

**TENDER SPECIFICATION**  
**BHE/PW/PUR/WNT2-CVL CHP/1521**

All Civil and Architectural work for CHP including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/ mechanical/electrical agencies and final handing over to customer for onward operation purposes

**AT**

**1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda,  
Gujarat**

**TECHNICAL BID - VOLUME- I**

**TENDER SPECIFICATIONS CONSISTS OF:**

- **Notice Inviting Tender**
- **Volume 1 A - Technical Conditions of Contract,**
- **Volume 1 B - Special conditions of Contract,**
- **Volume 1 C - General conditions of Contract**
- **Volume 1 D - Forms & Procedures**
- **Volume 1 E- Technical Specification for Civil, Architectural Works**



**Bharat Heavy Electricals Limited**  
*(A Government of India Undertaking)*  
Power Sector - Western Region  
345-Kingsway, Nagpur-440001

# **TENDER SPECIFICATION**

**NO: BHE/PW/PUR/MANUT-CVL AHP/1521**

All Civil and Architectural work for CHP including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/ mechanical/electrical agencies and final handing over to customer for onward operation purposes

**AT**

**1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda,  
Gujarat**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION: Refer Notice Inviting Tender

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II ARE ISSUED TO:

M/s. ....

.....

PLEASE NOTE: THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

Place: Nagpur

Date:

| Volume No | Description  | Hosted in website bhel.com as files titled |
|-----------|--|--|
| NIL       | Tender Specification Issue Details   | (Part of <b><u>Vol-IA-1521</u></b> )       |
| NIL       | Notice Inviting Tender   | (Part of <b><u>Vol-IA-1521</u></b> )       |
| I-A       | Technical Conditions of Contract   | Vol-IA- <b>1521</b>                        |
| I-B       | Special Conditions of Contract   | Vol-IBCD- <b>1521</b>                      |
| I-C       | General Conditions of Contract   | (Part of <b><u>Vol-IBCD-1521</u></b> )     |
| I-D       | Forms & Procedures   | (Part of <b><u>Vol-IBCD-1521</u></b> )     |
| I-E       | Volume 1 E – Technical Specification for Civil, Structural and Architectural Works | Vol-IE- <b>1521</b>                        |
| II        | Price Bid Specification  | Vol-II- <b>1521</b>                        |

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# NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



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**Ref No** BHE/PW/PUR/WNT2-CVL CHP/1521

Dated 23/09/2015

**NOTICE INVITING TENDER (NIT)**  
**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES**  
**OR**  
**PURCHASE TENDERS FROM THIS OFFICE ALSO**

=====

To

Dear Sir/Madam

**Sub : NOTICE INVITING TENDER**

Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting [PRE QUALIFICATION CRITERIA](#) as mentioned in Annexure-I) for the subject job by the undersigned on the behalf of BHARAT HEAVY ELECTRICALS LIMITED as per the tender document. Following points relevant to the tender may please be noted and complied with.

**1.0 Salient Features of NIT**

| <b>SL NO</b> | <b>ISSUE</b>                      | <b>DESCRIPTION</b>   |                   |
|--------------|-----------------------------------|--|-------------------|
| <b>i</b>     | <b>TENDER NUMBER</b>              | BHE/PW/PUR/WNT2-CVL CHP/1521   |                   |
| <b>ii</b>    | <b>Broad Scope of job</b>         | All Civil and Architectural work for CHP including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/ mechanical/electrical agencies and final handing over to customer for onward operation purposes at <b>1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda, Gujarat.</b> |                   |
| <b>iii</b>   | <b>DETAILS OF TENDER DOCUMENT</b> |  |                   |
| a            | Volume-IA                         | <i>Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</i>  | <i>Applicable</i> |
| b            | Volume-IB                         | <i>Special Conditions of Contract (SCC)</i>  | <i>Applicable</i> |
| c            | Volume-IC                         | <i>General Conditions of Contract</i>  | <i>Applicable</i> |

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|    |  |   |                   |
|----|--|---|-------------------|
|    |  | (GCC)   |                   |
| d  | Volume-ID                                      | <i>Forms and Procedures</i>   | <i>Applicable</i> |
| e  | Volume-II                                      | <i>Price Schedule (Absolute value).</i>   | <i>Applicable</i> |
| iv | <b>Issue of Tender Documents</b>               | <p><b>1. <u>Sale from BHEL PS Regional office at :</u></b><br/> <b>Start : 23/09/2015 ,</b><br/> <b>Closes: 15/10/2015 , Time : 16.00 Hrs</b></p> <p><b>2. From BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>)</b><br/> Tender documents will be available for downloading from website till due date of submission</p>  | <i>Applicable</i> |
| v  | <b>DUE DATE &amp; TIME OF OFFER SUBMISSION</b> | <p><b>Date : 16/10/2015, Time 15.00 Hrs</b><br/> <b>Place : <u>BHEL PS Regional office at :Nagpur</u></b></p> <p>Tenders being submitted through representative shall be submitted at dispatch section of PSWR HQ Office after making entry/registration at the reception. For any assistance on the matter kindly contact following officials:</p> <ul style="list-style-type: none"> <li>• Pratish Gee Varghese / Sr Engineer (Purchase)</li> <li>• Neeraj Tiwari / Sr Engineer (Purchase)</li> <li>• Shivkesh Meena / Engineer (Purchase)</li> </ul> | <i>Applicable</i> |
| vi | <b>OPENING OF TENDER</b>                       | <p><b>1 hours after the latest due date and time of Offer submission</b></p> <p>Notes:<br/> (1) In case the due date of opening of tender becomes a non-working day, then the due date &amp; time of offer submission and opening of tenders get extended to the next working day.<br/> (2) Bidder may depute representative to witness the</p>   | <i>Applicable</i> |

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|             |   |   |                        |
|-------------|---|---|------------------------|
|             |   | <i>opening of tender</i>  |                        |
| <b>vii</b>  | <b>EMD AMOUNT</b>   | <i>Rs 2,00,000/- (Rupees Two Lakhs Only)</i>  | <i>Applicable</i>      |
| <b>viii</b> | <b>COST OF TENDER</b>   | <i>Rs 2000/-. (Rupees Two Thousand Only)</i>  | <i>Applicable</i>      |
| <b>ix</b>   | <b>LAST DATE FOR SEEKING CLARIFICATION</b>                                | <i>Five days before the due date of offer submission.<br/>Along with soft version also, addressing to undersigned &amp; to others as per contact address given below</i>  | <i>Applicable</i>      |
| <b>x</b>    | <b>SCHEDULE OF Pre Bid Discussion (PBD)</b>                               |   | <i>Not Applicable.</i> |
| <b>xi</b>   | <b>INTEGRITY PACT &amp; DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)</b> | Shri V.V.R. Sastry, Ex-CMD/ BEL<br>957, 9th Main<br>3 Stage, 3 Block<br>Basaveswaranagar<br>Bangalore- 560079<br>Email: sastryvvr@gmail.com   | <i>Applicable</i>      |
| <b>xii</b>  | <b>Latest updates</b>   | <u>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (<a href="http://www.bhel.com">www.bhel.com</a> -- &gt;Tender Notifications →View Corrigendums) and not in the newspapers. Bidders to keep themselves updated with all such information</u> |                        |

- 2.0 The offer shall be submitted as per the instructions of tender document and as detailed in this NIT. Bidders to note specifically that all pages of tender document, including these NIT pages of this particular tender together with subsequent correspondences shall be submitted by them, duly signed & stamped on each page, as part of offer. Rates/Price including discounts/rebates, if any, mentioned anywhere/in any form in the techno-commercial offer other than the Price Bid, shall not be entertained.

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- 3.0 Unless specifically stated otherwise, bidder shall remit cost of tender and courier charges if applicable, in the form of Demand Draft drawn in favour of Bharat Heavy Electricals Ltd, payable at Power Sector Regional HQ at Nagpur issuing the Tender, along with techno-commercial offer. Bidder may also choose to deposit the Tender document cost by cash at the Cash Office as stated above against sl no iv of 1, on any working day; and in such case copy of Cash receipt is to be enclosed with the Techno Commercial offer. Sale of tender Documents shall not take place on National Holidays, holidays declared by Central or State Governments and BHEL PS HQ at Nagpur, Sundays and second/ last Saturdays
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD through Demand Draft/Pay Order in favour of Bharat Heavy Electricals Ltd, payable at Nagpur. For other details and for 'One Time EMD' please refer General Conditions of Contract.
- 5.0 **Procedure for Submission of Tenders:** The Tenderers must submit their Tenders to Officer inviting Tender, as detailed below:
- PART-I consisting of 'PART-I A (Techno Commercial Bid)' & 'PART-I B (EMD/COST of TENDER)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
  - PART-II (Price Bid) - in sealed and superscribed envelope (ENVELOPE-III)
  - One set of tender documents shall be retained by the bidder for their reference
- 6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped)**

| Sl no | Description   | Remarks |
|-------|---|---------|
|       | <b>Part-I A</b>   |         |
|       | <b>ENVELOPE – I superscribed as :</b><br>PART-I (TECHNO COMMERCIAL BID)<br>TENDER NO :<br>NAME OF WORK :<br>PROJECT:<br>DUE DATE OF SUBMISSION: |         |
|       | <b>CONTAINING THE FOLLOWING:-</b>   |         |
| i.    | Covering letter/Offer forwarding letter of Tenderer.  |         |
| ii.   | Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.                           |         |

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|       |   |               |
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|       | <p><b>Note:</b></p> <p>a. In case of any deviation, the same should be submitted separately for technical &amp; commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p style="padding-left: 40px;">i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p style="padding-left: 40px;">ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p> |               |
| iii.  | <p>Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph no, FAX no, etc.</p>  |               |
| iv.   | <p>All Amendments/Correspondences/Corrigenda/Clarifications/ Changes/ Errata etc pertinent to this NIT.</p>   |               |
| v.    | <p>Integrity Pact Agreement (Duly signed by the authorized signatory)</p>   | If applicable |
| vi.   | <p>Duly filled-in annexures, formats etc as required under this Tender Specification/NIT</p>  |               |
| vii.  | <p>Notice inviting Tender (NIT)</p>   |               |
| viii. | <p>Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc</p>   |               |
| ix.   | <p>Volume – I B : Special Conditions of Contract (SCC)</p>  |               |
| x.    | <p>Volume – I C : General Conditions of Contract (GCC)</p>  |               |
| xi.   | <p>Volume – I D : Forms &amp; Procedures</p>  |               |
| xii.  | <p>Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item</p>   |               |

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| xiii. | Any other details preferred by bidder with proper indexing. |  |
|-------|---|--|

| <b>PART-I B</b> |   |  |
|-----------------|---|--|
|                 | <p><b><u>ENVELOPE – II superscribed as:</u></b><br/>                     PART-I (EMD/COST of TENDER)<br/>                     TENDER NO :<br/>                     NAME OF WORK :<br/>                     PROJECT:<br/>                     DUE DATE OF SUBMISSION:</p> <p><b>CONTAINING THE FOLLOWING:-</b></p>             |  |
| i.              | <p>1. Earnest Money Deposit (EMD) in the form as indicated in this Tender</p> <p style="text-align: center;"><b><u>OR</u></b></p> <p>Documentary evidence for ‘One Time EMD’ with the Power Sector Region of BHEL floating the Tender</p> <p>2. Cost of Tender ( Demand Draft or copy of Cash Receipt as the case may be)</p> |  |

| <b>PART-II</b>   |   |  |
|--|---|--|
| <b>PRICE BID</b> consisting of the following shall be enclosed |   |  |
|  | <p><b><u>ENVELOPE-III</u></b><br/>                     superscribed as:<br/>                     PART-II (PRICE BID)<br/>                     TENDER NO :<br/>                     NAME OF WORK :<br/>                     PROJECT:<br/>                     DUE DATE OF SUBMISSION:</p> <p><b>CONTAINING THE FOLLOWING</b></p> |  |
| i  | Covering letter/Offer forwarding letter of Tenderer enclosed in Part-I  |  |
| ii   | Volume II – PRICE BID ( Duly Filled in Schedule of Rates – rate/price to be entered in words as well as figures)  |  |

| <b>OUTER COVER</b> |   |  |
|--------------------|---|--|
|                    | <p><b><u>ENVELOPE-IV</u></b> (MAIN ENVELOPE / OUTER ENVELOPE)<br/>                     superscribed as:<br/>                     TECHNO-COMMERCIAL BID, PRICE BID &amp; EMD</p> |  |

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|   |  |  |
|---|--|--|
|   | TENDER NO:<br>NAME OF WORK:<br>PROJECT:<br>DUE DATE OF SUBMISSION:<br><br><b>CONTAINING THE FOLLOWING:</b>   |  |
| i | <ul style="list-style-type: none"><li>○ Envelopes I</li><li>○ Envelopes II</li><li>○ Envelopes III</li></ul> |  |

SPECIAL NOTE : All documents/ annexures submitted with the offer shall be properly annexed and placed in respective places of the offer as per enclosure list mentioned in the covering letter. BHEL shall not be responsible for any missing documents.

7.0 Deviation with respect to tender clauses and additional clauses/suggestions in Techno-commercial bid / Price bid shall NOT be considered by BHEL. Bidders are requested to positively comply with the same.

8.0 BHEL reserves the right to accept or reject any or all Offers without assigning any reasons thereof. BHEL also reserves the right to cancel the Tender wholly or partly without assigning any reason thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).

**9.0 Assessment of Capacity of Bidders:**  
**Bidders capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:**

I. **LOAD**: Load takes into consideration **ALL** the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The 'Load' is the sum of the unit wise identified packages (refer Table-1) for contracts with BHEL Regions. The cut off month for reckoning 'Load' shall be the month, two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

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(Note: For example if latest bid submission is in Aug 2011, then the 'load' shall be calculated upto and inclusive of June 2011)

i). Total number of Packages

Total number of Packages in hand = P

Where

- 'P' is the sum of all unit wise identified packages under execution with BHEL Regions as of the cut off month defined above, including packages yet to be commenced, excepting packages which are on HOLD due to reasons not attributable to Bidder..

II. **PERFORMANCE**: Here 'Monthly Performance' of the bidder for all the packages (**under execution/** executed during the 'Period of Assessment' in all the Power Sector Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced shall be taken into consideration. The 'Period of Assessment' shall be 6 months preceding the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the month two (2) months preceding the month corresponding to the 'latest date of bid submission', in the following manner:

**(Note:** For example if 'latest date of bid submission' is in Aug 2011, then the 'performance' shall be assessed for a 6 month period upto and inclusive of June 2011, for all the unit wise identified packages (refer Table I)

i). Calculation of Overall 'Performance Rating' for 'similar Package/Packages' for the tendered scope under execution at Power Sector Regions for the 'Period of Assessment':

This shall be obtained by summing up the 'Monthly Performance Evaluation' scores obtained by the bidder in all Regions for all the similar Package/packages', divided by the total number of Package months for which evaluation should have been done, as per procedure below:

- a) P<sub>1</sub>, P<sub>2</sub>, P<sub>3</sub>, P<sub>4</sub>, P<sub>5</sub>, ... P<sub>N</sub> etc be the packages (**under execution/** executed during the 'Period of Assessment' in all Regions) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of

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similar packages for all Regions =  $P_T$  ( ie  $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$  )

- b) Number of Months 'T<sub>1</sub>' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package P<sub>1</sub>. Similarly T<sub>2</sub> for package P<sub>2</sub>, T<sub>3</sub> for package P<sub>3</sub>, etc for the tendered scope. Now calculate cumulative total months '**T<sub>T</sub>**' for total similar Packages '**P<sub>T</sub>**' for all Regions ( i.e  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$  )
- c) Sum 'S<sub>1</sub>' of 'Monthly Performance Evaluation' Scores (S<sub>1-1</sub>, S<sub>1-2</sub>, S<sub>1-3</sub>, S<sub>1-4</sub>, S<sub>1-5</sub>,.... S<sub>1-N</sub> ) for similar package P<sub>1</sub>, for the 'period of assessment' 'T<sub>1</sub>' (i.e  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$ ). Similarly S<sub>2</sub> for package P<sub>2</sub> for period T<sub>2</sub>, S<sub>3</sub> for package P<sub>3</sub> for period T<sub>3</sub>, etc for the tendered scope for all Regions. Now calculate cumulative sum 'S<sub>T</sub>' of 'Monthly Performance Evaluation' Scores for total similar Packages '**P<sub>T</sub>**' for all Regions (i.e 'S<sub>T</sub>' = S<sub>1</sub>+ S<sub>2</sub>+ S<sub>3</sub>+ S<sub>4</sub>+ S<sub>5</sub>+.... S<sub>N</sub>.)
- d) **Overall Performance Rating 'R<sub>BHEL</sub>' for the similar Package/Packages (under execution/ executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL):**

**Aggregate of Performance scores for all similar packages in all the Regions**

= -----  
**Aggregate of months for each of the similar package for which performance should have been evaluated in all the Regions**

$$= \frac{S_T}{T_T}$$

- e) **Bidders to note that the risk of non evaluation or non availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder**
- f) **Table showing methodology for calculating 'a', 'b' and 'c' above**

| Sl<br>n | Item<br>Description | Details for all Regions | Total |
|---------|---------------------|-------------------------|-------|
|---------|---------------------|-------------------------|-------|

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|-----|---|---|---|---|---|---|-----------|---|--|
| (i) | (ii)  | (iii)   | (iv)  | (v)   | (vi)  | (vii)   | (viii)    | (ix)  | (x)  |
| 1   | Similar Packages for all Regions → (under execution/ executed during period of assessment)  | P <sub>1</sub>  | P <sub>2</sub>  | P <sub>3</sub>  | P <sub>4</sub>  | P <sub>5</sub>  | ...       | P <sub>N</sub>  | Total No of similar packages for all Regions = <b>P<sub>T</sub></b><br>ie Sum (Σ) of columns (iii) to (ix) |
| 2   | Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment for corresponding similar Package ( as in row 1) | T <sub>1</sub>  | T <sub>2</sub>  | T <sub>3</sub>  | T <sub>4</sub>  | T <sub>5</sub>  | ...       | T <sub>N</sub>  | Sum (Σ) of columns (iii) to (ix) = <b>T<sub>T</sub></b>  |
| 3   | Monthly performance scores for the corresponding period (as in Row 2)   | S <sub>1-1</sub> ,<br>S <sub>1-2</sub> ,<br>S <sub>1-3</sub> ,<br>S <sub>1-4</sub> ,<br>... | S <sub>2-1</sub> ,<br>S <sub>2-2</sub> ,<br>S <sub>2-3</sub> ,<br>S <sub>2-4</sub> ,<br>... | S <sub>3-1</sub> ,<br>S <sub>3-2</sub> ,<br>S <sub>3-3</sub> ,<br>S <sub>3-4</sub> ,<br>... | S <sub>4-1</sub> ,<br>S <sub>4-2</sub> ,<br>S <sub>4-3</sub> ,<br>S <sub>4-4</sub> ,<br>... | S <sub>5-1</sub> ,<br>S <sub>5-2</sub> ,<br>S <sub>5-3</sub> ,<br>S <sub>5-4</sub> ,<br>... | ..<br>... | S <sub>N-1</sub> ,<br>S <sub>N-2</sub> ,<br>S <sub>N-3</sub> ,<br>S <sub>N-4</sub> ,<br>... | -----  |
| 4   | Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in  | S <sub>1</sub>  | S <sub>2</sub>  | S <sub>3</sub>  | S <sub>4</sub>  | S <sub>5</sub>  | ...       | S <sub>N</sub>  | Sum (Σ) of columns (iii) to (ix) = <b>S<sub>T</sub></b>  |

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|--------|--|--|--|--|--|--|--|--|
| row-3) |  |  |  |  |  |  |  |  |
|--------|--|--|--|--|--|--|--|--|

- ii) Calculation of Overall ‘Performance Rating’ ( $R_{BHEL}$ ) in case ‘similar Package/Packages’ for the tendered scope ARE NOT AVAILABLE, during the ‘Period of Assessment’:

This shall be obtained by summing up the ‘Monthly Performance Evaluation’ scores obtained by the bidder in all Regions for ALL the packages, divided by the total number of Package months for which evaluation should have been done. ‘ $R_{BHEL}$ ’ shall be calculated subject to availability of ‘performance scores’ for at least.6 ‘package months’ in the order of precedence below:

- a) Period of Assessment.
- b) 12 months preceding the cut-off month
- c) 24 months preceding the cut-off month
- d) 36 months preceding the cut-off month

In case,  $R_{BHEL}$  cannot be calculated as above, then Bidder shall be treated as ‘NEW VENDOR’. Further eligibility and qualification of this bidder shall be as per definition of ‘NEW VENDOR’ described in ‘Explanatory Notes’

- iii) Factor “L” assigned based on Overall Performance Rating ( $R_{BHEL}$ ) at Power Sector Regions,:

| Sl no | Overall Performance Rating ( $R_{BHEL}$ ) | Corresponding value of ‘L’ |
|-------|---|----------------------------|
| 1     | =60                                       | NA                         |
| 2     | > 60 and ≤ 65                             | 0.4                        |
| 3     | > 65 and ≤ 70                             | 0.35                       |
| 4     | > 70 and ≤ 75                             | 0.25                       |
| 5     | > 75 and < 80                             | 0.2                        |
| 6     | ≥ 80                                      | NA                         |

**III. ‘Assessment of Capacity of Bidder’:**

‘Assessment of Capacity of Bidder’ is based on the Maximum number of packages for which a vendor is eligible, considering the performance scores of similar packages, as below:

Max number of packages  $P_{Max} = (R_{BHEL} - 60)$  divided by corresponding value of ‘L’

i.e.  $(R_{BHEL} - 60)/L$

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Note:

- i. In case the value of  $P_{Max}$  results in a fraction, the value of  $P_{Max}$  is to be rounded off to next whole number
- ii. For  $R_{BHEL} = 60$  ,  $P_{Max} = '1'$
- iii. For  $R_{BHEL} \geq 80$ , there will be no upper limit on  $P_{Max}$

The Bidder shall be considered 'Qualified' as per 'Assessment of Capacity of Bidder' for the subject Tender if  $P \leq P_{Max}$   
(where P is calculated as per clause 9.I)

**IV. Explanatory note:**

- a) Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or CI, etc at the individual level irrespective of rating of Plant, and irrespective of whether the subject tender is a single package or as part of combined/composite packages. Normally Boiler, ESP, Piping, Turbine, Electrical, CI, Civil, Structure, etc is considered individual level of package. For example in case the tendered scope is a Boiler Vertical Package comprising of Boiler, ESP and Power Cycle Piping (i.e the 'identified packages as per Table-1 below), the 'PERFORMANCE' part against sl no II above, needs to be evaluated considering all the identified packages (ie Boiler, ESP and Power Cycle Piping) and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above
- b) Identified Packages (Unit wise)

**Table-1**

|  | Civil  | Electrical & CI          | Mechanical   |
|--|--|--------------------------|--|
|  | i). Enabling works                           | i). Electrical           | i). Boiler & Aux (All types including CW Piping if applicable) |
|  | ii). Pile and Pile Caps                      | ii). CI                  | ii). Power Cycle Piping/Critical Piping                        |
|  | iii). Civil Works including foundations      | iii). Others (Elec & CI) | iii). LP Piping  |
|  | iv). Structural Steel Fabrication & Erection |                          | iv). ESP   |
|  | v). Chimney                                  |                          | v). Steam Turbine Generator set & Aux                          |
|  | vi). Cooling Tower                           |                          | vi). Gas Turbine Generator set & Aux                           |
|  | vii). Others (Civil)                         |                          |  |

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|  |  |  |   |
|--|--|--|---|
|  |  |  | vii). Hydro Turbine Generator set & Aux<br>iii). Turbo Blower (including Steam Turbine)<br>ix). Material Handling<br>x). Material Management<br>xi). Material Handling & Material Management<br>xii). Others (Mechanical) |
|--|--|--|---|

c) Bidders who have not been evaluated for at least six package months in the last 36 months in the online BHEL system for contractor performance evaluation in BHEL PS Regions, wef July'2010 shall be considered "NEW VENDOR".

A 'NEW VENDOR' shall be considered qualified subject to satisfying all other tender conditions

A 'NEW VENDOR' if awarded a job (of package/packages identified under this clause) shall be tagged as "FIRST TIMER" on the date of first LOI from BHEL.

The "FIRST TIMER" tag shall remain till execution of work for a period of not less than 09 months, from the commencement of work of first package

A Bidder shall not be eligible for the next job as long as the Bidder is tagged as "FIRST TIMER" excepting for the Tenders which have been opened on or before the date of the bidder being tagged as 'FIRST TIMER'.

After removal of 'FIRST TIMER' tag, the Bidder shall be considered 'QUALIFIED' for the future tenders subject to satisfying all other tender conditions including 'Capacity Evaluation of Bidders'.

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- .....
- d) In the unlikely event of all bidders shortlisted against Technical and Financial Qualification criteria not meeting the criteria on 'Assessment of Capacity of Bidders' detailed above, OR leads to a single tender response on applying the criteria of 'Assessment of Capacity of Bidders' or due to non-approval by Customer, then BHEL at its discretion reserves the right to consider the further processing of the Tender based on the **Overall Performance Rating 'R<sub>BHEL</sub>'** only, starting from the upper band.
  - e) 'Under execution' shall mean works in progress as per the following:
    - i. up to Boiler Steam Blowing in case of Steam Generator and Auxiliaries
    - ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
    - iii. Upto execution of at least 90% of anticipated contract value in case of Civil & Structures (unit wise), Enabling works and upto 90% of material unloading (in tonnage) as per the original contract in case of MM Package.
- Note : BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (i), (ii) and (iii) above, depending upon the balance scope of work to be completed.
- f) Performance evaluation in CL 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work

10.0 Since the job shall be executed at site, bidders must visit site/ work area and study the job content, facilities available, availability of materials, prevailing site conditions including law & order situation, applicable wage structure, wage rules, etc before quoting for this tender. They may also consult this office before submitting their offers, for any clarifications regarding scope of work, facilities available at sites or on terms and conditions.

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- .....
- 11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
  - 12.0 BHEL may decide holding of pre-bid discussion [PBD] with all intending bidders as per date indicated in the NIT. The bidder shall ensure participation for the same at the appointed time, date and place as may be decided by BHEL. Bidders shall plan their visit accordingly. The outcome of pre-bid discussion (PBD) shall also form part of tender.
  - 13.0 In the event of any conflict between requirement of any clause of this specification/ documents/drawings/data sheets etc or requirements of different codes/standards specified, the same to be brought to the knowledge of BHEL in writing for clarification before due date of seeking clarification (whichever is applicable), otherwise, interpretation by BHEL shall prevail. Any typing error/missing pages/ other clerical errors in the tender documents, noticed must be pointed out before pre-bid meeting/submission of offer, else BHEL's interpretation shall prevail.
  - 14.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
  - 15.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
  - 16.0 The Bidder has to satisfy the Pre Qualifying Requirements stipulated for this Tender in order to be qualified. The Price Bids of only those bidders will be opened who will be qualified for the subject job on the basis of satisfying the Pre Qualification Criteria specified in this NIT as per Annexure-I (as applicable), past performance etc. and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right not to consider offers of parties under HOLD.

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- .....
- 17.0** In case BHEL decides on a 'Public Opening', the date & time of opening of the sealed PRICE BID shall be intimated to the qualified bidders and in such a case, bidder may depute one authorised representative to witness the price bid opening. BHEL reserves the right to open 'in-camera' the 'PRICE BID' of any or all Unsuccessful/Disqualified bidders under intimation to the respective bidders.
- 18.0** Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 19.0** BHEL reserves the right to decide the successful bidder on the basis of Reverse Auction process. In such case all qualified bidders will be intimated regarding procedure/ modality for Reverse Auction process prior to Reverse Auction and price will be decided as per the rules for Reverse Auction. .

However, if reverse auction process is unsuccessful as defined in the RA rules/procedures, or for whatsoever reason, then the sealed 'PRICE BIDS' will be opened for deciding the successful bidder. BHEL's decision in this regard will be final and binding on bidder.

- 20.0** On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 21.0** In case the bidder is an "Indian Agent of Foreign Principals", 'Agency agreement has to be submitted along with Bid, detailing the role of the agent along with the terms of payment for agency commission in INR, along with supporting documents.
- 22.0** The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 23.0** Consortium Bidding (or Technical Tie up) shall be allowed only if specified in Pre-Qualifying Requirement (PQR) criteria, and in such a case the following shall be complied with:
- 23.1** Prime Bidder and Consortium Partner or partners are required to enter into a consortium agreement with a validity period of six months initially. In case the consortium is awarded the contract, then the Consortium Agreement between the Prime Bidder and Consortium Partner or partners shall be extended till contractual completion period including extension periods if any applicable.

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- .....
- 23.2 'Standalone' bidder cannot become a **'Prime Bidder' or a Consortium bidder' or 'Technical Tie up bidder' in a consortium (or Technical Tie up) bidding.** Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non compliance, consortium bids of such Prime bidders will be rejected.
- 23.3 Number of partners for a consortium Bidding (or Technical Tie up) shall be as specified in the PQR
- 23.4 Prime Bidder shall be as specified in the Pre Qualification Requirement, else the bidder who has the major share of work
- 23.5 In order to be qualified for the tender, Prime Bidder and Consortium partner or partners shall satisfy (i) the Technical 'Pre Qualifying Requirements' specified for the respective package, (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0
- 23.6 Prime Bidder shall comply with additional 'Technical' criteria of PQR as defined in 'Explanatory Notes for the PQR'
- 23.7 Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified
- 23.8 In case customer approval is required, then Prime Bidder and Consortium Partner or partners shall have to be individually approved by Customer for being considered for the tender.
- 23.9 Prime Bidder shall be responsible for the overall execution of the contract
- 23.10 In case of award of job, Performance shall be evaluated for Prime Bidder and Consortium Partner or partners for their respective scope of work(s) as per prescribed formats
- 23.11 In case the Consortium partner or partners back out, their SDs shall be encashed by BHEL. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.

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- .....
- 23.12 In case the prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
- 23.13 After execution of work, the work experience shall be assigned to the Prime Bidder and the consortium partner or partners for their respective scope of work. After successful execution of two similar works with the same consortium partner or partners under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'stand alone' bidder for similar works, subject to certification from BHEL about the active involvement of the Prime Bidder for satisfactory execution of the works.
- 23.14 The consortium partner shall submit SD equivalent to 2% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value. In case there are two consortium partners, then each partner shall submit SD equivalent to 1% of the total contract value in addition to the SD to be submitted by the prime Bidder for the total contract value.
- 23.15 In case of a Technical Tie up, all the clauses applicable for the Consortium partner shall be applicable for the Technical Tie up partner also
- 24.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents/proofs, these shall be submitted immediately.
- 25.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 26.0 Order of Precedence  
In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:
- a. Amendments/Clarifications/Corrigenda/Errata etc issued in respect of the tender documents by BHEL
  - b. Notice Inviting Tender (NIT)
  - c. Price Bid
  - d. Technical Conditions of Contract (TCC)—Volume-1A
  - e. Special Conditions of Contract (SCC) —Volume-1B
  - f. General Conditions of Contract (GCC) —Volume-1C

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g. Forms and Procedures —Volume-1D

It may please be noted that guidelines/rules in respect of suspension of business dealings', 'Vendor evaluation format', 'Quality, Safety & HSE guidelines', etc may undergo change from time to time and the latest one shall be followed.

for BHARAT HEAVY ELECTRICALS LTD

AGM Pur

**Enclosure**

01. Annexure-1: Pre Qualifying criteria.
02. Annexure-2: Check List.
03. Annexure-3: Integrity Pact
04. Annexure-4: Important Information.
- 05 Other Tender documents as per this NIT.

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**ANNEXURE - 1**

**PRE QUALIFYING CRITERIA**

|  |   |
|--|---|
| <b>JOB</b>   | All Civil and Architectural work for CHP including final micro level grading, backfilling up to required level and handing over of all foundations/buildings/structures to structural/mechanical/electrical agencies and final handing over to customer for onward operation purposes at <b>1X800 MW Thermal Power Station, Wanakbori, Distt- Kheda, Gujarat.</b> |
| Tender Specification Number: <b>BHE/PW/PUR/WNT2-CVL CHP/1521</b> |   |

| <b>SL NO</b> | <b>PRE QUALIFICATION CRITERIA</b>   | <b>Bidders claim in respect of fulfilling the PQR Criteria</b> |  |
|--------------|---|--|--|
|              |   | <b>Name and Description of qualifying criteria</b>             | <b>Page no of supporting document.<br/><b>Bidder must fill up this column as per applicability</b></b> |
| A            | Submission of Integrity Pact duly signed (if applicable)<br>(Note: To be submitted by Prime Bidder & Consortium/Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder) | <b>APPLICABLE</b>  |  |
| B            | <b><u>Technical</u></b><br><b>Bidders shall essentially meet all the Qualifying Requirements (i.e. B.1, B.2 &amp; B.3) as under, in last seven years as on latest date of bid submission in power plant:</b>            | <b>APPLICABLE</b>  |  |

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|  | <p><b><u>B.1:</u></b> Executed “RCC Cast-in-situ Bored pile using <u>Rotary Hydraulic Rig</u>” with quantity at least <b>10,615</b> Running Meter and its corresponding concreting of <b>2560 Cum</b> within a period of six consecutive months <b>OR</b> (at least <b>21230 Running Meter</b> and its corresponding concreting of <b>5120 Cum</b> within a period of twelve consecutive months) against one or cumulative of two concurrently running contracts.</p> <p style="text-align: center;"><b>AND</b></p> <p><b><u>B.2:</u></b><br/>Bidder should have Executed <b><u>‘Civil and Architectural Work in Power Plant’</u></b> in last seven years as on latest date of bid submission as below:</p> <p><b>B.2.1)</b> Executed One similar work of value not less than <b>Rs. 2600 Lakhs</b> against single work order.</p> <p style="text-align: center;">OR</p> <p><b>B.2.2)</b> Executed Two similar works each of value not less than <b>Rs. 1625 Lakhs</b> against maximum two work orders.</p> <p style="text-align: center;">OR</p> <p><b>B.2.3)</b> Executed Three similar works each of value not less than <b>Rs. 1300 Lakhs</b> against maximum three work orders.</p> <p style="text-align: center;"><b>AND</b></p> <p><b><u>B.3:</u></b><br/>Bidder should have achieved any one of the following in last seven years as on</p> |  |
|--|---|--|

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|  | <p>latest date of bid submission as below:</p> <p><b>B.3.1)</b> Executed one Civil work consisting of RCC quantity not less than <b>22180 Cum</b> against one work order.<br/>OR</p> <p><b>B.3.2)</b> Executed Two civil works consisting of RCC quantity not less than <b>13860 Cum in</b> each work against maximum two work orders.<br/>OR</p> <p><b>B.3.3)</b> Executed Three civil works consisting of RCC quantity not less than <b>11090 Cum in</b> each work against maximum three work orders.</p> <p><b>Note 2:</b><br/>Bidder should have satisfied PQR B.1, B.2 and B.3.<br/>In case the bidder does not satisfy PQR B.1 above, then this bidder can form consortium with any other party who is satisfying the PQR B.1 above. This will be termed as consortium bidding. In case of consortium bidding following shall be applicable:</p> <ul style="list-style-type: none"><li>• Prime bidder should have satisfied PQR B.2 and B.3 above.</li><li>• Agency satisfying PQR B.1 shall be termed as Consortium Partner.</li><li>• Prime bidder shall be responsible for satisfying the financial PQR-C.</li></ul> |  |
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|     |   |                   |         |
|-----|---|-------------------|---------|
|     | <ul style="list-style-type: none"> <li>• Prime bidder shall submit the entire tender along with the credentials, all statutory documents and the documents in support of PQR condition of the Consortium Partner.</li> <li>• All conditions as in Clause 23 of NIT and clause no 15 of Explanatory Notes</li> </ul> |                   |         |
| C-1 | <p><b><u>Financial TURNOVER</u></b><br/>Bidders must have achieved an average annual financial turnover (audited) of <b>Rs 975 Lakhs</b> or more over last three Financial Years (FY) i.e. 2012-2013, 2013-14, 2014-15 OR 2011-2012, 2012-2013, 2013-14 if Annual Accounts for FY 2014-15 are not audited.</p>      | <b>APPLICABLE</b> |         |
| C-2 | <p><b><u>NETWORTH</u></b> (only in case of Companies)<br/>Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive.</p>   | <b>APPLICABLE</b> |         |
| C-3 | <p><b><u>PROFIT</u></b><br/>Bidder must have earned cash profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.</p>  | <b>APPLICABLE</b> |         |
| D   | Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)  | <b>APPLICABLE</b> | By BHEL |
| E   | Approval of Customer (if applicable)<br><br><b>Note:</b> Names of bidders (including consortium/Technical Tie up partners   | <b>APPLICABLE</b> | BY BHEL |

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|  |   |                               |         |
|--|---|-------------------------------|---------|
|  | in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval. |                               |         |
| F  | Price Bid Opening<br><b>Note:</b> Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E          |                               | BY BHEL |
| G  | Consortium tie-ups  | <b>APPLICABLE FOR PQR B.1</b> |         |
| <p><b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b></p> <ol style="list-style-type: none"> <li>1. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures</li> <li>2. In case audited financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e total divided by three.</li> <li>3. C-2:-NET WORTH: Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital + Reserves. (Net worth is required to be evaluated in case of companies)</li> <li>4. C-3:- PROFIT : shall be NET profit (PAT + Non cash expenditure viz depreciation) earned during any one of the three financial years as in C-1 above</li> <li>5. <del>‘Additional’ Criteria in respect of ‘Technical’ criteria of PQR (as in ‘B’ above) for Civil, Electrical, CI, unless otherwise specified :</del> <ol style="list-style-type: none"> <li>1. <del>Bidder should have executed similar work of any one of the following:</del> <ol style="list-style-type: none"> <li>a. <del>One (1) work of value not less than Rs<br/>XXX<br/>_____ OR</del></li> <li>b. <del>Two (2) works of not less than Rs YYY<br/>_____ OR</del></li> </ol> </li> </ol> </li> </ol> |   |                               |         |

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|  | <p style="text-align: center;"><del>e. Three (3) works of not less than Rs<br/>ZZZ</del></p> <p style="text-align: center;">(Value XXX, YYY, ZZZ shall be as indicated by BHEL</p> <p style="text-align: center;"><del>2. 'Similar' work for criteria 5 above means</del></p> <p style="text-align: center;"><del>a. Civil or Structures or Civil &amp; Structures<br/>or Chimney respectively as applicable to<br/>the tendered scope in respect of 'CIVIL'<br/>Works</del></p> <p style="text-align: center;"><del>b. Electrical works in respect of<br/>'ELECTRICAL'</del></p> <p style="text-align: center;"><del>c. CI works in respect of 'CI' Works</del></p> <p style="text-align: center;"><del>d. Material Handling and/or Management<br/>works in respect of 'MM' works</del></p> <p>6. Time period for achievement of the 'Technical' criteria of PQR (as in 'B' above) will be the last 7 years ending on the 'latest date' of Bid submission</p> <p>7. 'EXECUTED' means the Vendor should have achieved the criteria specified in the Technical criteria of PQR (as in 'B' above) even if the Contract has not been completed or closed, Unless otherwise specified, for the purpose of 'Technical' criteria of PQR ( as in 'B' above), the word 'EXECUTED' means:</p> <p style="padding-left: 40px;"><del>1. "BOILER LIGHT UP" in respect of Boiler &amp; Aux and ESP</del></p> <p style="padding-left: 40px;"><del>2. Term 'Commissioning' indicated in PQR refers to 'assistance to commissioning' / 'commissioning'</del></p> <p style="padding-left: 40px;"><del>3. "SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG</del></p> <p style="padding-left: 40px;"><del>4. "STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping</del></p> <p style="padding-left: 40px;"><del>5. "HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping</del></p> <p style="padding-left: 40px;"><del>6. "CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears.</del></p> <p style="padding-left: 40px;"><del>7. "Completion of RCC Shell and liner (steel or brick as per tendered scope) up to the HEIGHT specified using slip form" in case of RCC Chimney.</del></p> <p style="padding-left: 40px;">8. Achievement of physical Quantities as per respective PQRs in</p> |
|--|---|

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respect of Civil & Structures.

9. ~~'Readiness for coal Filling" in respect of Bunker Structure Work.~~

8. ~~Boiler means HRSG or WHRB or any other types of Steam Generator.~~

9. ~~Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines~~

10. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG/BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.

11. ~~In case the experience/PO/WO certificate enclosed by bidders do not have separate break up prices for the E&C portion of Electrical and CI Works, (i.e. the certificates enclosed are for composite order for supply and erection of Electrical & CI and other works if any), then value of Erection and Commissioning for the Electrical & CI portion shall be considered as 15% of the supply & erection of Electrical & CI, unless otherwise specifically indicated in the PQR.~~

12. ~~Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.~~

13. ~~In case the tendered scope is not a Pulverized Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR~~

14. The value of work (Experience submitted against PQR B) shall be updated as per the PVC indices for "All India Avg. Consumer Price Index for Industrial Workers" with base month as date of execution (completion of contract/work) and indexed upto two months prior to bid opening month.

**15. Explanatory Notes for PQR "B.1":**

Consortium Bidding is permitted in this tender. Clause No 23.0 of NIT shall hence be applicable. Following may kindly be noted in this regard:

- Provisions/Eligibility of Consortium is detailed in "Annexure

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|  | <p>I” of NIT “Pre Qualifying Requirement” (PQR B).</p> <ul style="list-style-type: none"><li>• Prime bidder and Consortium Partner shall meet their respective technical Pre qualifying Criteria.</li><li>• Prime bidder shall meet all other Pre-Qualifying Criteria of the Tender.</li><li>• Number of partners including Prime Bidder shall not be more than 2.</li><li>• Prime Bidder/Leader of Consortium shall be responsible for entire scope of work and shall be the single contact window for BHEL. However Prime Bidder and the consortium partner shall be individually and severally responsible for completion of work as per schedule.</li><li>• Prime Bidder/Leader of the consortium shall submit tender to BHEL along with the credentials and other statutory documents of the consortium partner in support of PQR.</li></ul> |
|--|---|

BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

**Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)**

| PQR No | Pre-Qualifying Requirement   | Credentials (Detailed Work Order, Completion Certificate and <b>TDS Certificates</b> ) based on which bidder is claiming PQR | Reference of the documents | Page No |
|--------|--|--|----------------------------|---------|
|        | <p><b>Technical</b><br/>                     Bidders shall essentially meet all the Qualifying Requirements (i.e. B.1, B.2 &amp; B.3) as under, in last seven years as on latest date of bid submission in power plant:</p> <p><b>B.1:</b> Executed “RCC Cast-in-situ Bored pile using Rotary Hydraulic Rig” with quantity at least <b>10,615</b> Running Meter and its corresponding concreting of <b>2560 Cum</b> within a period of six consecutive months <b>OR</b> (at least <b>21230 Running Meter</b> and its corresponding concreting of <b>5120 Cum</b> within a period of twelve consecutive months) against one or cumulative of two concurrently running contracts.</p> <p style="text-align: center;"><b>AND</b></p> <p><b>B.2:</b></p> |  |                            |         |

**Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)**

| PQR No | Pre-Qualifying Requirement  | Credentials (Detailed Work Order, Completion Certificate and <b>TDS Certificates</b> ) based on which bidder is claiming PQR | Reference of the documents | Page No |
|--------|---|--|----------------------------|---------|
|        | <p>Bidder should have Executed <b><u>'Civil and Architectural Work in Power Plant'</u></b> in last seven years as on latest date of bid submission as below:</p> <p><b>B.2.1)</b> Executed One similar work of value not less than <b>Rs. 2600 Lakhs</b> against single work order.<br/>OR</p> <p><b>B.2.2)</b> Executed Two similar works each of value not less than <b>Rs. 1625 Lakhs</b> against maximum two work orders.<br/>OR</p> <p><b>B.2.3)</b> Executed Three similar works each of value not less than <b>Rs. 1300 Lakhs</b> against maximum three work orders.</p> <p style="text-align: center;"><b>AND</b></p> <p><b><u>B.3:</u></b></p> |  |                            |         |

**Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)**

| PQR No | Pre-Qualifying Requirement   | Credentials (Detailed Work Order, Completion Certificate and <b>TDS Certificates</b> ) based on which bidder is claiming PQR | Reference of the documents | Page No |
|--------|--|--|----------------------------|---------|
|        | <p>Bidder should have achieved any one of the following in last seven years as on latest date of bid submission as below:</p> <p><b>B.3.1)</b> Executed one Civil work consisting of RCC quantity not less than <b>22180 Cum</b> against one work order.</p> <p style="text-align: center;">OR</p> <p><b>B.3.2)</b> Executed Two civil works consisting of RCC quantity not less than <b>13860 Cum in</b> each work against maximum two work orders.</p> <p style="text-align: center;">OR</p> <p><b>B.3.3)</b> Executed Three civil works consisting of RCC quantity not less than <b>11090 Cum in</b> each work against maximum three work orders.</p> <p><b>Note 2:</b></p> |  |                            |         |

**Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)**

| PQR No | Pre-Qualifying Requirement   | <b>Credentials (Detailed Work Order, Completion Certificate and TDS Certificates ) based on which bidder is claiming PQR</b> | Reference of the documents | Page No |
|--------|--|--|----------------------------|---------|
|        | <p>Bidder should have satisfied PQR B.1, B.2 and B.3.</p> <p>In case the bidder does not satisfy PQR B.1 above, then this bidder can form consortium with any other party who is satisfying the PQR B.1 above. This will be termed as consortium bidding. In case of consortium bidding following shall be applicable:</p> <ul style="list-style-type: none"> <li>• Prime bidder should have satisfied PQR B.2 and B.3 above.</li> <li>• Agency satisfying PQR B.1 shall be termed as Consortium Partner.</li> <li>• Prime bidder shall be responsible for satisfying the financial PQR-C.</li> <li>• Prime bidder shall submit the entire tender along with the credentials, all statutory documents and the documents in support of</li> </ul> |  |                            |         |

**Bidder's Response to BHEL TECHNICAL PQR (WHICHEVER IS APPLICABLE)**

| <b>PQR No</b> | <b>Pre-Qualifying Requirement</b>   | <b>Credentials (Detailed Work Order, Completion Certificate and <b>TDS Certificates</b> ) based on which bidder is claiming PQR</b> | <b>Reference of the documents</b> | <b>Page No</b> |
|---------------|---|---|-----------------------------------|----------------|
|               | <p>PQR condition of the Consortium Partner.</p> <ul style="list-style-type: none"><li>All conditions as in Clause 23 of NIT and clause no 15 of Explanatory Notes</li></ul> |   |                                   |                |

**NOTE:**

BIDDERS MUST CLEARLY INDICATE IN THE TABLE ABOVE, HOW THEY ARE SATISFYING TECHNICAL PQR ALONG WITH THE REFERENCE OF THE SUPPORTING DOCUMENTS AND THE PAGE NUMBER IN WHICH THE REFERRED DOCUMENTS ARE ANNEXED IN THE BID DOCUMENT.

BHEL WILL NOT CONSIDER ANY OTHER DOCUMENT OTHER THAN THOSE SPECIFIED BY THE BIDDERS IN THE TABLE ABOVE FOR EVALUATION OF TECHNICAL PQR.

BIDDER MAY ATTACH SEPERATE SHEET IF NECESSARY



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|    |  |  |         |
|----|--|--|---------|
|    | understood and filled with proper supporting documents referenced in the specified format                    |  |         |
| 7  | Audited profit and Loss Account for the last three years   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 8  | Copy of PAN Card   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 9  | Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed | Applicable / <del>Not Applicable</del> | YES/NO  |
| 10 | Integrity Pact   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 11 | Declaration by Authorised Signatory  | Applicable / <del>Not Applicable</del> | YES/NO  |
| 12 | No Deviation Certificate   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 13 | Declaration confirming knowledge about Site Conditions   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 14 | Declaration for relation in BHEL   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 15 | Non Disclosure Certificate   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 16 | Bank Account Details for E-Payment   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 17 | Capacity Evaluation of Bidder for current Tender   | Applicable / <del>Not Applicable</del> | YES/NO  |
| 18 | Tie Ups/Consortium Agreement are submitted as per format   | Applicable / <del>Not Applicable</del> | YES/ NO |

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|    |   |                                  |        |
|----|---|----------------------------------|--------|
| 19 | -Power of Attorney for Submission of Tender/Signing Contract Agreement<br><br>-Power of Attorney of Consortium Partner. | Applicable<br>/Not<br>Applicable | YES/NO |
| 20 | Analysis of Unit rates  | Applicable<br>/Not<br>Applicable | YES/NO |

NOTE : STRIKE OFF 'YES' OR 'NO', AS APPLICABLE. TENDER NOT ACCOMPANIED BY THE PRESCRIBED **ABOVE APPLICABLE DOCUMENTS** ARE LIABLE TO BE SUMMARILY REJECTED.

**DATE :**

**AUTHORISED SIGNATORY**  
**(With Name, Designation and Company seal)**

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**Annexure-3**

**INTEGRITY PACT**

**Between**

Bharat Heavy Electricals Ltd. (BHEL), a company registered under the Companies Act 1956 and having its registered office at “BHEL House” Siri Fort, New Delhi – 110049 (India) hereinafter referred to as “The Principal”, which expression unless repugnant to the context of meaning hereof shall include its successors or assigns of the ONE PART

**And**

\_\_\_\_\_, (description of the party along with address), hereinafter referred to as “The Bidder/ Contractor” which expression unless repugnant to the context or meaning hereof shall include its successors or assigns of the OTHER PART

**Preamble**

The Principal intends to award, under laid-down organizational procedures, contract/s for

\_\_\_\_\_. The Principal values full compliance with all relevant laws of the land, rules and regulations and the principles of economic use of resources, and of fairness and transparency in its relations with its Bidder(s)/ Contractor(s).

In order to achieve these goals, the Principal will appoint Independent External Monitor(s), who will monitor the tender process and the execution of the contract for compliance with the principles mentioned above.

**Section 1 - Commitments of the Principal**

1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand,

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take a promise for or accept, for itself or third person, any material or immaterial benefit which the person is not legally entitled to.

- 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
- 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

**Section 2 – Commitments of the Bidder(s)/ Contractor(s)**

- 2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
  - 2.1.1 the Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
  - 2.1.2 The bidder(s)/ Contractors(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
  - 2.1.3 The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant IPC/PC Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to

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others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

2.1.4 The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.

2.2 The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

**Section 3 – Disqualification from tender process and execution from future contracts**

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2 above, or acts in any other manner such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/ Contractor(s) from the tender process or take action as per separate “Guidelines on for Suspension of Business Dealings with Suppliers/ Contractors” framed by the Principal.

**Section 4 – Compensation for Damages**

4.1 If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.

4.2 If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

**Section 5 – Previous Transgression**

5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.

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- 5.2 If the Bidder makes incorrect statement on his subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

**Section 6 – Equal treatment of all Bidders/ Contractors/ Sub-Contractors**

- 6.1 The Bidder(s)/ Contractor(s) undertake(s) to obtain from his sub-contractors a commitment consistent with this Integrity Pact and report Compliance to the Principal. This commitment shall be taken only from those sub-contractors whose contract value is more than 20% of Bidder's/ Contractor's contract value with the Principal. The Bidder(s)/Contractor(s) shall continue to remain responsible for any default by his Sub-contractor(s).
- 6.2 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors.
- 6.3 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

**Section -7 Criminal Charges against violating Bidders/ Contractors/ Sub-contractors**

If the Principal obtains knowledge of conduct of a Bidder. Contractor or Sub-contractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the Vigilance Office.

**Section – 8 Independent External Monitor(s)**

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractors(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/Contractor(s) will grant the monitor, upon his request and

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- .....
- demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or heal the situation, or to take other relevant action. The Monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no hydro
- 8.6 ht to demand from the parties that they act in a specific manner, refrain from action or tolerate action.
- 8.7 The Monitor will submit a written report to the CMD, BHEL within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.10 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.11 The word 'Monitor' would include both singular and plural.

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**Section 9 – Pact Duration**

- 9.1 This Pact begins and shall be binding on and from the submission of bid(s) by bidder(s). It expires for the Contractor 12 months after the last payment under the respective contract and for all other Bidders 6 months after the contract has been awarded.
- 9.2 If any claim is made/ lodged during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified as above, unless it is discharged/ determined by the CMD, BHEL.

**Section 10 – Other Provisions**

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.
- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those Bidders/ Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

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For & On Behalf of the Principal  
of the Bidder/ Contractor  
(Office Seal)  
(Office Seal)

For & On Behalf

**Annexure-4****IMPORTANT INFORMATION**

Sealed Tenders shall be submitted at following address to AGM /Purchase BHEL PSWR NAGPUR:

BHEL PSWR, SRIMOHINI COMPLEX , 345 KINGSWAY, NAGPUR 440001, INDIA

All correspondences regarding this tender shall be addressed to AGM / PURCHASE BHEL PSWR at above address. Bidders may also opt to correspond with following BHEL officials regarding this tender through email at following email ids. However please be informed that sealed tenders shall necessarily be submitted in original at above address:

AGM Purchase, Email id: [rajeebc@bhhelpswr.co.in](mailto:rajeebc@bhhelpswr.co.in). Ph: +91 – 712 – 3048633

Sr Engineer Purchase, Email: [pgv@bhhelpswr.co.in](mailto:pgv@bhhelpswr.co.in), Ph: +91 – 712 – 3048713

Sr Engineer Purchase, Email: [nktiwari@bhhelpswr.co.in](mailto:nktiwari@bhhelpswr.co.in) Ph: +91-712-3048651

Engineer Purchase, Email id: [svm@bhhelpswr.co.in](mailto:svm@bhhelpswr.co.in) , Ph: +91 – 712 – 3048715

1. **The offers of the bidders who are on the banned list as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site ([www.bhel.com](http://www.bhel.com) ---> Tender Notification -> List of Banned Firms )**
2. **Refer Chapter XII of Volume IB Special Conditions of Contract regarding Suspension of Business Dealings: The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/contractors' has now been uploaded on [www.bhel.com](http://www.bhel.com) on "supplier registration page" at the following link: [http://www.bhel.com/vender\\_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13\\_abridged.pdf](http://www.bhel.com/vender_registration/pdf/Suspension-of-Business-Dealings-with-Supplier-issued-Sept13_abridged.pdf)**
3. **BHEL Fraud Prevention Policy, "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."**
4. **All Statutory Requirements as applicable for this project shall be complied with.**

**5. Please take note of following Revised Tender Clauses:**

- i. Notice Inviting Tender: Sl No 9
  - ii. General conditions of Contract: Clause No 1.15.13 (New), Clause No 2.8.3, 2.8.4 and 2.8.5
6. Following Notes are added to Form F- 15 of Volume I D 'Forms & procedures'
- i. It is only indicative and shall be as per the online format issued by BHEL time to time.
  - ii. No request will be entertained after specified date of the current month w.r.t the changes requested in the scores of immediate previous month.

**7. PRICE VARIATION CLAUSE**

**Revision in Price Variation Compensation Clause no. 2.17 of Vol I C GCC:**

**Clause No. 2.17 of Vol IC GCC is revised as below:-**

2.17 PRICE VARIATION COMPENSATION (During Original Contract Period and Extension if any)

2.17.1 In order to take care of variation in Total Minimum Per Day Wages of all categories of workers/labours, Price Variation Formula as described herein shall be applicable

2.17.2 20 % component of Contract Value shall be permitted to be adjusted for variation in Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' during execution of work. The remaining 80% shall be treated as fixed component

2.17.3 Payment/recovery due to variation labour index during execution of work shall be determined on the basis of the following notional formula:

$$P = 20 \% \times R \times \frac{(X_N - X_0)}{X_0}$$

Where

P = Amount to be paid/recovered due to variation in Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS'

R = Value of work done for the billing month (Excluding Taxes and Duties if payable extra)

XN = Revised Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' for the billing month under consideration

.....  
Xo = Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS'  
as on the Base date.

**2.17.4 Base date shall be calendar month of the latest date of submission of Tender**

2.17.5 Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable for the billing month and the base month shall be as per the authorized notification/circulars issued by the Principle Employer (BHEL's Customer) regarding prevailing (billing Month or base month) minimum total per day labour wage of UNSKILLED LABOUR/WORKERS applicable in the project

2.17.6 PVC shall not be payable for the ORC amount, Supplementary/Additional Items, Extra works

2.17.7 The contractor will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase/decrease in the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' has taken place or not. In case there is delay in publication/issuance of authorized notification/circulars (final figure), the PVC bill shall be deferred till the issuance of the same

2.17.8 PVC shall be applicable for the entire original contract period plus the extended period. The total amount of PVC shall not exceed 5 % of the cumulatively executed contract value. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works. However the Total Quantum of Price Variation amount payable/recoverable during delayed/extended period shall be regulated as follows

- i) For the portion of backlog attributable to the contractor, the PVC will be based on the average of the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' for the period of the original contract period
- ii) For the period of Force Majeure, the PVC will be limited to Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable at the beginning of the force majeure period.
- iii) For the portion of backlog attributable to BHEL, the PVC will be as per the Total Minimum Per Day Wage of 'UNSKILLED LABOUR/WORKERS' applicable for the respective months

**2.17.9 Additional PVC during Contract Extension Period**

- i) In order to take care of variation in cost of execution of work on either side, due to variation in the index of LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS, Additional Price

Variation Formula as described herein shall be applicable during contract extension period. **Additional PVC shall be applicable only during the extended period of contract (if any)** after the schedule completion date for the portion of work delayed / backlog for the reasons not attributable to Contractor

- ii) 65 % component of **Executed Value (during extended period)** shall be permitted to be adjusted for variation in various relevant indices during extended contract period. The remaining 35% shall be treated as fixed component.
- iii) The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

| <b><u>Sl No</u></b> | <b><u>CATEGORY</u></b>                   | <b><u>Base Index</u></b>  | <b><u>Component K</u></b> |
|---------------------|--|---|---------------------------|
| <b><u>01</u></b>    | LABOUR<br>(ALL CATEGORIES)               | MONTHLY AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' for Vadodara CENTRE of GUJRAT State published by Labor Bureau, Ministry of Labor and Employment, Government of India.<br><br><b>(Website: labourbureau.nic.in)</b> | <b><u>20</u></b>          |
| <b><u>02</u></b>    | HIGH SPEED DIESEL OIL                    | Name of Commodity : HSD OIL.<br>Type : INDIVIDUAL COMMODITY<br><b>(See Note below)</b>  | <b><u>5</u></b>           |
| <b><u>03</u></b>    | MATERIALS<br>(Other than Cement & Steel) | Name of Commodity: ALL COMMODITIES<br>Type: GROUP ITEM<br><b>(See Note below)</b>   | <b><u>40</u></b>          |

**Note:**

As per the 'MONTHLY WHOLE SALE PRICE INDEX' for the respective Commodity and Type, published by Office of Economic Adviser, Ministry of Commerce and Industry, Government of India. (Website : [www.eaindustry.nic.in](http://www.eaindustry.nic.in)). Revisions in the index or commodity will be re adjusted accordingly

- iv) Payment/recovery due to variation in index shall be determined on the basis of the following notional formula without any initial absorption,

in respect of the identified components viz LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS

$$P = K \times R \times \frac{(X_N - X_o)}{X_o}$$

Where

P = Amount to be paid/recovered due to variation in the Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials

K = Percentage component applicable for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials

R = Value of work done for the billing month during extended period (Excluding Taxes and Duties if payable extra)

XN = Revised Index No for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials for the billing month under consideration

Xo = Index no for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials as on the Base date

- v) Base date shall be the calendar month of the schedule completion date of the contract. Schedule Completion date shall be the actual start date plus contract period as defined in Chapter VI 'Vol IA TCC'
- vi) Additional PVC shall not be payable for the ORC amount, Supplementary/Additional Items, Extra works
- vii) The contractor shall furnish necessary monthly bulletins for the necessary indices from the relevant websites along with his Bills
- viii) The contractor will be required to raise the bills for additional price variation payments on a monthly basis during extended period along with the running bills irrespective of the fact whether any increase/decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid/recovered on getting the final values
- ix) Total quantum of Additional Price Variation amount payable/recoverable shall be regulated as follows:
  - a) For the portion of backlog attributable to the contractor and for the portion of backlog due to force majeure condition during contract period, Additional PVC shall not be paid.
  - b) For the period of force Majeure during extended contract period, Additional PVC will be as per the indices applicable at the beginning of the force majeure period (during extended period).
  - c) void

- d) The total amount of additional PVC shall not exceed 20% of the cumulatively executed contract value during the extended contract period. Executed contract value for this purpose is exclusive of PVC, ORC, Supplementary/Additional Items and Extra works.

## 8. QUANTITY VARIATION

### **Revision in QUANTITY VARIATION Clause no. 2.14 of Vol I C GCC:**

#### **Clause No. 2.14 of Vol IC GCC is revised as below:-**

Rates for individual items shall remain firm for any variation in the respective quantity up to plus (+) 30 % and minus (-) 100 %.

For any variation in individual item quantities beyond plus (+) 30 %, the item rate of that item shall be increased by 5 % i.e. payment for the quantities executed beyond 130 % of the tendered quantity shall be made @ of 105 % of the awarded rate of that particular item. Contractor shall not be eligible for any other compensation on this account

For any variation in individual item quantity on negative side or in case any item is not operated at all, there will be no revision in the item rates during entire contract period and extended period if any.

However In case the finally executed contract value reduces below 85 % of the ordered total value due to quantity variation, the contractor will be eligible for compensation @ 15% of the difference between the 85% of the ordered value and the actual executed value. For this purpose executed contract value shall also include items quantities which are paid @ 105 % of ordered rate due to variation beyond plus (+) 30%.

## 9. OVER RUN COMPENSATION

**Over Run Compensation Clause no. 2.12 of Vol I C GCC shall not be Applicable**

## 10. **Acceptance of Bank Guarantee (BG)**

**Revision in Acceptance of Bank Guarantee (BG) Clause no. 1.10.3 (V) of Vol I C GCC:**

#### **Clause No. 1.10.3 (V) of Vol IC GCC is revised as below:-**

“Bank Guarantee issued by:

- a. Any of the BHEL consortium bank listed below :

State Bank of India  
ABN Amro Bank N.V.  
Bank of Baroda  
Canara Bank  
Citi Bank N.A.  
Corporation Bank

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Deutsche Bank  
HDFC Bank Ltd.  
The Hongkong and Shanghai Banking Corporation Ltd.  
ICICI Bank Ltd.  
IDBI Ltd.  
Punjab National Bank  
Standard Chartered Bank  
State Bank of Travancore  
State Bank of Hyderabad  
Syndicate Bank

- b. Any public sector Bank (other than consortium banks) with a clause in the text of Bank Guarantee that it is enforceable at Nagpur, Maharashtra
- c. Any private sector banks, with a clause in the text of Bank Guarantee that it is enforceable by being presented at any branch of the bank

**Note: “Bank Guarantees issued by Co-operative Banks are not acceptable”.**

#### **11. Broad Terms & Conditions of Reverse Auction**

In continuation to Clause 19.0 of NIT (Notice Inviting Tender) following are the broad terms and conditions of Reverse Auction is given in Annexure V of NIT:

- 11.1. Against this enquiry for the subject item/ system with detailed scope of supply as per enquiry specifications, BHEL may resort to “REVERSE AUCTION PROCEDURE” i.e., ON LINE BIDDING (THROUGH A SERVICE PROVIDER). The philosophy followed for reverse auction shall be English Reverse (No ties).
- 11.2. BHEL reserves the right to go for Reverse Auction (RA) instead of opening the sealed envelope price bid, submitted by the bidder. This will be decided after techno-commercial evaluation. All bidders to give their acceptance for participation in RA. Non-acceptance to participate in RA may result in non-consideration of their bids. In case BHEL decides to go for Reverse Auction, only those bidders who have given their acceptance to participate in RA will be allowed to participate in the Reverse Auction. Those bidders who have given their acceptance to participate in Reverse Auction will have to necessarily submit „online sealed bid“ in the Reverse Auction. Non-submission of „online sealed bid“ by the bidder will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.

- 11.3. For the proposed reverse auction, technically and commercially acceptable bidders only shall be eligible to participate.
- 11.4. Those bidders who have given their acceptance for Reverse Auction (quoted against this tender enquiry) will have to necessarily submit 'online sealed bid' in the Reverse Auction. Non-submission of 'online sealed bid' by the bidder for any of the eligible items for which techno-commercially qualified, will be considered as tampering of the tender process and will invite action by BHEL as per extant guidelines in vogue.
- 11.5. 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.
- 11.6. In case of reverse auction, BHEL will inform the bidders the details of Service Provider to enable them to contact & get trained.
- 11.7. Business rules like event date, time, bid decrement, extension etc. also will be communicated through service provider for compliance.
- 11.8. Bidders have to fax the Compliance form (annexure IV) before start of Reverse auction. Without this, the bidder will not be eligible to participate in the event.
- 11.9. In line with the NIT terms, BHEL will provide the calculation sheet (e.g., EXCEL sheet) which will help to arrive at "Total Cost to BHEL" like Packing & forwarding charges, Taxes and Duties, Freight charges, Insurance, Service Tax for Services and loading factors (for noncompliance to BHEL standard Commercial terms & conditions) for each of the bidder to enable them to fill-in the price and keep it ready for keying in during the Auction.
- 11.10. Reverse auction will be conducted on scheduled date & time.
- 11.11. At the end of Reverse Auction event, the lowest bidder value will be known on auction portal.
- 11.12. The lowest bidder has to fax/e-mail the duly signed and filled-in prescribed format for price breakup including that of line items, if required, (Annexure VII) as provided on case-to-case basis to Service provider within two working days of Auction without fail.
- 11.13. 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's standard practice.
- 11.14. Bidders shall be required to read the "Terms and Conditions" section of the auctions site of Service provider, using the Login IDs

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and passwords given to them by the service provider before reverse auction event. Bidders should acquaint themselves of the “Business Rules of Reverse Auction”, which will be communicated before the Reverse Auction.

- 11.15. If the Bidder or any of his representatives are found to be involved in Price manipulation/ cartel formation of any kind, directly or indirectly by communicating with other bidders, action as per extant BHEL guidelines, shall be initiated by BHEL and the results of the RA scrapped/ aborted.
- 11.16. The Bidder shall not divulge either his Bids or any other exclusive details of BHEL to any other party.
- 11.17. In case BHEL decides to go for reverse auction, the H1 bidder (whose quote is highest in online sealed bid) may not be allowed to participate in further RA process.

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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - I : PROJECT INFORMATION

### PROJECT INFORMATION

| <b>SL No.</b> | <b>Description</b>                 | <b>Details</b>   |
|---------------|------------------------------------|--|
| <b>1.1</b>    | <b>Location</b>                    | Within Existing TPS; North0East side of existing plant; Wanakbori, Distt- Kheda                                  |
| <b>1.2</b>    | <b>Nearest Railway Station</b>     | Sevaliya (8 KM); Anand-Godhra Main Line  |
| <b>1.3</b>    | <b>Nearest Airport/Seaport</b>     | Vadodara (85 KM from site); Ahmedabad (100 KM from site); Seaport at KANDLA                                      |
| <b>1.4</b>    | <b>Access By Road/Major Cities</b> | 10KM from Dakor-Godhra NH No. 8, 02 KM from Balasinor- Sevaliya SH No. 59 (Balasinor at 13 KM; Sevaliya at 10 KM |
| <b>1.5</b>    | <b>Source of Coal</b>              | Indian coal sourced from captive mines Machha in Talchar, Orissa   |
| <b>1.6</b>    | <b>Source of Water</b>             | River Mahi, flowing by side of existing Wanakbori Power Station  |
| <b>1.7</b>    | <b>Meteorological Data:</b>        |  |
|               | Dry Bulb Temperature (Max/Min)     | 40.8° C/10.8°C   |
|               | Humidity (Max/Min)                 | 81.5%/42.5%  |
|               | Average Rainfall                   | 750 mm annually  |
|               | Wind Speed                         | Basic wind speed of 39 m/sec as per IS -875(Part-3)  |
|               | Seismic Zone                       | Zone III as per IS-1893  |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

### **2.0 SCOPE OF WORK**

**2.1 Micro Grading:** After the completion of civil work the entire area shall be micro graded up to required levels by the contractor to achieve the ground profile as per pavement level requirement at no extra cost. Filling/cutting required to bring the site up to the required finished levels is in the scope of the contractor. Extra earth required to make up to paved levels shall be arranged by the contractor at his own cost from approved borrow areas.

#### **SCOPE OF WORK:-**

The scope work for CHP civil works under the specification covers the supply, storage at site, storage of material supplied by BHEL (i.e. taking delivery of materials from plant gate / BHEL stores, transportation to site) , construction, fabrication, erection, painting protection of all items as specified hereinafter but without excluding any other necessary components, which are not mentioned herein but are required for the completeness and efficient, easy and reliable operation of the system.

The works to be performed under this specification include execution of complete civil and architectural works for foundations for equipment, buildings, facilities, substructures, superstructures, underground structure including inserts, fabrication and erection and infrastructure works as per the detailed scope and specification enclosed elsewhere in this tender document. The works shall generally comprise (but not limited to) carrying out all necessary survey, tests, studies, investigations as may be required for design, construction or erection up to the specified terminal points mentioned elsewhere, including supply of all materials, consumables, tools & plants and labour etc as per approved drawings and specification **On item rate basis.**

Following structures are covered under this tender:

- (1) Wagon tippler 1 & 2
- (2) Tunnel 1A/B,
- (3) Pent House-1,
- (4) Conveyor 1 A/1B,
- (5) TP-1,
- (6) Conveyor 2 A/2B,
- (7) TP-2,
- (8) Conveyor 3 A/3B,
- (9) Crusher House
- (10) TP-3.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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- (11) Stackers cum Reclaimers,
- (12) Coal stock pile, drain and related structure.
- (13) Conveyor -9,
- (14) Conveyor -10,
- (15) Emergency Reclaim Hopper,
- (16) Tunnel for conveyor -10
- (17) Pent House-2
- (18) Conveyor -4A/B.
- (19) Conveyor -5A/B
- (20) Coal settling pond
- (21) TP-4
- (22) TP-5
- (23) TP-6
- (24) Wagon Tippler MCC
- (25) Crusher House MCC
- (26) DS pump House
- (27) Bunker MCC.
- (28) Conveyor 7A/B.
- (29) Connecting road and drainage.
- (30) Dismantling of existing track hopper( Excluding dismantling of steel structure part),
- (31) Any other structures related to CHP not covered above.

However the names of the structures mentioned are as per the present plot plan and the same may change on later change during detail engineering stage.

The scope of works mentioned above under “item rate basis” includes all works like excavation, rig mobilization, installing bored cast in situ piles, dewatering, back filling, shoring, strutting, foundation works, super structures (RCC), sheet piling, sheeting, brick work, staircase, equipment foundations, foundation bolts, embedment, hand rails, walkways, openings, monorails, doors and windows with glazing, false ceiling, false flooring, plumbing, waterproofing, sanitary works, down comer pipes garland drains, plinth protection & grading ,garland drain all round the periphery of the structure, ramp in front of doors and other finishing works etc. for the total completion in all respect as per the approved drawings. The rates quoted shall be inclusive of all the works mentioned above for the total completion of structures.

Approved drawings shall be issued by BHEL for the works covered under item rate basis.

The work to be performed under this specification shall include all incidental items not mentioned or specified but reasonably implied or necessary for the completion and proper functioning of the plant, all in strict accordance with the specifications including revisions and amendments thereto as may be required during the execution of work.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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This specification covers the methodology to be followed for construction of all civil, structural and architectural works for the complete Coal handling system. Description of various items of work and nature of work involved under this specification are given hereinafter. The items, though not specifically mentioned, but are needed to make the system complete shall be treated as though included and the same shall also be furnished and erected / constructed unless otherwise specifically mentioned as excluded.

The bidder should also note the following details, pertaining to the scope of civil works under this specification:

- i) The civil works to be performed shall cover providing all labour, materials (except free issue materials like reinforcement steel and structural steel ,cement mentioned elsewhere), construction equipment, tools and plant, scaffolding, supplies, transportation, all incidental items necessary for successful completion of the work. The work shall involve earthwork in excavation including rig mobilization, pile installation , de-watering, shoring and strutting, sheet piling, back filling around completed structures and plinth protection, area paving, disposal of surplus excavated materials, concreting including reinforcement and form work, brick work, fabrication and erection of structural / miscellaneous steel works, inserts, foundation bolt fixing, architectural items & finishes such as plastering, painting, flooring, doors, windows & ventilators, glass and glazing, rolling shutters etc., metal decking, permanently colour coated profiled steel sheeting, anchor bolts, RCC, trenches with covers, laying and testing of water pipes, sanitation, water supply, drainage, damp proofing, water proofing and other ancillary items.
- ii) The work shall be carried out both below and above ground level and shall include basements, equipment foundations, grouting, slabs, beams, columns, footings, rafts, walls, steel frames, brick walls, stairs, trenches, pits, access roads, culverts, buildings for switchgear and control room, finishes, complete architectural aspects, drainage, sanitation, water supply (from terminal points to various buildings and all other civil, structural and architectural works associated with the complete Ash handling plant.
- iii) Works shall involve arranging construction water from terminal points arranged by the customer and arranging construction water from underground sources, storage in underground /over ground tanks and taking the water to construction site through pipe lines by pumping or by road tankers etc. including all necessary accessories, tools & tackles etc.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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- iv) Access roads to all buildings/facilities of CHP including construction and maintenance of temporary access roads for approach to the building/facilities for construction/erection activities.
- v) The scope of work also includes attending meetings at BHEL office at site / BHEL Nagpur office, Owner's place in Site/ Vadodara office or at places decided by Owner as and when necessary for review, discussions, co-ordination, etc.
- vi) The scope of work also includes setting up batching plant with capacity of minimum 30 Cum. All machineries, equipments, tools tackles including transit mixer, vibrating needle, dewatering pump, roller, compactor, admixture etc. to be made available prior to concreting activity. All test samples to be taken in presence of BHEL/GSECL Engineer and joint protocol to be maintained by contractor.
- vii) Bidder shall take all necessary approvals from railway authority /RDSO approval for crossing conveyor gallery above railway line.
- viii) Contractor shall set up stores for Cement, sand, deck plate ,bolts ,aggregate etc and all are stored properly as per IS recommendation .wastage due to lapse of storing will be on account of contractor.
- ix) Contractor shall maintain proper records of test reports, bar bending schedule and to be produced to concerned Engineer whenever required.
- x) Contractor shall be responsible for coordinating with the erection agency as well as BHEL for maintaining proper line, elevation, coordinate as per drawing. Any mismatches/ fouling with existing structure to be highlighted to BHEL. Dismantling of structure due to lack of coordination/Survey will be on contractor's account.
- xi) The scope of work also includes dismantling of existing track hopper coming in Wagon tippler area. The track hopper dismantling of almost 55 m to be done with proper care of sides. The track hopper to be dismantled with latest technology as approved by customer GSECL. . The drawings of existing track hopper are attached for reference. The precaution, safety procedure is attached as attachment -1.
- xii) BHEL will supply reinforcement, Cement, Structural steel to contractor on free issue basis. Supply of all other items including handrail, grating, foundation bolts, metal deck, shuttering item, inserts, water proofing material, admixture etc . will be done by contractor. All item to be supplied as per customer GSECL tender document attached. Any items

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

supplied with deviation from specification to be taken prior approval from GSECL/BHEL.

### xiii) Setting Up Of Laboratory Works:-

The contractor shall set up his own laboratory in the very close vicinity of the work site as per the directions of engineer-in-charge.

The laboratory shall be equipped with latest testing equipment in sufficient number to carry out all the tests as required under a contract. The contractor should ensure that the equipment is available well in advance of starting of the work to avoid stoppage of work on this account.

All the tests shall be carried out by the contractor in the presence of the Engineer's representative and a joint record of all observations and results thereof shall be maintained, and available with the Engineer.

### Description of Major structures covered.

| Major Structure | Dimension (Tentative)                           | Brief Description  |
|-----------------|---|--|
| Wagon tippler   | 39.5mx37.5mx22m                                 | Wagon tippler is underground structure. Open excavation with sheet piling is required for excavation upto 22 m. Raft foundation is done at bottom. Walls and counter forts enclose the complex up to ground lvl. Inside RCC includes Hopper, Feeder floor, and side arm charger. |
| Crusher House   | 36 m X23mX 41.5 m                               | Crusher House is RCC structure with foundation will be either Raft or piling based on Design during detail Engineering . Intermediate floor includes Tail pulley floor, Flap gate floor, Belt feeder floor ,Crusher floor, Head pulley floor and Roof top RCC.                   |
| TP-1 , TP-2     | TP-1-<br>14mx14mx24.3m<br>TP-2<br>14mx14mx15.4m | TP-1 , TP-2 is Steel structure with Shallow Foundation . The intermediate RCC floors include Tail pulley, Head pulley and roof top supported on metal deck . flap gate   |

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

|                          |  |  |
|--------------------------|--|--|
|                          |  | floor is structural/grating floor. All TP's to be covered by permanently colour coated sheeting as per specification.  |
| TP-3 ,TP-4, TP-5, TP-6   | TP-3-<br>17.5mx17mx29.1m<br>TP-4-<br>14mx14mx86.3m<br>TP-5-<br>14mx14mx86.3m<br>TP-6-<br>14mx14mx86.3m | TP's are Steel structure with deep / pile foundation . The intermediate RCC floors include Tail pulley, Head pulley and roof top supported on metal deck . flap gate floor is structural/grating floor. All TP's to be covered by permanently colour coated sheeting as per specification. |
| Emergency reclaim Hopper | 22mX8mX14m ( Below FGL)  | ERH is underground structure . Open excavation upto 15 m depth. Raft foundation is done at bottom . Walls and counterforts enclose the complex upto ground lvl. Inside RCC includes Hopper , Feeder floor , intermediate columns as per GA drawing.  |

### **2.3 CIVIL WORKS RELATED TO FOLLOWING SERVICES:-**

#### 1. PILING WORK:

- 1.1 **Installation & Testing of Bored cast-in situ piles** of required dia and length as specified in contract document and RFC Drawing. Pile Installation Registers shall be prepared containing all important details such as pile no, date/time of start/completion, pile dia, bored depth, Levels, pouring start/end time etc
- 1.2 **Pile tests** shall have to carried out as per applicable IS/ASTM standards including but not limited to vertical load tests, lateral load tests, High Strain Dynamic load tests etc. The rates quoted shall be inclusive of making arrangements and getting the tests done as per approved FQP/IS 2911 (part IV) standard/ASTM D 4945 standard
- 1.3 The scope will cover all works connected with installations and testing of Bored Cast-in-situ piles **including mobilizations of hydraulic rigs, hopper, tremie pipes, bentonite/polymer mixing water tanks, crawler cranes of suitable capacity, excavator (Poclain), dumpers, loaders and other such**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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**equipment** including their erection/dismantling/transportation/assembling and erecting from one area to another within the plant, preparation of firm ground as required for supporting the pile rigs, supply of materials such as bentonite powder/polymer etc, sampling and testing of materials, Supply of consumables, labours, transportation, testing of piles (work piles), breaking & cutting of piles above PCL (pile cut-off level) and embedding the exposed reinforcement of pile in pile cap, removal and disposal of debris etc. all complete as required for the proper and satisfactory completion of the job.

- 1.4 Any **defective piles** under applicable load tests and/or piles out of alignments/location as per approved RFC drawings shall have to be re-bored/recast without any extra cost by the contractor.
- 1.5 The bored cast-in-situ piles shall be **chipped above Cut off Level using Pneumatic means after minimum 7 days of pile casting complete as per approved RFC drawings.** The reinforcement shall be projected above cut off level in to the pile cap up to completed bond length as per RFC drawings.
- 1.6 **In case of unstable soils, the boring tools used should be such that suction effects are minimised.** Stabilisation of the sides of bore hole shall be done by use of temporary casing. The size of cutting tools shall not be less than the diameter of the pile by more than 75 mm. The casing should be used from the ground level and shall be kept ahead of boring in case where there is danger of caving-in due to subsoil water entering into the bore hole or where the soil is loose. While boring below subsoil water level, precaution shall be taken so that no boiling of the bottom of the hole occurs due to difference in hydrostatic head. While boring in soft material, soil is liable to cavitation; in such cases boring tools shall not be operated at a level below the toe of the casing. Care shall be taken to ensure that the volume of water added to the bore shall be not more than the minimum necessary for the operation of the boring tools. The casing shall be driven down through the soft material to penetrate a hard stratum not subjected to cavitation and shall be sealed in this material as far as possible. Thereafter the boring shall be continued by means of the boring tools until the approved bearing layer is reached. Criteria for approval of the bearing layer will be agreed between the Engineer and the Contractor based on visual inspection of recognisable samples, recovered from the pile bore in the upper levels of the compact layer. The approved samples shall consist of sound material shall be

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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consistent in quality for a depth of 300 mm in the pile bore. A sample of this material shall be supplied by the Contractor to the Engineer duly labelled for maintaining records of the founding strata.

- 1.7 **The piles shall be installed with due consideration for safety of adjacent structures by a method which leaves their strength unimpaired and which develops and retains the required bearing resistance.** Where the soil is such that driving of a pile causes previously installed piles to heave, load test shall be conducted at the expense of the Contractor on such proportion of the heaved piles which shall be ordered by the Engineer.
- 1.8 **The reinforcement shall be made into stiff cages as per approved RFC drawings** and shall be placed immediately after cleaning and inspection of bored holes. The reinforcement shall be placed concentrically by means of spacer blocks. The placing shall be done using sufficient mechanical means including use of crawler cranes of suitable capacity at no extra cost by the contractor.
- 1.9 **No extra payment will be made by BHEL on account of temporary casing installation.** Bidder has to do at their own cost. Bidder to assess the Pile Cut off Length from Soil Investigation report, no extra payment will be made for empty boring even if there is any change in pile cut off length due to design requirement. Temporary MS casing of minimum of 12 M to be adopted for stabilizing the pile bore. The casing to be further lowered in case of bore not getting stabilized through bentonite solution/polymer based solution.

2. Storm Water drain system under this contract scope of work
3. Roads
4. RCC pavements
5. Crane movement road, main road approach roads, drains culverts
6. ERC/IRC
7. Process waste collection system
8. ETP Sumps for this package.
9. Waste Water Sewer
  - 9.1 Oily Waste Sewer (OWS)
  - 9.2 Contaminated Rain/Fire Water Sewer (CRWS)
10. Sanitary and plumbing system in the buildings (for the buildings within the scope of this contract only)
11. Cooling water Supply & Return(WCS/WCR) within the battery limit
12. RCC Electrical/Instrumentation cable trenches and pipe trenches

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BHEL-PSWR (VOL-I-A- TECHNICAL Bid)

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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13. Road Crossings
14. Culverts
15. Pipe way Bridges
16. Pipe way Sleepers
17. Crossings (Culverts, bridges, sleeves as per applicable) of underground services below approach road for all services in the corridor including drains, fire water lines, cooling water lines, waste sewers.
  
18. Hard stand required for erection of heavy equipment.
19. Strengthening of existing roads for crane movement if required.
20. All approach roads from existing main roads as per detailed engineering requirement for maintenance and operation.
  
21. Maintenance and erection approach roads/ by strengthening of roads.
22. Any temporary activities required to complete the work.
23. Structural platforms, monorail beams, walkways, crossovers, handrails etc for miscellaneous equipment, piping etc for the buildings/structures within the scope of this contract.
  
24. Micro grading & disposal of surplus and unserviceable material beyond WTPS complex's compound wall. Contractor to assess the lead by physically visiting the Plant site.
  
25. The sub-grade for roads & pavements and soil improvement/ preparation below foundation level of drains, culverts, pipe way bridges, manholes, etc. shall be carried out as per Geo- Technical recommendation.
  
26. Contractor has to submit drawing for approval and construct following infrastructure:-1) PRE-FAB Labour Colony for 300 Person min. with all amenities like drinking water and sanitary system, 2) fabrication yard if required 3) field office and construction of stores has to be developed by the contractor of its own and the Client shall only identify the space on as in where is basis. All the infrastructure facilities required by contractor for carrying out the above work which include roads, approaches, drainage system, pavements etc. shall be developed & provided by the contractor of its own. No extra payment will be entertained under this head.
  
27. Bidder to ensure that Pre Fabricated Labour colony for 300 min. Person with all basic amenities is established at site within 2 month of

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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issue of LOI, if it fails BHEL Reserves the right to carry out this work at risk and cost of Contractor. Number of Person mentioned here is minimum only and could increase depending on Project requirement.

### **2.4 THE WORK WILL INVOLVE.**

All civil work required to complete Civil and architectural works for power house block including piling work, RCC work, earth work, concrete work, brick work, steel work, embedment, plastering and painting, wooden and metal doors, windows and partitions, waterproofing, flooring, ceiling, plumbing works, sanitary works, road work, drainage, grouting etc.

### **2.5 CIVIL AND ARCHITECTURAL WORKS**

The scope covers all Civil and Architectural works within the battery limits of this Package.

The important works covered under this package are as below:

- 2.5.1** Excavation of earth and backfilling including dewatering of excavations for foundations, trenches, pits, etc. till the construction of the same is completed and disposal of surplus earth.
- 2.5.2** Construction of bored cast-in-situ piles, pile caps with pedestal for all civil structures, trenches, tunnels, sumps, grade beams, tie beams at foundation level, grade slabs, floor slabs and roof slabs at any height, equipment foundations etc.
- 2.5.3** Preparation and submission of detailed calculations, arrangement drawings and detail drawings of formwork, staging and scaffolding for all reinforced concrete structures and foundations as directed by the Engineer for his checking and approval.
- 2.5.4** Preparation of detailed working drawings and bar bending schedule for all reinforced concrete work and getting them approved before start of work by the BHEL Engineer.
- 2.5.5** Taking delivery of TMT Steel, structural steel, earthing rod, GI flat, GI grating, MS Rails etc. from BHEL stores/ storage yards for utilisation in construction work under this package.
- 2.5.6** Fabrication and fixing of templates/frames, inserts, fixing of anchor bolts, sleeves, and embedments etc. in concrete.

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**2.5.7** Supply of all instruments and personnel for conducting necessary tests at site as specified/as directed by the Engineer.

### **2.6 General Scope:**

**2.6.1** Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and fro the site, fuel, compressed air, and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.

**2.6.2** 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.

**2.6.3** Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.

**2.6.4** Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.

**2.6.5** Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.

**2.6.6** Carrying out topographic survey of the entire and establish levels and coordinates at suitable intervals from existing grid levels and coordinates furnished by the owner established bench marks, setting out the locations and levels of proposed structures, constructions and marking of reference pillars and other identification works etc., The contractor shall provide the owner/BHEL such a assistance, instruments, machines, labour and materials as are normally required for examining, measuring and testing any work and the quality, weight or quantity of any material used.

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**2.6.7** Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.

**2.6.8** Arranging for joint checking (with BHEL/BHEL's Customer/Consultant) of all site construction activities Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection as per approved FQP by BHEL.

**2.6.9** The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings.

**Further this is to be noted that the drawings and the documents furnished along with this specification are the sole property of B.H.E.L. It must not be used directly or indirectly in any way detrimental to the interest of the company.**

**2.6.10** 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 imply and necessary for completion of the job as a whole all as desired and as directed by the engineer.

**2.6.11** 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 as per RFC Drawings.

### **2.7 WORKS BY OTHERS**

No work under the specification will be provided by any agency other than the contractor unless specifically mentioned elsewhere in the contract.

### **2.8 SITE VISIT**

Contractor should visit Wanakbori Unit#08 project site, to acquaint himself with the conditions prevailing at site and in and around the plant premises, together with all the statutory, obligatory, mandatory requirements of various authorities before submission of the bid.

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### **2.9 Carrying out work by BHEL**

BHEL reserves the right to withdraw/restrict/alter the quantum of works as per clause No. 2.7 of GCC. BHEL may carry work through any other agency/purchase bought out items as per GCC and would levy and overhead charge of 5% on differential cost. In such cases due notice shall be given for a period of 2 (two) weeks.

#### **NOTE:**

**Contractor has to make him well conversant with the Customer specification. In case of ambiguity between BHEL and customer specification, customer specification shall prevail.**

### **2.10 PREAMBLE FOR THE SCHEDULE OF QUANTITIES/BOQ.**

**2.10.1** Details of the items in this Schedule shall be read in conjunction with the Corresponding Consultants/GSECL specifications, drawings and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.

**2.10.2** The work shall be carried out as per construction drawings, specifications, the description of the items in this schedule and/or Engineer's instructions, Drawings enclosed with these documents are only indicative giving some idea of the type of work involved. The layout, sizes and details of the building, structures and foundations shown in tender drawings may vary at a large extent during actual construction. Final drawings will be issued progressively during the execution of the work.

**2.10.3** Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.

**2.10.4** Unless specifically mentioned otherwise in the contract, the bidder shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant, temporary works, labour materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically

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mentioned but reasonably implied and necessary to complete the works according to the contract.

**2.10.5** The rate quoted shall be inclusive of cleaning the site of any vegetations, dressing and levelling etc., required for commencement of site activities. The rates shall also be inclusive of final micro grading before handing over. No separate payment will be made towards the same.

**2.10.6** The rate shall also be inclusive of carrying out topography survey of site to establish levels and coordinates at suitable intervals, form existing grid levels and coordinates furnished by the owner, establish bench marks, setting out the location and levels of the proposed structures, constructions and making references, pillars and other identification marks etc. No separate payment will be made towards the same.

**2.10.7** The quantities of the various items mentioned in the schedule are approximate and may vary up to any extent or be deleted altogether. The overall variation in contract value on execution shall be dealt as per GCC. Contractor has to obtain prior approval of BHEL/ GSECL before procurement of bought out items/ building materials.

**2.10.8** Rates shall be quoted both in figures and in words in clear legible writing. No over writing is allowed. All scoring and cancellation should be counter signed by the bidder. In case of illegibility, the interpretation of the engineer shall be final. All entries shall be in English language.

**2.10.9** Engineers decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.

**2.10.10** In case of any discrepancy between item description, relevant drawing and/or specification

Clarification shall be sought at tender stage itself. Otherwise it shall be assumed that the bidder has quoted for the more stringent requirement.

**2.10.11** Mix design (M 20 ,M 25, M 30/M 35) for all concreting shall be carried out either at site or from a reputed institute, contractor has to ensure adding of admixture and minimizing of cement content in line with IS 456 as advised by BHEL time to time without any additional cost.

**2.10.12** The scope shall also include setting up by the bidder a testing laboratory (one AC lab size 4.5mtrx6mtr and 1 non AC lab 4.5 mtrx4.5 mtr.) in the field to carry out all relevant tests. Detail of laboratory equipments as per TCC is to be arranged by the contractor within quoted

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rate for conducting day to day one no. chemist to be deployed as necessary. The may tie up with approved/registered inspection agencies for setting up test lab at site as described above.

### **2.11 HIERARCHY**

In case of any conflict/deviations amongst various documents, the order of precedence shall be as follows

- 1) Statutory Regulations
- 2) GSECL Technical specification/Section C Technical specifications
- 3) Items in Schedule of quantities
- 4) IS standards
- 5) BHEL's standard specification (Section D).

**The above hierarchy shall be followed strictly for technical requirements only to carry out works under the scope of this contract.**

**2.12** Laying / Cutting & Re-welding of associated electrical earthing works below the road & drains and surrounding areas shall also be done by civil contractor as per drawings for which 40mm dia. MS rod/GI flats shall be supplied by BHEL free of cost.

### **2.13 Construction Power: (Free of cost)**

**2.13.1** Construction power (three phase, 415 V/ 440 V) will be provided free of cost at one point near the site at a distance of approx. 500M. Further distribution shall be arranged by the contractor at his own cost and services. Contractor shall be responsible for fulfillment of all requirements including statutory requirements in this regard. Contractor shall deploy and install required energy meter, cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act. Contractor shall also obtain approvals of appropriate authority and pay necessary fees, levies etc towards the clearance of such installations, prior to use. Sufficient power factor compensation equipments like capacitor shall be provided by contractor for reactive loads like welding machines etc. In case of any fine/penalty on account of low power factor, same shall be shared by contractor proportionately according to power consumption.

**2.13.2** Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/ erection etc and safety of personnel.

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It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.

- 2.13.3** It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
- 2.13.4** While reasonable efforts will be made to ensure continuous electric power supply, interruptions cannot be ruled out and no claim from the Contractor shall be entertained on this account such as idle labor, extension of time etc. The Contractor shall adjust his working shift accordingly and deploy additional manpower, if necessary, so as to achieve the target.
- 2.13.5** Contractor shall be well equipped with back-up power supply arrangement like DG set and diesel operated welding machine etc to tackle situations arising due to failure of supplied power, so as to ensure continuity and completion of critical processes that are underway at the time of power failure or important activities planned in immediate future.
- 2.13.6** BHEL is not responsible for any loss or damage to the Contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.
- 2.13.7** **Contractor to note that till construction power is made available by BHEL (Approx. within 3 months from start of work), contractor shall make his own arrangement like DG set etc. The contractor shall also take the approval/ permission from Telangana State statutory authorities for his DG set installation.**
- 2.13.8** Contractor is advised to maintain the calibrated energy measuring instruments and use their system as efficiently as possible to maintain the HT side input energy meter reading and LT side outgoing energy meter reading to sub-contractors as equal. In case there is any difference between the sum of the LT side meter readings of all sub-contractors and the HT side meter reading of M/s GSECL, same shall be distributed proportionately among all sub-contractors working during the respective calendar month.

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**2.13.9** The bidder will have to Procure & install General mobile illumination system during construction right from start of his work. This system will include temporary pole lighting, portable lighting towers with DG back-up, within the quoted price. The illumination should be such that minimum illumination requirement as specified by Indian standards for general illumination is maintained.

### **GENERAL:-**

If any other voltage level (other than normally available) is required, the same shall be arranged by the contractor from power supply as above. Contractor will have to provide at his own cost necessary calibrated energy meters (tamper proof, suitably housed in a weather proof box with lock & key arrangement) at point of power supply along with calibration certificate from authorized / accredited agency for working out the power consumption. In case of recalibration required for any reason the necessary charges including replacement by calibrated meters is to be borne by the contractor. Supply of electricity shall be governed by Indian Electricity Act and Installation Rules and other Rules and Regulation as applicable. The contractor shall ensure usage of electricity in an efficient manner and the same may be audited by BHEL time to time. In case of any major deviation from normally accepted norms is observed, BHEL will reserve the right to impose penalty as deemed fit for such cases.

**2.13 Construction water (Chargeable):-** Construction water will be provided on chargeable basis @ Rs 11 per Kilo litre at one point near the plant boundary. Bidder has to make arrangement of further distribution of water at his own cost. No extra payment shall be made under this account. The agency should also construct a sump of suitable size for storage of construction water as per their site requirement for use in batching plant and construction purposes.

### **2.14 Field Quality Assurance:**

The contractor shall be responsible for day-to-day quality checks of concrete and other building materials during the progress of work. All quality records and log sheets shall be maintained as per the requirement of BHEL/BHEL'S customer and as per field quality plan approved by **BHEL/GSECL**.

### **2.15 Reconciliation of Material issued by BHEL (free of cost):**

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#### 2.15.1 **General Notes:**

- a. All steel like structural steel, reinforcement bars, MS bars, earthing rod/ GI flats, GI gratings, foundations bolts, MS rails **except MS/GI/SS Hand rails & Cement** as specified in relevant BOQ and shall be issued free of cost by BHEL unless specified otherwise in BOQ for use in the work covered in this contract from BHEL stores/storage yard. The contractor shall collect these materials from BHEL stores/store yard at specified places at his own cost and store the same at the work site or in his stores as per standard norms. Materials issued will be used only for construction of permanent works. **Procurement, supply, fabrication erection and painting of MS Handrails is in contractor scope.**
- b. BHEL reserves the right to recover from the contractor any loss arising out of damage/ theft or any other causes or during verification/stacking or at any time under the custody of the contractor.
- c. The contractor shall take care of material issued by BHEL and shall protect the same from damage and weathering. Contractor shall construct waterproof cement store (**capacity minimum 250 MT/ 5000 Bags**) for storing and stacking of cement **issued by BHEL free of cost.**
- d. The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However in case of non-availability of any specific section(s) which delays the completion of work, such cases shall be recorded separately in monthly planning format (F14) and shall be considered for time extension of contract.
- e. Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.
- f. The contractor shall maintain proper store account for all the BHEL issued materials and shall give **Three (03) copies of monthly-computerized reconciliation statement** of such account showing total receipt, consumption and balance at site to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. The detailed reconciliation (dia. Wise or as required) shall be done

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**at least once in three months (03) or before submission of final bill which comes earlier.**

- g. Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials, issued to contractor, accounting for surplus/scrap material returned etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.
- h. The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.
- i. BHEL issued materials, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.

#### **2.16 HANDLING OF MATERIALS ISSUED BY BHEL:**

**2.16.1** Materials shall be issued by BHEL based on the weighment basis/linear measurements & sectional weight. However on specific request of the contractor **“as a special case to expedite the job”** the consignment received at BHEL stores can directly be diverted to the work site following issuance procedure of BHEL. Such direct issues shall be as per the Challan/dispatch document/LR received with the consignment. In such cases, Contractor shall do unloading of materials from trucks/lorry at their own cost.

**2.16.2** All materials issued by BHEL shall be stacked, stored above ground level **by use of concrete or wooden sleepers. No materials shall remain on ground at any time.** All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor (successful bidder of this package) at his own cost within the quoted rates. All other equipments like winches, D-Shackles, slings of various sizes, max puller, pulley blocks, jacks, trucks, trailers etc. Required for such handling of steel from BHEL stores/storage yard etc. Shall be arranged by contractor within quoted/accepted rates.

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**2.16.3** The contractor shall take delivery of the materials from the designated place within the project premises at his own cost and store the same at his stores as per standard norms. Open land for such purposes shall be provided by BHEL on free of cost basis. Temporary barbed wire fencing of the open storage yard is to be done by the contractor and is included under the scope of his work. Contractor shall also remove grass, bushes, trees etc wherever required off the land provided to him and shall make proper continuous up keeping of the open yard /land by removing grass, bushes trees etc and same is included under the scope of his work & No extra payment shall be made to the contractor in this regard. The bidder shall make complete arrangement of necessary security personnel's to safeguard all such materials in his custody. Materials issued will be used only for construction of permanent works. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering. Excessive rusting of steel in custody of agency/contractor must be avoided. **In case, due to any cause attributable to the contractor, such rusting of steel occur rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender.**

**2.16.4** On a special case if required BHEL may ask bidder to unload cement bag at BHEL store free of cost, however this will be limited to only 5000 **Bag** per month.

### **2.17 Issue of CEMENT (Free of Cost)**

**2.17.1** Cement as received from the manufacturer/ stockiest will be issued free of cost to the contractor. The theoretical weight of each bag of cement for issued purposes will be considered as 50 kg, the contractor shall be accountable for the cement issued to the contractor on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement.

**2.17.2** In case cement is issued through bulkers being supplied from manufacturer/stockiest; the same shall be emptied in cement silos of batching plant and necessary assistance shall be provided by contractor.

**2.17.3** Contractor to note that batching plant being established at site shall have minimum two cement silos of 100 MT capacity each.

**2.17.4** The empty cement bags duly accounted for against issue shall be the contractor's property and the same shall be disposed as per statutory regulation prevailing in the project.

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**2.17.5** No cement will be issued on free basis for bought out item like Hume pipe, Interlocking Paver block, Fly ash brick etc. However cement for mortar for fixing of these items if required will be issued on free basis.

### **2.18 ISSUE OF STEEL.**

**2.18.1** The steel shall be issued to the contractor on the following basis:

- i. Structural Steel: Weighment basis (Unit – MT)
- ii. Reinforcement Steel and Earthing Rod: Weighment basis (Unit-MT)
- iii. GI Gratings: Weighment Basis(Unit- MT/As Received from manufacturer)
- iv. MS Rails: Weighment Basis (Unit-MT)

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**2.18.2** All the steel (structural, reinforcement, earthing rod/GI flats, GI gratings, foundation bolts, MS Rails) issued by BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved Bar Bending schedule, fabrication drawings, approved laps, chairs and lugs etc. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS/BS/EN specifications.

| <b>Sr No</b> | <b>Name of Standard</b>                       | <b>Name of Section</b>                                     |
|--------------|---|--|
| <b>1</b>     | <b>IS: 808-1964</b>                           | <b>Beams, Channels and Angles</b>                          |
| <b>2</b>     | <b>IS: 1730-1961</b>                          | <b>Plates, Sheets and Strips/Flats</b>                     |
| <b>3</b>     | <b>BS4-1: 1993</b>                            | <b>UB/UC sections</b>                                      |
| <b>4</b>     | <b>IS: 12778/equivalence with EN-19-57</b>    | <b>For NPB sections</b>                                    |
| <b>5</b>     | <b>IS: 12778/equivalence with EN-53-62</b>    | <b>For HE/WPB sections</b>                                 |
| <b>6</b>     | <b>IS: 1786 or grade -1 of IS432 (Part-I)</b> | <b>Rounds including deformed high yield strength bars.</b> |

**In case any such sectional weights are not available in the above documents, the manufacturer recommendation shall be binding.**

**2.18.3** The steel issued to the contractor shall be mainly in standard length and sections as received from the supplier. However, the contractor shall be bound to accept the steel in length as available in the project stores, no claims for extra payment because of issue of non-standard length will be entertained.

**2.18.4** The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL stores. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL stores.

**2.18.5** The contractor shall submit to BHEL, a statement indicating estimated quantity of **cement and steel** required during a quarter. In addition, the contractor shall also furnish the estimated requirement of

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steel during a month by the third week of the previous month indicating his requirement.

**2.18.6** Following shall be limit for the maximum quantity of BHEL issue materials that would be with the contractor at any point of time when work is in progress (excluding what has already been incorporated in the works).

| <b>SL No.</b> | <b>ISSUE OF MATERIALS</b>  | <b>MAX QUANTITY IN CONTRACTORS STORE</b> |
|---------------|--|--|
| 01            | Reinforcement steel, earthing rod/GI flat, GI grating, Foundation bolt, MS Rails | ONE MONTH                                |
| 02            | Structural Steel   | ONE MONTH                                |
| 03.           | Cement   | ONE MONTH                                |

**2.18.7** Bidders shall ensure that no lamination material is taken over by them from BHEL.

**2.18.8** The contractor must note that cement and steel required for the contractor's enabling job like store/ site office/batching plant/temporary works etc. shall be arranged by the contractor at his own cost.

**2.18.9** Bidder to give requirement of Foundation Bolt, Metal Deck sheet, Metal Cladding Sheet, Insulation etc well in advance of before Three month from start of erection of these item. Any delay in raising the requirement of these item leading to delay in placement of order, will be Contractor responsibility and its attributable delay in erection will be responsibility of Bidder only.

### **2.19 RETURN OF MATERIALS**

**2.19.1 Return of Cement:** Sealed cement bags remaining unused and in perfectly good condition at the time of completion or termination of the contract shall be returned promptly, (within 15 days from assessment) if BHEL/ engineer is satisfied of the physical condition of the cement. Return of such cement to the project stores / place as identified within the project area by engineer/ BHEL will not be entitled to handling and incidental charges. Surplus sealed and good conditioned cement bags will be taken back on weighment basis.

**2.19.2 Return of Reinforcement Steel and Structural Steel including Scrap:** All surplus steel and all wastage materials will be taken back on weighment basis. Surplus, unused and untampered steel shall be sorted

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section-wise and returned separately at a place directed by BHEL/Engineer within the project area. Return of such materials will not be entitled to any handling and incidental charges. All wastage / scrap (including melting scrap, wastage, and unusable scrap) shall be promptly returned to the stores and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any transportation and incidental charge. Scrap for reinforcement steel and structural steel shall be returned separately.

### **2.20 Scrap and Serviceable Materials:**

**2.20.1** All structural steel of length above 2 M except M.S Plate 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.

**2.20.2** Plates having both side greater than 1 Meter 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. Meter shall be considered as **serviceable material**.

**2.20.3** All pipe measuring 2 M and above in length shall be treated serviceable materials provided they are in good and acceptable condition. Pipe in less than 2 M length shall be treated as Scrap.

**2.20.4** All TMT measuring 3 M and above in length shall be treated as **serviceable material** provided they are in good acceptable condition. TMT in less than 3 M shall be treated as scrap.

### **2.21 Cement, Steel Consumption and wastage:**

#### **2.21.1 Cement Consumption:**

The theoretical consumption of cement shall be based on the following:

- a. For design mix concrete as per approved design mix.
- b. For nominal mix concrete work, as per minimum cement as specified or as approved by engineer-in-charge.
- c. For item of works, where volume mix is permitted in writing by the BHEL, for masonry works, plaster other miscellaneous items, the cement consumption shall be governed by the “Statement of cement consumption” attached to the DSR-2013 unless otherwise specified

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in the specifications or the drawing of contract or mutually agreed by engineer-in-charge and the contractor.

- d. Actual consumption = Issue – Surplus/ unused quantity of cement returned in good condition by the contractor to store. (No sweep cement will be taken back by BHEL).

### 2.21.2 Cement Wastage:

- a. **Allowable wastage:** One and half percent (+1.5%) of theoretical consumption of cement.
- b. For any material issued by BHEL to the contractor free of cost, and which is not accounted for by the contractor to BHEL, then recovery for such material shall be affected at penal rates.

| Sl no. | Cement consumption   | Basis of issue & penal recovery |
|--------|--|---------------------------------|
| C-1    | Theoretical consumption (without considering any wastage or loss).   | Free                            |
| C-2    | Actual consumption being Limited to one and half percent (+1.5%) of aforesaid theoretical consumption towards allowable wastage. | Free                            |
| C-3    | Actual consumption beyond one and half percent (+1.5%) of above (C-1).   | Penal rate                      |

### 2.21.3 Reinforcement Steel, MS earthing rod, GI gratings, Foundation bolts and MS Rails Consumption

The theoretical consumption of various sections and/or diameter of reinforcement and earthing rod steel shall be based on approved construction drawing and bar bending schedule. Weight shall be calculated considering the sectional weights as per Indian standards. No extra cost shall be payable to the contractor for any deviation in weights for the different procedures adopted for issue and calculation of the theoretical consumption including rolling tolerances.

- a. Actual consumption = Issue – Surplus.

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b. Surplus = un-tampered, unused, uncut QTY of steel **including serviceable material** returned by the contractor to BHEL store along with relevant documents.

c. Wastage = Actual consumption – Theoretical consumption.

#### 2.21.4 Reinforcement Steel, MS earthing rod, GI gratings, Foundation bolts and MS Rails Wastage

a. **Allowable Wastage:** (+3%) of the theoretical consumption shall be considered as allowable wastage.

| <b>Wastage and scrap shall be as per actual weighment basis.</b> |  |  |
|--|--|--|
| <b>Sl no.</b>  | <b>Reinforcement steel &amp; MS earthing rod</b>   | <b>Basis of issue &amp; penal recovery</b> |
| R-1  | Theoretical consumption (without considering wastage and scrap or loss)  | Free                                       |
| R-2  | Wastage limited to <b>plus THREE</b> percent (+3%) of aforesaid theoretical consumption (R-1) towards allowable wastage. | Free                                       |
| R-3  | Wastage beyond <b>THREE</b> percent (+3%) of the theoretical consumption above (R-1).                                    | Penal rate                                 |

#### 2.21.5 Structural Steel (Rolled Sections and Plates etc.) Consumption

The theoretical consumption of various sections shall be based on approved drawings. Weights shall be calculated considering the sectional weights as per Indian standard. No extra shall payable to the contractor for any deviation in weights for the two different procedures adopted for issue and calculation of the theoretical consumption including rolling tolerances.

a. Actual consumption = Issue – Surplus.

b. Surplus = un-tempered, unused, uncut quantity of steel **including serviceable material** returned by the contractor to BHEL store.

c. Wastage = Actual consumption – Theoretical consumption.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

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### 2.21.6 Structural Steel Wastage

**a. Allowable wastage:** 4% (FOUR percent) of the theoretical consumption shall be considered. Wastage shall be considered as cut pieces and scrap material, measured as per actual weighment basis. Invisible wastage, if any, shall be considered to be included in the specified 4 % allowable wastage.

| <b>Sl no</b> | <b>Structural steel including SS plate</b>  | <b>Basis of issue &amp; penal recovery</b> |
|--------------|---|--|
| S-1          | Theoretical consumption (without considering any wastage, scrap or loss) as per specification & drg.                        | Free                                       |
| S-2          | Wastage limited to <b>plus four</b> percent (+4%) of the aforesaid theoretical consumption (S-1) towards allowable wastage. | Free                                       |
| S-3          | Wastage beyond <b>four</b> percent (4%) of the aforesaid theoretical consumption (S-1).                                     | Penal rate                                 |

### 2.22 Reconciliation of Materials:

**2.22.1** The contractor shall submit a reconciliation statement of cement and steel issued to the contractor with each RA Bill.

**2.22.2** At the time of submission of bills, the contractor shall properly account for the material issued to him as specified herein to the satisfaction of BHEL certifying that the balance material are available in the contractor custody at site.

**2.22.3** At the time of submission of bills, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate, then, BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.

**2.22.4** The reference drawings for actual material consumption to be used for the purpose of reconciliation shall be drawings prepared by the

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS

BHEL and drawings approved by BHEL for fabrication works and such other drawings approved by BHEL. This shall also include the bar bending schedule prepared by the contractor and approved by BHEL.

### 2.23 Recovery of Materials (Penal Rates):

If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly RA Bills as per following penal rates:

| Sl. No. | Item   | Penal rate (Rs) |
|---------|--|-----------------|
| P-1     | Cement (OPC/ PPC/ PSC).                                | 6,500 per MT    |
| P-2     | Reinforcement steel and MS earthingrod/GI flat         | 55,000 per MT   |
| P-3     | Chequered Plates and MS plates                         | 60,000 per MT   |
| P-4     | MS Flats, beams, channel,angels etc. (Rolled Sections) | 60,000 per MT   |

### 2.24 Procurement and Testing of Materials by Contractor:

Material required for the entire job (other than issued by BHEL as explained above) like sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, electrical fittings and wiring material and all other material required for the completion of entire scope have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL reserves the right to reject any material not found satisfactory. Rates quoted shall be inclusive of all such contingencies and no additional payment shall be made on this account. For this purpose, sample shall be collected at site in presence of **BHEL/GSECL** representative.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – II: SCOPE OF WORKS AND TECHNICAL SPECIFICATIONS**

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**Bidders are requested to specifically note the following:**

*Bidders are requested to have **pre-bid visit/ inspection of site** to make them fully acquainted with the site situation & nature of job. No claim shall be entertained at later date on account of non-familiarization of site conditions. Bidders may fix up their site visit in consultation with below mentioned contact person:*

|   |  |
|---|--|
| Sh Vivek Kala<br>BHEL Site Office: 1x800 MW TPS,<br>Wanakbori Unit#08,<br>Ph No: +917359029111    | Sh RP Das<br>PSWR Nagpur<br>Ph no: +918806007760       |
| Sh Ravi Bhardwaj<br>BHEL Site Office: 1x 800 MW TPS,<br>Wanakbori Unit#08<br>Ph No: +919601328105 | Sh Gopal Tiwary<br>PSWR Nagpur<br>Ph no: +919881718378 |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

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| Sl.No | Description  | Scope |        | Remarks   |
|-------|--|-------|--------|---|
|       |  | BHEL  | Bidder |   |
|       | <b>PART I</b>  |       |        |   |
| 3.1   | <b>Establishment</b>   |       |        |   |
| 3.1.1 | <b>For Construction Purpose:</b>   |       |        |   |
| A     | Open space for office (as per availability)  | Yes   |        | Location will be finalized after joint survey with owner  |
| B     | Open space for storage (as per availability)   | Yes   |        | Location will be finalized after joint survey with owner  |
| C     | Construction of bidder's office, canteen and storage building including supply of materials and other services |       | Yes    |   |
| D     | Bidder's all office equipments, office / store / canteen consumables   |       | Yes    |   |
| E     | Canteen facilities for the bidder's staff, supervisors and engineers etc                                       |       | Yes    |   |
| F     | Fire fighting equipments like buckets, extinguishers etc   |       | Yes    |   |
| G     | Fencing of storage area, office, canteen etc of the bidder   |       | Yes    |   |
| 3.1.2 | <b>For living purpose of the bidder</b>  |       |        |   |
| A     | Open space for labour colony (as per availability)   | Yes   |        | Contractor has to make his own arrangements shelter and transportation of labours as per their requirement. |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

| Sl.No | Description<br><br><b>PART I</b>   | Scope |        | Remarks  |
|-------|--|-------|--------|--|
|       |  | BHEL  | Bidder |  |
| B     | Labour Colony with internal roads, sanitation, complying with statutory requirements           |       | Yes    | Construction Plan shall be approved by BHEL                                      |
| 3.2.0 | <b>ELECTRICITY</b>   |       |        |  |
| 3.2.1 | <b>Electricity for construction purposes 3 Phase 415/440 V</b>                                 |       |        | FREE AT ONE SINGLE POINT.  |
| A     | Single point source  | Yes   |        | Further distribution and Metering is in scope of bidder.                         |
| B     | Further distribution including all materials, Energy Meter, Protection devices and its service |       | Yes    |  |
| C     | Duties and deposits including statutory clearances if applicable                               |       | Yes    |  |
| 3.2.2 | <b>Electricity for office, stores, canteen etc of the bidder.</b>                              |       |        |  |
| A     | Single point source  | Yes   |        | Single point as above for construction purpose, no separate point shall be given |
| B     | Further distribution including all materials, Energy Meter, Protection devices and its service |       | Yes    |  |
| C     | Duties and deposits including statutory clearances if applicable                               |       | Yes    |  |
| 3.2.3 | <b>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc</b>  |       |        | Contractor Has to make his own arrangements                                      |
| A     | Single point source  |       | Yes    |  |
| B     | Further distribution including all materials, Energy Meter, Protection devices and its service |       | Yes    |  |
| C     | Duties and deposits including statutory clearances if applicable                               |       | Yes    |  |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

| Sl.No | Description<br><br><b>PART I</b>  | Scope |        | Remarks  |
|-------|---|-------|--------|--|
|       |   | BHEL  | Bidder |  |
| 3.3.0 | <b>WATER SUPPLY</b>   |       |        |  |
| 3.3.1 | <b>For construction purposes: (to be specified whether chargeable or free)</b>                  |       |        | <b>Chargeable</b>  |
| A     | Making the water available at single point  | yes   |        | Contractor has to make his own arrangement.  |
| B     | Further distribution as per the requirement of work including supply of materials and execution |       | Yes    |  |
| 3.3.2 | <b>Water supply for bidder's office, stores, canteen etc.</b>                                   |       |        | <b>Chargeable</b>  |
| A     | Making the water available at single point  | Yes   |        | Contractor has to make his own arrangements for distribution. Single point as above for construction purpose, no separate point shall be given |
| B     | Further distribution as per the requirement of work including supply of materials and execution |       | Yes    |  |
| 3.3.3 | <b>Water supply for Living Purpose</b>  |       |        | Contractor has to make his own arrangement.  |
| A     | Making the water available at single point  |       | Yes    |  |
| B     | Further distribution as per the requirement of work including supply of materials and execution |       | Yes    |  |
| 3.4.0 | <b>LIGHTING</b>   |       |        |  |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

| Sl.No | Description<br><b>PART I</b>   | Scope |        | Remarks |
|-------|--|-------|--------|---------|
|       |  | BHEL  | Bidder |         |
| A     | For construction work (supply of all the necessary materials)<br>1. At office/storage area<br>2. At the preassembly area<br>3. At the construction site /area        |       | Yes    |         |
| B     | For construction work (execution of the lighting work/ arrangements)<br>1. At office/storage area<br>2. At the preassembly area<br>3. At the construction site /area |       | Yes    |         |
| C     | Providing the necessary consumables like bulbs, switches, etc during the course of project work  |       | Yes    |         |
| D     | Lighting for the living purposes of the bidder at the colony / quarters  |       | Yes    |         |
| 3.5.0 | <b>Communication facilities for site operations of the bidder</b>  |       |        |         |
| A     | Téléphone, fax, internet, intranet, e-mail etc   |       | Yes    |         |
| 3.6.0 | <b>Compressed air wherever required for the work</b>   |       | Yes    |         |
| 3.7.0 | <b>Demobilization of all the above facilities</b>  |       | YES    |         |
| 3.8.0 | <b>Transportation</b>  |       |        |         |
| A     | For site personnel of the bidder   |       | Yes    |         |
| B     | For bidder's equipments and consumables (T&P, Consumables etc)   |       | Yes    |         |

| Sl.No | Description<br><b>PART II</b>   | Scope / to be taken care by |        | Remarks        |
|-------|---|-----------------------------|--------|----------------|
|       |   | BHEL                        | Bidder |                |
| 3.9.1 | <b>3.9.0 Erection Facilities</b><br>Engineering works for construction: |                             |        | NOT APPLICABLE |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL**

| Sl.No | Description<br><b>PART II</b><br><b>3.9.0 Erection Facilities</b>   | Scope / to be taken care by |        | Remarks   |
|-------|---|-----------------------------|--------|---|
|       |   | BHEL                        | Bidder |   |
| A     | Providing the erection/constructions drawings for all the equipments covered under this scope   | Yes                         |        | <b>For Details Pl refer Chapter-IX-</b>                                       |
| B     | Drawings for construction methods   | Yes                         | Yes    | In consultation with BHEL   |
| C     | As-built drawings – where ever deviations observed and executed and also based on the decisions taken at site   |                             | Yes    | Changes are to be marked in drawing & handover to BHEL on completion of work. |
| D     | Shipping lists etc for reference and planning the activities  |                             |        | NOT APPLICABLE  |
| E     | Preparation of site erection schedules and other input requirements   | Yes                         | Yes    | In consultation with BHEL   |
| F     | Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments   | Yes                         | Yes    | In consultation with BHEL   |
| G     | Weekly erection schedules based on Sl No. e   |                             | Yes    | In consultation with BHEL   |
| H     | Daily erection / work plan based on Sl No. g  |                             | Yes    | In consultation with BHEL   |
| I     | Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months. |                             | Yes    |   |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR**

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**4.1 TOOL & PLANTS:**

**Nos of T&Ps to be deployed at site shall be decided w.r.t. monthly plan and review format (F-14) based on site requirement. Below given Nos are tentative for planning purposes by the bidder.**

| <b>Sl No.</b> | <b>Description of T&amp;P</b>  | <b>Quantity</b>               |
|---------------|--|-------------------------------|
| 1.            | Concrete batching plant (30 Cum/Hr.) with two Nos of Silos of 100 MT capacity each.  | 01No.                         |
| 2.            | HYDRAULIC ROTARY PILING RIGS along with required 20T crane with matching minimum 15 mtr. Boom length, compressor for flushing of Piles bore for air lift technique (minimum capacity of 740 CFT/min. and air pressure of 12Kg/SQ cm, OR WATER CLEANING METHOD , flushing pipe, tremie pipe, bentonite re-circulation pump, bentonite feed pump, hose pipe for bentonite re-circulation | 03 No                         |
| 3.            | Engineered Formwork/scaffolding System for buildings viz service building and technical building   | 01 Set each for each building |
| 4.            | Concrete Pump (15/30 Cum/Hr min capacity & lift 50M)   | 01 Nos                        |
| 5.            | Concrete Transit Mixer   | 03 Nos                        |
| 6.            | Concrete Boom placer   | 01 no.                        |
| 7.            | Tower Crane of suitable capacity   | As per requirement.           |
| 8.            | Electrical Winch (of required capacity)  | 03Nos                         |
| 9.            | Vibrators(electrical/diesel)   | 10 Nos                        |
| 10.           | Air Compressor/Air blower  | 01 No.                        |
| 11.           | Concrete breaker ( <b>HILTI of equivalent</b> )  | 02 Nos                        |
| 12.           | Power Trowel   | 02 Nos                        |
| 13.           | Groove Cutting Machine   | 01 Nos                        |
| 14.           | Welding Machine  | 05 Nos                        |
| 15.           | Self-priming Dewatering pump of various capacity (Diesel/Electric) From 2 HP to 7.5 HP   | 5 Nos                         |
| 16.           | Curing / dewatering pump – 1.5 / 2 HP  | 02 Nos                        |

BHEL-PSWR (VOL-I-A- TECHNICAL Bid)

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – IV: T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR

|     |  |   |
|-----|--|---|
| 17. | Hydraulic Excavator /Poclain 0.9 cum   | 02 Nos                                  |
| 18. | JCB  | 02 Nos                                  |
| 19. | <ul style="list-style-type: none"> <li>• Ply Shuttering board with adequate supporting structure – (Old steel shuttering plates will not be allowed).</li> <li>• Steel shuttering (fare face)</li> </ul>           | Lot (As per requirement)                |
| 20. | Hydra crane (12/14 MT Capacity)  | 1 No                                    |
| 21. | Trailer (20MT Capacity)  | 1 No                                    |
| 22. | Tractor mounted grader/ loader   | 02 Nos                                  |
| 23. | Pipe Scaffolding, Clamps / Swivel Couplers (One/Two Way), Props, Jacks, Screw Heads, MS Pipes, Wooden Battens, Planks, Bullies, H Frames, Tie Rods with Nuts, Adjustable Achro Span (Considering Individual Areas) | As per requirement.                     |
| 24. | Dumper   | 04 Nos                                  |
| 25. | Reinforcement bending machine  | 02 Nos                                  |
| 26. | Reinforcement cutting machine  | 04 Nos                                  |
| 27. | MS scaffolding pipe with matching Couplers   | 10000 RM                                |
| 28. | Plate compactor  | 02 Nos                                  |
| 29. | Earth Compactor- 5MT Capacity  | 02 Nos                                  |
| 30. | Earth Compactor- 3MT Capacity  | 02 Nos                                  |
| 31. | Vacuum Dewatering machine  | 01 Nos                                  |
| 32. | Total Station  | 02 Nos                                  |
| 33. | Auto level & staff   | 02 Nos                                  |
| 34. | Laser leveler (for floor levelling works- <b>HILTI or equivalent</b> )   | 01 Nos                                  |
| 35. | Vibro roller of suitable capacity  | To be mobilized as per site requirement |
| 36. | Water Tanker   | 03 Nos                                  |
| 37. | TOWER CRANE  | As per Requirement                      |
| 38. | All equipments for area lighting like halogen bulbs and Portable light towers etc.   | As per requirement                      |
| 39. | All equipment required to install temporary MS Casing of 12 m or required length like vibro hammer &   | As per requirement                      |

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR**

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|     |  |         |
|-----|--|---------|
|     | suitable capacity crane etc.                           |         |
| 40. | COMPUTER with printing/photocopy & CD writing facility | 10 sets |

**FIELD QUALITY LAB EQUIPMENTS**

- a. Automatic compression testing machine(2000KN) – 1no
- b. Cube moulds (150mm size) –36 nos
- c. Slump cone with tamping rod – 02no
- d. Sieves of different sizes for fine & coarse aggregate testing – 1 set
- e. Core cutter test apparatus – 05sets
- f. Oven (capacity 120ltr, range – 250c) – 1no
- g. Moisture container(steel/aluminum) – 06nos
- h. Rapid moisture meter – 02nos
- i. VICAT apparatus with plungers for cement testing – 1set
- j. Cube moulds (70mm size) – 06nos
- k. Physical balance – 02no.
- l. Automatic vibration m/c – 01 no.
- m. Jars – 4 nos.

**4.2 MEASURING AND MONITORING DEVICES (MMD):**

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

**4.3 COMPUTER INFRASTRUCTURE**

The successful bidder(s) will have to establish computerized project management system along with one no supervisor with sufficient computer knowledge (knowledge of MS office) and the following are the minimum requirements of the system:

**4.3.1** The bidder will have to install 2 nos PCs (multimedia PC work station Pentium-Duo,1 GHZ or above, 320 GB HDD, 2 GB RAM, 100 MBPS LAN card of HCL/ COMPAQ/ ZENITH or equivalent make with window 8 O/S with required accessories like mouse, keyboard, UPS and required software like MS Office 2010 Professional, AutoCAD 2011, ADOBE PDF CREATOR (ver 8.0) with one no laser jet printer compatible for A4 and A3 size printing (ink/ cartridge for which to be supplied as and when required, (the consumption may be assumed as

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## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – IV: T&Ps AND MME TO BE DEPLOYED BY CONTRACTOR

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1 cartridge per month) with power backup at places, as per instruction of BHEL for exclusive use of BHEL.

**4.3.2** These computers/ printers along with technical supervisor (two nos) shall remain contractor's property/ownership for all legal/technical purposes; however, contractor shall be allowed to take out/release the same after completion of the site works. **Further, the computer/printer along with two nos technical supervisor shall remain/work at BHEL offices.**

**4.3.2** The contractor's technical supervisor shall provide data / information etc in prescribed formats for periodical updating of the progress reports, Billing, daily progress report, updating of schedule pertaining to the contractor's scope of work etc.

**4.3.3** This facility has to be provided from 1st month from LOI date till completion of site works or as decided by BHEL. If contractor fails to provide computer/ printer as per requirement, for a continuous period of fifteen days or more, BHEL shall have the right to purchase it at risk and cost of bidder.

**4.3.4** In the event of the contract period getting extended beyond the stipulated time for reasons not attributable to the bidder, the bidder will be reimbursed at Rs 8000.00 per month for two computers with printer facility, if the services of computer and printer are being used by BHEL.

#### **NOTE:**

This above list is only indicative and neither exhaustive nor limiting. Quantities indicated above are only the minimum required. Contractor shall deploy all necessary T&P to meet the schedules & as prescribed by BHEL engineer and required for completion of work. In the event of non mobilisation of any T&P by the successful bidder and as a result progress of work suffered, BHEL reserves the right to deduct suitable amount from the dues of the bidder, with assigning reasons thereof.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – V: T&Ps AND MME TO BE DEPLOYED BY BHEL ON**  
**SHARING BASIS**

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**5.1 BHEL WILL NOT PROVIDE ANY T&P's FOR THIS WORK**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: TIME SCHEDULE

### **6.1 Time Schedule and Mobilization:**

#### **6.1.1 Initial Mobilization and Time Schedule:**

After issue of LOI(through Fax/courier/email) the contractor shall report to the Construction Manager/Site In-Charge of BHEL at site within one week and make a MOM(Minutes of meeting) for mobilization of manpower, T&Ps, date of start of work and detailed completion program.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **30 (Thirty) months** in a manner required by BHEL to match with the project schedule.

Bidder has to release fronts for erection as per Milestone schedule list.

**Date of start (DOS)** of works shall be reckoned **as start of first excavation/start of boring of Pile whichever is earlier.**

#### **6.1.2 Contract Period and Schedule of Completion:**

The entire work under the scope of this contract shall be carried out in such a manner that the following listed major milestones are achieved as per completion schedule given against each activity & **release for erection by other agency.**

#### **Tentative Milestones for Major Civil Works**

| <b>Sl No.</b> | <b>Activity</b>                      | <b>Period of release of fronts from DOS</b> |
|---------------|--------------------------------------|---|
| 1             | WAGON TIPPLER 1 & 2 - SUB- STRUCTURE | 20 Months                                   |
| 2             | JNTs                                 | 20 Months                                   |
| 3             | CONVEYOR GALLERIES                   | 20 Months                                   |
| 4             | STACKER RECLAIMER                    | 18 Months                                   |
| 5             | EMERGENCY RECLAIM HOPPER             | 14 Months                                   |
| 6             | PUMP HOUSES                          | 14 Months                                   |
| 7             | CHP MCC ROOMS                        | 18 Months                                   |

BHEL-PSWR (VOL-I-A- TECHNICAL Bid)

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: TIME SCHEDULE

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|    |                          |           |
|----|--------------------------|-----------|
| 8  | WT TUNNEL AND ERH TUNNEL | 14 Months |
| 9  | COAL SETTLING POND       | 5 Months  |
| 10 | ROAD AND DRAINAGE        | 10 Months |
| 11 | RCC CRUSHER HOUSE        | 24 Months |
| 12 | Miscellaneous            | 30 Months |

### Notes:

- Common activities like Plant roads, drains, fencing, paving and other misc. works etc shall be completed in Phase wise manner / Instruction of Engineer within the Contractual time.
- Agency should note that this project has to be completed on fast track basis hence to meet the all milestone schedule it will necessary to deploy “Dedicated Resources” like Manpower, Machinerics and Materials Area wise to execute the woks as per schedule.
- Bidders are requested to submit Resource deployment plan Area wise with detail program in line with above schedule in the form of Bar Chart / MS project planer along with their offer.

**6.2 The underlying philosophy** of executing total scope of work shall be on fast track basis which requires **round the clock work involving extensive use of man and machinery**. As such any T&P that may not have been specifically mentioned in the contract but required and would help in minimizing time shall be used as per project requirement.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VII: TERMS OF PAYMENT

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### **7.0 Terms of Payment:**

**7.1 Progressive payment/final payment:** The payments for works under the scope of this contract shall be as per clause no 2.6; 2.22; 2.23 of General Conditions of Contract and chapter X of SCC. Major points of consideration are as below:

- The payments shall be made through e-mode only.
- The measurement sheets of work done in a month shall be submitted in triplicate duly agreed/signed by BHEL engineer. The contractor shall extend all necessary assistance for verification of measurements of works without any extra cost.
- The RA bill payments are interim payments and shall be submitted in prescribed formats.
- Recoveries on account of electricity, water, statutory deductions etc shall be made as per terms of contract.
- 100% of item rate on pro rata basis on monthly basis shall be made as per progress of work. BHEL decision in this regard shall be final and binding on the contractor.
- Final bill shall be submitted after completion of works and upon material reconciliation along with all prescribed formats.

### **7.2 Extra/supplementary items of work:-**

The works shall be regulated as per clause no 2.15 and clause no 2.16 of General Conditions of Contract.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

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### **8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 05 dated 13/08/2015)**

#### **8.1. For All types of works excepting works covered under sl no 8.2**

##### **8.1.1**

The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.

**However, provisions regarding Service Tax and Value Added Tax (VAT) on output services and goods shall be as per following clauses.**

##### **8.1.2 Service Tax & Cess on Service Tax**

Contractor's price/rates shall be exclusive of Service Tax and Cess on Services. In case, it becomes mandatory for the contractor under provisions of relevant act/law to collect the Service Tax & Cess from BHEL and pay the same to the concerned tax authorities, such applicable amount will be paid by BHEL at the prevailing Service Tax Rate (presently 14 %) on the admitted bill value.

**Contractor shall submit to BHEL documentary evidence of Service Tax registration certificate specifying name of services covered under this contract. Contractor shall submit serially numbered Service Tax and Cess Invoice, signed by him or a person authorized by him in respect of taxable service provided, and shall contain the following, namely,**

- 1. The name, address and the registration number of the contractor,**
- 2. The name and address of the party receiving taxable service,**
- 3. Description, classification and value of taxable service provided and,**
- 4. The service tax payable thereon.**

**All the Four conditions shall be fulfilled in the invoice before release of service tax payment.**

**Wherever, more than one route/option are available for discharge of service tax liability under a particular service, (e.g. "works contract Service"), contractor shall obtain prior written consent from BHEL site before billing the amount towards Service Tax.**

##### **8.1.3 VAT (Sales Tax /WCT)**

As regards Value Added Tax (VAT)/CST on transfer of property in goods involved in Works Contract (previously known as Works Contract Tax) applicable as per local laws, the price quoted by the contractor shall be inclusive of the same and in no case input or output VAT/CST will be reimbursed extra.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

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In any case the Contractor shall register himself with the respective Sales Tax authorities of the state and submit proof of such registration to BHEL along with the first RA bill. Contractor will submit all the details of VAT/CST paid for the contract in the prescribed format of the respective state VAT laws. Also, the contractor will issue the tax Invoices to BHEL as per the Tax laws of respective state on monthly basis. Contractor shall also be required to furnish to BHEL necessary proof of VAT remittance on monthly basis.

Deduction of tax at source shall be made as per the provisions of law and is to be construed as an advance tax paid by the contractor and no reimbursement thereof will be made.

Further, if BHEL, at the instance of customer or otherwise adopts the specific route for discharging output VAT liability itself, benefit of the reduction in liability of the contractor will be passed on to BHEL.

In case, BHEL is forced to pay any VAT liability on behalf of contractor, the same will be recovered from contractor's bill or otherwise as deemed fit

### **8.2 — 'Enabling Works'**

~~The contractor shall pay all (save the specific exclusions as enumerated in this contract) taxes, fees, license charges, deposits, duties, tools, royalty, commissions or other charges which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit. ( i.e. rates quoted by bidder shall be inclusive of Service Tax, VAT/WCT and all other taxes and duties including new levies/taxes/duty if any )~~

~~However, Since the proposed work is in the nature of 'Works Contract service' as per Service tax law, Hence, For non corporate contractors being Individual, HUF, Proprietary Firm, Partnership Firm or Association of Persons (AOP), BHEL shall recover the applicable Service Tax under reverse charge mechanism from the contractor and remit the same with the Government as per the provisions of Law. Necessary advice/confirmation of remittance shall be issued to the contractor. The contractor shall not be eligible for any refund/reimbursement of such service tax from BHEL. It shall be the responsibility of the contractor to submit proper invoice giving all the requisite details as per Service Tax Law for the determination of the service tax liability of BHEL under reverse charge mechanism. BHEL reserves the right to determine such liability based on the invoice submitted by the contractor or otherwise independently and remittance of the same with the Government.~~

### **8.3 New Taxes/Levies - For All types of works excepting works covered under sl no 8.2**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

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**In case the Government imposes any new levy/tax on the output service/goods/work after award of the contract, the same shall be reimbursed by BHEL at actual.**

**In case any new tax/levy/duty etc. becomes applicable after the date of Bidder's offer, the Bidder/Contractor must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of Price Bid. Claim for any such impact after opening the Price Bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.**

No reimbursement/recovery on account of increase/reduction in the rate of taxes, levies, duties etc. on input goods/services/work shall be made. Such impact shall be taken care of by the Price Variation/Adjustment Clause (PVC) if any. In case PVC is not applicable for the contract, Bidder has to make his own assessment of the impact of future variation if any, in rates of taxes/duties/ levies etc. in his price bid.

### **8.4 BOCW Cess - For All types of works excepting works covered under sl no 8.2**

The quoted rates shall be exclusive of the BOCW Cess which, if applicable, shall be paid extra by BHEL against Documentary evidence. However, the applicability of the BOCW Cess shall be got confirmed from BHEL in writing, before remitting such Cess/tax.

### **8.5 GST: For All types of works excepting works covered under sl no 8.2**

As and when GST becomes applicable to this contract, the net differential (negative or positive) financial liability of the bidder to the Authorities (as compared to such liability prior to applicability of GST), if any, shall be to the account of BHEL. For this purpose, all available options under the GST shall be explored, and the decision of BHEL in this regard shall be final and binding on the bidder.

**SPECIAL CONDITIONS OF CONTRACT (SCC)**  
**CHAPTER IX –DRAWINGS**

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**9.1 Following technical Specifications and Drawings are enclosed as a part of tender:**

| <b>SL NO</b> | <b>Document</b>                          |
|--------------|--|
| 1.           | Section C/ -Technical Specification      |
| 2.           | Section D- General specification of BHEL |
| 3.           | Soil Investigation Report                |
| 4.           | Plot Plan                                |

## SPECIAL CONDITIONS OF CONTRACT (SCC) CHAPTER X –APPENDIX

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### **10.1 Tentative Manpower Requirement**

1. Project manager – with 15 Years’ experience in Industrial Foundation, Building & Power Plant Civil & Architectural Works.
2. Experienced Civil Engineers –3 heads
3. Experienced Foreman / Supervisors – 6 heads
4. Planning & Billing Engineer – 02 heads
5. Stores, Gate Pass – 02 heads
6. Accounts & Administration- 02 heads
7. Quality Control Engineer/Chemist – 1 head
8. Safety Engineer – 1head
9. Surveyor – 02 head capable to handle total station
10. Operator, Licensed Electrician, Mechanic - As per requirement
11. Experienced Carpenters & Helpers – lot for similar nature of work
12. Experienced Bar Benders & Helpers – lot for similar nature of work
13. Security Guards (Round The Clock) – As per requirement.

### **10.2 Deputation of above man-power shall be jointly decided at site in line with construction Schedule.**

**10.3** Engineer/ supervisor for other functions like store & purchase, material management, planning, finance, administration etc. are to be provided as per site requirement and not considered in above list.

**10.4** In the event of non deputation of engineer/ supervisor by the bidder as per above agreed schedule, BHEL shall reserve the right to deduct Rs 50,000.00 per man-month for engineer, Rs 35,000.00 per man-month for the supervisor/ safety officer/chemist and Rs. 30,000 per man-month for safety supervisor from RA bills. Further induction of manpower regarding site supervisor & site engineer will be decided at site as per requirement without any financial implication.

## SPECIAL CONDITIONS OF CONTRACT (SCC) CHAPTER X –APPENDIX

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- 10.5** BHEL reserves the right to reject or approve the list of personnel proposed by the contractor. The persons whose bio-data have been approved by BHEL will have to be posted at site and deviation in this regard will not be permitted unless specific & reasonable justification is made.
- 10.6** In addition to above, a well experienced qualified engineer to be designated, as 'Project Co-coordinator', shall be deployed by the contractor. Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc to contractor's own team during the complete execution period of contract.
- 10.7 The contractor should also submit the fitness/calibration certificate for T&Ps regularly and renew it as per applicable IS standards and statutory requirements. The tools & tackles shall not be removed from site without written permission of BHEL.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**CHAPTER XI –BILL OF QUANTITIES AND % WEIGHTAGE OF**  
**INDIVIDUAL ITEMS**

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**This Chapter consists of Part B of Volume II Price bid:**

1. PART B: % weightage for amount of individual items of Schedule of quantity w.r.t. the total price (as quoted by the bidder in Part C of Vol-II-Price Bid Specification)

Note: This Chapter-XI is uploaded as file titled '**Chapter XI BOQ and Percentage Weightage**'-1521