The project completion period shall be as follows

SI No	MILESTONE	Period in months from the Issue of LOI
1	Start of Geotechnical Investigation	1st Month
2	Completion of Field Tests of Geo Technical Investigations	2 <sup>nd</sup> Month
3	Submission of Geotechnical Investigation Report ( Preliminary )	3 <sup>rd</sup> Month
4	Submission of Geotechnical Investigation Report ( Final )	4 <sup>th</sup> Month
5	GT- 1 Foundation Casting *	9 <sup>th</sup> Month
6	Release Of Stack , Transformer Yard Foundations Unit-1 *	13 <sup>th</sup> Month
7	Release for FO , Fire Water Tank Foundations	14 <sup>th</sup> Month
8	Release of CCR for Panel erection	14 <sup>th</sup> Month
9	Release for Duct Bank for Tray erection	14 <sup>th</sup> Month
10	Release of GT Hall Unit-1 for Turbine Placement *	14 <sup>th</sup> Month
11	Release of GT Hall Unit-1 for Turbine Erection *	15 <sup>th</sup> Month
12	Release for Fuel Gas , Fire Water , FO Pump House Foundations	16 <sup>th</sup> Month
13	Completion of facilities for commissioning of first gas turbine	22 <sup>nd</sup> Month
14	Completion of facilities for commissioning of second gas turbine	24 <sup>th</sup> Month
15	Completion of facilities for commissioning of third gas turbine	26 <sup>th</sup> Month
16	Completion of facilities for commissioning of fourth gas turbine	28 <sup>th</sup> Month

The \* dates for Unit - 2 , 3 , 4 will be with a lag of 2 , 4 , 6 months from Unit-1 .  
The Bidder shall submit with the Bid, a master milestone schedule addressing all major phases of the project, including construction to match the Project Schedule.

52.4 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.

**53.0 TERMS OF PAYMENT :**

**53.1** The prices for all the items of the BOQ shall be quoted in US Dollars. The payment shall be made as per tender terms on receipt of payments from customer. The terms of payment applicable on each item of price schedule shall be as under :-

**(A) ADVANCE PAYMENT**

- (a) "5% of the contract value shall be paid as interest bearing advance against submission of a Bank Guarantee for an amount equal to 1.20 times of advance valid for 15 months initially and thereafter extension for a period upto which the advance

is fully adjusted. The interest chargeable shall be Prime Lending Rate of State Bank of India plus 2%.”

The BG should be issued preferably through any of the Member Banks listed in the GCC. The BG may also be accepted from a Foreign Bank at the sole discretion of BHEL, provided the BG is duly endorsed by any of the BHEL's Member Bank listed in the GCC 'OR' any Nationalized Bank in India.

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

- (b) The advance paid shall be recovered from the contractor's monthly running bills to an extent of 10% of each bill alongwith applicable interest amount till it is fully recovered. The BG amount shall be allowed to be reduced every six months by an amount equal to the amount adjusted against running bills.
- (c) The BG against advance shall be returned after full adjustment of the entire amount of advance along with interest .

**(B) Progressive Payments-**

**(B1) Progressive Payments**

- (a) The Contractor shall be paid monthly running bill to a maximum of 90% of the value of the work actually executed on site provided the work has been executed to the satisfaction of the Engineer. BHEL Site Manager, at his discretion can split this 90 % payment, to facilitate site operations. The Engineer may after a measured bill allow & certify payment to the contractor on the basis of abstract measurement bill submitted by the contractor. Contractor will also submit the soft copy containing abstract & measurement sheets of the bill which will be returned to him after correction for further resubmission of bill. From this amount recovery 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.
- (b) 4 x 1.25 % of the contract value shall be paid against issue of provisional takeover certificate by BHEL's Customer(M/s PEC).
- (c) Balance 5% of the contract value shall be paid within one month of submission and passing of final bill and against final take over certificate by BHEL's Customer( PEC).

**NOTE:** Above payment at (c) shall be released after working out the contract value based on actual work carried out.

**(C) Currency of Payment and Exchange Rate**

**(i) Payment in US \$**

**100 % of the passed bill amount will be paid in US\$ subject to Reserve Bank of India (RBI)/ Yemen Govt guidelines.**

- (D) 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 earlier advance payment shall of itself be conclusive evidence that any work or materials to which it relates are in accordance with the contract.

#### 54.0 INSURANCE

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

- 54.1 BHEL / its customer shall arrange for insuring the materials of BHEL / its customer covering the risks during transit, storage, erection and commissioning.
- 54.2 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 reserve the right to recover deductible franchise and also unsettled portion of insurance claim amount from the contractor.
- 54.3 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.
- 54.4 Insurance for all materials pertaining to the Contractor(T&Ps, Construction Materials etc.) during transit, storage and during construction shall be in his (Contractor's) scope.
- 54.5 The Contractor shall provide insurance cover to all persons employed/engaged by him throughout the period of Contract, including the extended period, if any, under prevailing local laws.

#### 55.0 RATE SCHEDULE /VARIATION

- 55.1 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.
- 55.2 The Tenderer shall quote the prices/rates for entire scope of work as per the rate schedule only, in part II price bid (Original). **The prices for all the items of the BOQ shall be quoted in US Dollars (USD).** Conditional price bids or price bids with any deviation / clarification etc. are liable to be rejected. No cutting / erasing / over writing shall be done.
- 55.3 Contractor's total quoted price as per rate schedule will be taken as tentative only. The contractor undertakes to erect / commission actual quantities as per advice of BHEL Engineer and accordingly the final contract price shall be worked out on the basis of quantities actually erected at site and payments will also be regulated for the same. The quantities indicated against each item may vary to any extent and no compensation will be payable in variation of Individual item quantity. **However, in case of overall reduction in contract value beyond 30%, the contractor will be eligible for compensation as per the following provision:**

**“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”**

Tenderers are required to take above into account while quoting the unit rates as per Rate Schedule so as to take care of such variation during execution stage.

- 55.4 The rate quoted in price bid cum rate schedules (Part-II) should be inclusive of all costs / expenses and taxes, duties, levies etc. as per prevalent laws at Yemen and compliance to all local regulations. The Contractor shall not be entitled to claim increase in market price , currency fluctuation, higher cost of living standards or minimum wages. The contractor shall incur the Taxes/duties, if any, which are involved later or subsequently under legislation or laws after the effective date of the contract.

## **56.0 OTHERS**

### **56.1 SECURITY DEPOSIT:**

The contractor shall submit Security Deposit (SD) in US \$ within 15 days from the date of issue of LOI as per clause no. 16.0 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 in the GCC. The BG may also be accepted from a Foreign Bank at the sole discretion of BHEL, provided the BG is duly endorsed by any of the BHEL's Member Bank listed in the GCC 'OR' any Nationalized Bank in India.

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

### **56.2 LIQUIDATED DAMAGES (LD):**

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 total contract value.

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

- 56.4 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. 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.

- 56.5 Settlement of disputes shall be according to the Rules of reconciliation and arbitration under Indian Arbitration Act 1996 and according to Indian Laws in India at Delhi as per GCC of BHEL.

#### **56.6 CHANGES IN LEGISLATION**

If after the date of bid opening and during Contract execution, there may be any legislative changes in the Republic of Yemen (law, decree or by-laws) which cause additional or reduced cost to the Contractor in the execution of the work, such additional or reduced cost, if fully justified and approved by BHEL / Owner, shall be paid for or reimbursed, as the case may be, by or to the BHEL / Owner.

#### **56.7 LAW APPLICABLE**

The Contract shall be governed by and construed in accordance with the laws of the Republic of Yemen

#### **56.8 RECOGNIZED FESTIVALS AND CUSTOMS**

Contractor shall have due regard for all recognized festivals and religious or other customs in dealing with its workmen and others in the Republic of Yemen

**56.9 GUARANTEE:-** The contractor shall Guarantee the soundness of works under the contract and their proper execution and operability and achieving the relevant purpose fully for a period of 24 months as from taking over of last unit by the owner M/s PEC. If any defect, default or deficiency transpires therein, the contractor shall remedy or complete same within one week from being notified thereof, otherwise BHEL may carry out same at expense and responsibility of the contractor and may deduct the expense incurred including 30% overheads in this respect from the deposit with BHEL, without prejudice to the right of the BHEL to compensation.

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

SL NO	EQUIPMENT	QUANTITY
1	NEW PLC OPERATED BATCHING PLANT (MIN 30 CUM PER HOUR) (Fully Automatic)	TO BE INDICATED IN DEPLOYMENT PLAN
2	TRANSIT MIXERS	TO BE INDICATED IN DEPLOYMENT PLAN
3	CONCRETE PUMPS (Mobile with boom/ 70 M lift)	TO BE INDICATED IN DEPLOYMENT PLAN
4	HYD EXCAVATORS / POCLAINS / JCB	TO BE INDICATED IN DEPLOYMENT PLAN
5	DUMPERS	TO BE INDICATED IN DEPLOYMENT PLAN
6	DOZERS	TO BE INDICATED IN DEPLOYMENT PLAN
7	AIR COMPRESSORS	TO BE INDICATED IN DEPLOYMENT PLAN
8	MINI BATCHING PLANT	TO BE INDICATED IN DEPLOYMENT PLAN
9	CONCRETE VIBRATORS	TO BE INDICATED IN DEPLOYMENT PLAN
10	HYDRA CRANE 10/ 14 T	TO BE INDICATED IN DEPLOYMENT PLAN
11	MOBILE CRANE 15/18 T	TO BE INDICATED IN DEPLOYMENT PLAN
12	CRANE 75 / 100 MT	TO BE INDICATED IN DEPLOYMENT PLAN
13	TOWER CRANE	TO BE INDICATED IN DEPLOYMENT PLAN
14	15/20 MT TRAILORS WITH PULLING UNIT / TRACTOR – TRAILORS	TO BE INDICATED IN DEPLOYMENT PLAN
15	25/30 MT TRAILORS WITH PULLING UNIT / TRACTOR – TRAILORS	TO BE INDICATED IN DEPLOYMENT PLAN
16	SUBMERSIBLE PUMP ( DIESEL / ELEC )	TO BE INDICATED IN DEPLOYMENT PLAN
17	DE WATERING PUMP – 5/10/25 HP	TO BE INDICATED IN DEPLOYMENT PLAN
18	SLUDGE / SLURRY PUMP ( DIESEL / ELEC )	TO BE INDICATED IN DEPLOYMENT PLAN
19	POWER DRIVEN EARTH RAMMER	TO BE INDICATED IN DEPLOYMENT PLAN
20	PLATE COMPACTOR	TO BE INDICATED IN DEPLOYMENT PLAN
21	VIBROMAX	TO BE INDICATED IN DEPLOYMENT PLAN
22	ROAD ROLLER	TO BE INDICATED IN DEPLOYMENT PLAN
23	WINCH WITH BUILDING HOIST	TO BE INDICATED IN DEPLOYMENT PLAN

SL NO	EQUIPMENT	QUANTITY
24	REINFORCEMET CUTTING / BENDING MACHINE	TO BE INDICATED IN DEPLOYMENT PLAN
25	WATER TANKER WITH SPRINKLER	TO BE INDICATED IN DEPLOYMENT PLAN
26	WELDING MACHINES	TO BE INDICATED IN DEPLOYMENT PLAN
27	HEATING OVEN	TO BE INDICATED IN DEPLOYMENT PLAN
28	PORTABLE OVENS	TO BE INDICATED IN DEPLOYMENT PLAN
29	PORTABLE LIGHTING MAST / LIGHTING SYSTEM	TO BE INDICATED IN DEPLOYMENT PLAN
30	PNUEMATIC JACK HAMMER	TO BE INDICATED IN DEPLOYMENT PLAN
31	PLY SHUTTERING BOARD WITH ADEQUATE SUPPORTING STRUCTURE	TO BE INDICATED IN DEPLOYMENT PLAN
32	SCAFFOLDING MATERIALS	TO BE INDICATED IN DEPLOYMENT PLAN

**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 trucks & devices, tackles, machines, 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).

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

SL NO	EQUIPMENT	QTY
1	TOTAL STATION	1 NO
2	THEODOLITE ONE SECOND ACCURACY	2 NO
3	AUTO LEVEL AND STAFF	2 NO
4	DUMPY LEVEL UPTO 350 MM	2 NO
5	AUTOMATIC COMPRESSION TESTING MACHINE(2000KN)	1 NO
6	CONSTRUCTION MATERIAL TEST EQUIPMENT	AS PER REQUIREMENT
7	CUBE MOULDS(150MM SIZE)	72 NOS
8	CONCRETE slump cone WITH TAMPING ROD	4 SET
9	SIEVES OF DIFFERENT SIZES FOR FINE & COARSE AGGREGATE TESTING (FULL SET)	1 SET
10	SIEVE SHAKER	1 NO
11	AGGREGATE IMPACT TEST MACHINE	AS PER REQUIREMENT
12	OVEN (CAPACITY 120LTR, RANGE – 250C)	1 NO
13	PHYSICAL BALANCE FOR LAB WORK	1 NO
14	MOISTURE CONTAINER(STEEL/ALUMINIUM)	5 NOS
15	CORE CUTTER TEST APPARATUS	3 SETS
16	RAPID MOISTURE METER	2 NOS
17	VICAT APPARATUS WITH PLUNGERS FOR CEMENT TESTING	1 SET
18	CUBE MOULDS (70MM SIZE)	6 NOS

**NOTES:**

- The above list specifies only major IMTEs ( may not be complete to be deployed by the contractor). Contractor has to set up the field laboratory with facilities required 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.
- Other terms and conditions regarding above items please also refer clause 38 T&P/IMTEs).

**ANNEXURE-III**

**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.

Tenderers Name and Address

Place: (Signature of the Tenderer with stamp)

Date:

**ANNEXURE-IV**

**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.....

**ANNEXURE-V**

**GENERAL TERMS AND CONDITIONS OF REVERSE AUCTION (RA)**

Against this enquiry for the subject item / system with detailed scope of supply as per our tender specification, BHEL-PSNR, NOIDA may resort to "REVERSE AUCTION PROCEDURE" i.e. **ONLINE BIDDING on INTERNET.**

1. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
2. BHEL will engage the services of a service provider who will provide all necessary training and assistance before commencement of on line bidding on Internet.
3. In case BHEL decides to conduct reverse auction, BHEL's service provider shall contact the vendor directly and impart them the training.
4. Business rules like event date, time, start price, bid decrement, extensions, etc. also will be communicated through service provider for compliance.
5. Vendors have to fax the compliance form in the prescribed (provided by service provider) before start of Reverse auction. Without this the vendor will not be eligible to participate in the event.
6. **Total Price quoted shall be inclusive of all taxes/duties including custom duty, as applicable at Yemen in line with the NIT conditions for the subject work in US \$ , which is to be worked out as per the BOQ (Rate Schedule) given in tender enquiry and subsequent changes made, if any. EXCEL Sheet shall be provided, if applicable.**
7. Reverse auction will be conducted on schedule date & time.
8. At the end of reverse auction event, the lowest bidder value will be known on the network.
9. The lowest bidder has to fax the duly signed filled-in prescribed format as provided on case-to-case basis to BHEL through service provider after completion of event on the same day preferably.
10. Any variation between the on-line bid value and signed document will be considered as sabotaging the tender process and will invite disqualification of vender to conduct business with BHEL as per prevailing procedure.
11. In case BHEL decides not to go for Reverse auction procedure for this tender enquiry, the price bids and price impacts, if any already submitted and available with BHEL shall be opened as per BHEL standard practice.

**Authorization of representative who will participate in the on line Reverse Auction Process;**

1	NAME & DESIGNATION OF OFFICIAL	
2	POSTAL ADDRESS (COMPLETE)	
3	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
4	FAX NO.	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

**FORMAT OF UNDERTAKING**  
**(To be submitted in the bidder's letter head)**

**REF:**

**Dt.**

**Bharat Heavy Electricals Limited**  
**Power Sector – Northern Region,**  
**Plot No. 25 , Sector - 16A ,**  
**Distt. Gautam Budh Nagar,**  
**NOIDA – 201 301.INDIA**

**Sub.: All the civil, structural & architectural works for 400 MW Marib Phase-II Gas Turbine Power Station Project at Marib, Yemen.”.**

Tender No. BHEL/ NR/SCT/YE-MARIB PH-II/CIVIL/727

Dear Sirs,

With reference to above, this is to confirm that as per tender conditions, we have visited **Marib Phase-II Gas Turbine Power Station Project at Marib, Yemen** before submission of our offer and noted the job content & site conditions etc.

We also confirm that we have not changed / modified the tender documents as appeared in the website and in case of observance at any stage, it shall be treated as null and void. We hereby confirm that we have not taken any deviation from tender clauses together with other references as enumerated in the above referred NIT and confirm our acceptance to reverse auctioning process and we hereby convey our unqualified acceptance to all terms and conditions as stipulated in the tender and NIT. In the event of observance of any deviation in any part of our offer at a later date whether implicit or explicit, the deviations shall stand null & void.

We confirm to have submitted offer strictly in accordance with tender instructions.

Thanking you,

Yours faithfully,

(Signature, date & seal of authorized representative of the bidder)

**ANNEXURE-VIII****BANK GUARANTEE FOR PAYMENT OF ADVANCE**

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 Electricals Limited a Company incorporated under the Companies Act, 1956, having its registered office at BHEL House, Siri Fort, New Delhi - 110049 through its unit at Power Sector-Northern Region, Noida, Distt. Gautam Budh Nagar, (U.P.) India, hereinafter called "The Company" (which expression shall unless repugnant to the context or meaning thereof be deemed to include its successors and assigns).

WHEREAS M/s. \_\_\_\_\_ (hereinafter referred to as the Contractor) have entered into a Contract arising out of Letter of Intent no. \_\_\_\_\_ dtd \_\_\_\_\_ (hereinafter referred to as "the Contract") for the --< Name of work >-- with the Company.

AND WHEREAS the Contract inter-alia provides that the Company will pay to the Contractor interest bearing advance of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) on certain terms and conditions specified in the Contract subject to the Contractor furnishing a Bank Guarantee for Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) in favour of the Company.

AND WHEREAS the Company has agreed to accept a Bank Guarantee from a Bank to cover the said advance.

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.

**NOW THIS DEED WITNESSES AS FOLLOWS:-**

- (1) In consideration of the Company having agreed to advance a sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) to the Contractor, the Guarantor do hereby guarantee the due recovery by the Company of the said advance with interest thereon as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilise the said advance for the purpose of the Contract and /or the said advance together with interest as aforesaid is not fully recovered by the Company the Guarantor do hereby unconditionally and irrevocably undertake to pay to the Company without demur and merely on a demand, to the extent of the said sum of Rs. \_\_\_\_\_ (Rupees \_\_\_\_\_ only) any claim made by the Company on them for the loss or damage caused to or suffered by the Company by reasons of the Company not being able to recover in full the advance with interest as aforesaid.

- (2) The decision of the Company whether the Contractor has failed to utilise the said advance or any part thereof for the purpose of the Contract and / or as to the extent of loss or damage caused to or suffered by the Company by reason of the Company not being able to recover in full the said sum of Rs. \_\_\_\_\_ with interest if any shall be final 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.
- (3) 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 forebear 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 of 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.
- (4) The Guarantor further agrees that the Guarantee herein contained shall remain in full force and effect during the period till the Company discharges this Guarantee, subject to 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.
- (5) 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.
- (6) 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 unrealised.
- (7) 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.
- (8) Any claim or dispute arising under the terms of this documents shall only be enforced or settled in the courts at New Delhi/ Delhi only.

- (9) The Guarantor hereby declares that it has power to execute this Guarantee under its Memorandum and Articles of Association and the executant has full powers to do so on its behalf under the Power of Attorney dated\_\_\_\_\_ (To be incorporated by the Bank) granted to him by the proper authorities 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

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 sealed cover.

**SUMMARY SHEET****RATE SCHEDULE**

<b>Sl. No</b>	<b>DESCRIPTION OF WORK</b>	<b>Rate in USD (In figures and words)</b>
<b>1</b>	Total civil work price obtained as per BOQ cum rate schedule including all Taxes , Levies charges in Yemen ( as well as applicable in India, if any) of <b>400 MW MARIB-PHASE-II Gas Turbine Power station project</b> .	/

**Notes:**

1. The rate 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.

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(Seal and signature of tenderer)

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