

# TENDER SPECIFICATION

## NO: BHE/PW/PUR/BSI1-CVL/1109

CONSTRUCTION OF RCC FOUNDATIONS FOR STEAM TURBINE WITH TURBO BLOWER (EXCEPT BOTTOM RAFT) AND ITS AUXILIARIES, AIR INLET FILTERS, MISCELLANEOUS EQUIPMENT FOUNDATIONS, PIPE RACK, PLATFORMS, PAVING AND ASSOCIATED STRUCTURAL WORKS FOR TWO UNITS (UNIT 2&3)

AT

3 X18 MW TURBO BLOWER STATION, SAIL-BHILAI,  
DIST: DURG,  
CHHATISGARH.

## 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



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

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LEGEND:

This document ( i.e. NIT & Vol-I A ) is hosted in BHEL web page ([www.BHEL.com](http://www.BHEL.com)) as a ( Vol- I ) of Technical Bid

§: “**Vol I -B, I-C, I-D**” of Part-I (Vol- I) Hosted in BHEL web page ([www.BHEL.com](http://www.BHEL.com)) separately as a part of Technical Bid.

- **Vol-I-E-1109 Technical Specifications & Drawings** Hosted in BHEL web page ([www.BHEL.com](http://www.BHEL.com)) separately as a part of Technical Bid.

@: **Price bid is** issued as a separate hard copy booklet ‘Tender Specifications – Volume-II (Price Bid-1109)’. Hosted in BHEL web page ([www.BHEL.com](http://www.BHEL.com)) separately as titled “**VOL-II-PRICE BID-1109**”

**T E N D E R   S P E C I F I C A T I O N**  
**NO: BHE/PW/PUR/BSI1-CVL/1109**

**CONSTRUCTION OF RCC FOUNDATIONS FOR STEAM TURBINE  
WITH TURBO BLOWER (EXCEPT BOTTOM RAFT) AND ITS AUXILIARIES, AIR  
INLET FILTERS, MISCELLANEOUS EQUIPMENT FOUNDATIONS, PIPE RACK ,  
PLATFORMS, PAVING AND ASSOCIATED STRUCTURAL WORKS FOR TWO  
UNITS (UNIT 2&3)**

**AT**  
**3 X18 MW TURBO BLOWER STATION, SAIL-BHILAI,**  
**DIST: DURG,**  
**CHHATISGARH.**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR                      Refer Notice Inviting Tender  
TENDER SUBMISSION                      .

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

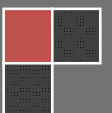
DY. GENERAL MANAGER (Purchase)  
Place: Nagpur  
Date :

1109

# NOTICE INVITING TENDER

(Document No PS:MSX:NIT:Rev 01 dated 1<sup>st</sup> Jun  
2012)

Bharat Heavy Electricals Limited



**BHEL PSWR  
Notice Inviting Tender**

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Ref: BHE/PW/PUR/BS11-CVL/1109

Date: 05/02/2013

## **NOTICE INVITING TENDER (NIT)**

**NOTE: BIDDER MAY DOWNLOAD FROM WEB SITES  
OR  
PURCHASE TENDERS FROM THIS OFFICE ALSO**

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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/BS11-CVL/1109	
<b>ii</b>	<b>Broad Scope of job</b>	CONSTRUCTION OF RCC FOUNDATIONS FOR STEAM TURBINE WITH TURBO BLOWER (EXCEPT BOTTOM RAFT) AND ITS AUXILIARIES, AIR INLET FILTERS, MISCELLANEOUS EQUIPMENT FOUNDATIONS, PIPE RACK , PLATFORMS, PAVING AND ASSOCIATED STRUCTURAL WORKS FOR TWO UNITS (UNIT 2&3) AT 3 X18 MW TURBO BLOWER STATION, SAIL-BHILAI, DIST: DURG, CHHATISGARH.	
<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 (GCC)</i>	<i>Applicable</i>
d	Volume-ID	<i>Forms and Procedures</i>	<i>Applicable</i>

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e	Volume-II	Price Schedule (Absolute value).	Applicable
iv	Issue of Tender Documents	<p><b>1. Sale from BHEL PS WR office at <u>NAGPUR</u> :</b>  <b>Start 05/02/2013 :</b>  <b>Closes: 11/02/2013, Time : 14.00 Hrs</b></p> <p><b>2. From BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>)</b>  Tender documents will be available for downloading from website till due date of submission</p>	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	<p><b>Date : 11/02/2013, Time : 15.00 Hrs</b>  <b>Place : <u>BHEL PS Regional office at :Nagpur</u></b>  Tenders being submitted through representative shall be handed over to any of the following BHEL officials after making entry/registration at the reception:  S M Borkar / DGM (Purchase)  Shivkesh Meena / Engineer Trainee (Purchase)</p>	Applicable
vi	OPENING OF TENDER	<p><b>Date : 11/02/2013, Time : 16:00 Hrs</b>  Notes:  (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.  (2) Bidder may depute representative to witness the opening of tender</p>	Applicable
vii	EMD AMOUNT	<b>Rs 2.00 Lakhs ( Rs Two Lakhs Only)</b>	Applicable
viii	COST OF TENDER	Rs 2000/-. (Rs Two Thousand only)	Applicable/Not Applicable
ix	LAST DATE FOR SEEKING CLARIFICATION	<p>Atleast <b>2</b> days before the due date of offer submission  Along with soft version also, addressing to undersigned &amp; to others as per contact address given below</p>	Applicable
x	SCHEDULE OF Pre Bid	Date :	Applicable/Not

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	<b>Discussion (PBD)</b>		<i>applicable.</i>
xi	<b>INTEGRITY PACT &amp; DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)</b>	----	<i>Applicable/Not Applicable</i>
xii	<b>Latest updates</b>	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> -->Tender Notifications →View Corrigendums) <b>and not in the newspapers</b> . Bidders to keep themselves updated with all such information	

- 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.**
- 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

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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> PART-I (TECHNO COMMERCIAL BID) TENDER NO : NAME OF WORK : PROJECT: 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.  <b>Note:</b> a. In case of any deviation, the same should be submitted separately for technical & 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. b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding. i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender	
iii.	Supporting documents/ annexure/ schedules/ drawing etc as required in line with Pre-Qualification criteria.  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.	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/ Errata etc pertinent to this NIT.	
v.	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi.	Duly filled-in annexures, formats etc as required under this Tender Specification/NIT	
vii.	Notice inviting Tender (NIT)	
viii.	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	
ix.	Volume – I B : Special Conditions of Contract (SCC)	
x.	Volume – I C : General Conditions of Contract (GCC)	
xi.	Volume – I D : Forms & Procedures	
xii.	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii.	Any other details preferred by bidder with proper indexing.	

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<b>PART-I B</b>	
	<p><b>ENVELOPE – II superscribed as:</b> PART-I (EMD/COST of TENDER) TENDER NO : NAME OF WORK : PROJECT: 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>OR</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>ENVELOPE-III</b> superscribed as: PART-II (PRICE BID) TENDER NO : NAME OF WORK : PROJECT: 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>ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE)</b> superscribed as: TECHNO-COMMERCIAL BID, PRICE BID &amp; EMD TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:</p> <p><b>CONTAINING THE FOLLOWING:</b></p>
i	<ul style="list-style-type: none"> <li>o Envelopes I</li> <li>o Envelopes II</li> <li>o Envelopes III</li> </ul>

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**SPECIAL NOTE** :All documents / annexure's 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:

(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.

- ii) Weightage "A" assigned to bidders based on Total number of Packages

'P':

- a) If 'P' = 0-9, : "A" will be equal to '4'
- b) If 'P' = 10-18, : "A" will be equal to '3'
- c) If 'P' = 19-36, : "A" will be equal to '2'
- d) If 'P' = 37-60, : "A" will be equal to '1'
- e) If 'P' is above 60 : "A" will be equal to '0'

- 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'

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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:  
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)  $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  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 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 ' $T_1$ ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package  $P_1$ . Similarly  $T_2$  for package  $P_2, T_3$  for package  $P_3$ , etc for the tendered scope. Now calculate cumulative total months ' $T_T$ ' for total similar Packages ' $P_T$ ' for all Regions (ie  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$ )
  - c) Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-N}$ ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' (ie  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-N}$ ). Similarly  $S_2$  for package  $P_2$  for period  $T_2$ ,  $S_3$  for package  $P_3$  for period  $T_3$ , etc for the tendered scope for all Regions. Now calculate cumulative sum ' $S_T$ ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions (ie ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$ ')
  - d) **Overall Performance Rating ' $R_{BHEL}$ ' 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**

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

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**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**

S l o	Item Description	Details for all Regions							Total
		(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	
1	Similar Packages for all Regions →	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> 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> S <sub>1-2,</sub> S <sub>1-3,</sub> S <sub>1-4,</sub> ... S <sub>1-T1</sub>	S <sub>2-1,</sub> S <sub>2-2,</sub> S <sub>2-3,</sub> S <sub>2-4,</sub> ... S <sub>2-T2</sub>	S <sub>3-1,</sub> S <sub>3-2,</sub> 2, S <sub>3-3,</sub> 3, ... S <sub>3-T3</sub>	S <sub>4-1,</sub> S <sub>4-2,</sub> 2, S <sub>4-3,</sub> 3, ... S <sub>4-T4</sub>	S <sub>5-1,</sub> S <sub>5-2,</sub> 2, S <sub>5-3,</sub> 3, ... S <sub>5-T5</sub>	.. ... ... ...	S <sub>N-1,</sub> S <sub>N-2,</sub> S <sub>N-3,</sub> S <sub>N-4,</sub> ... S <sub>N-TN</sub>	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	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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ii) Weightage “B” assigned to bidders based on Overall Performance Rating (R<sub>BHEL</sub>) at Power Sector Regions, for the respective Package:

- a) If R<sub>BHEL</sub> is ≥ 80%, “B” will be equal to ‘6’
- b) If R<sub>BHEL</sub> is ≥ 75% < 80%, “B” will be equal to ‘5’
- c) If R<sub>BHEL</sub> is ≥ 70% < 75%, “B” will be equal to ‘4’
- d) If R<sub>BHEL</sub> is ≥ 65% < 70%, “B” will be equal to ‘3’
- e) If R<sub>BHEL</sub> is ≥ 60% < 65%, “B” will be equal to ‘2’
- f) If R<sub>BHEL</sub> is < 60%, “B” will be equal to ‘0’

**III. ‘Assessment of Capacity of Bidder’ to be Qualified for the tender:**

Shall be based on the sum of the weightages obtained in ‘LOAD’ (A) and ‘PERFORMANCE’ (B) as below:

- a) If the sum (A+B) is 6 or above for each of the applicable Package, then the Bidder is considered ‘Qualified’ for the tender
- b) If the sum (A+B) is less than 6 for any of the applicable Package, then the Bidder is considered ‘NOT Qualified’ for the tender

**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 viii). Turbo Blower (including Steam Turbine) ix). Material Handling x). Material Management xi). Material Handling & Material Management xii). Others (Mechanical)
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c) Vendors who are first timers to any BHEL Region, may be considered subject to satisfying other tender conditions. Eligibility of the party for the next tender of any package in that Region, shall be subject to the bidder satisfying the 'Assessment of Capacity of Bidder' for a period of first **nine months** after commencement of work or contract duration whatever is lesser.

In case the first timer is executing any other packages in any BHEL Region, then the performance evaluation will be based on the data available for the other packages though not similar, for the 'Period of assessment', for the purpose of 'Assessment of Capacity of Bidder'

d) Vendors who are not first timers and who have not been executing any package or packages similar to the packages under the tender in the 'Period of assessment', shall be considered qualified subject to them satisfying all other tender conditions.

e) 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', 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.

f) 'Under execution' shall mean works in progress as per the following:

- i. upto Boiler Steam Blowing in case of Steam Generator and Auxilliaries
- ii. upto Synchronisation in case of all other works excepting sl no (i) and (iii)
- iii. upto execution of at least 75% of anticipated contract value (unit wise), in case of Enabling works or Civil & Structures.

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.

g) 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

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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.

- 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.
- 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.

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- 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.
- 23.2 'Stand alone' 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

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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.

- 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
  - g. Forms and Procedures —Volume-1D

for BHARAT HEAVY ELECTRICALS LTD

AGM/Purchase

**Enclosure**

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

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**ANNEXURE - 1**

**PRE QUALIFYING REQUIREMENTS**

<b>JOB</b>	CONSTRUCTION OF RCC FOUNDATIONS FOR STEAM TURBINE WITH TURBO BLOWER (EXCEPT BOTTOM RAFT) AND ITS AUXILIARIES, AIR INLET FILTERS, MISCELLANEOUS EQUIPMENT FOUNDATIONS, PIPE RACK , PLATFORMS, PAVING AND ASSOCIATED STRUCTURAL WORKS FOR TWO UNITS (UNIT 2&3) AT 3 X18 MW TURBO BLOWER STATION, SAIL-BHILAI, DIST: DURG, CHHATISGARH.
<b>TENDER NO</b>	<b>BHE/PW/PUR/BS11-CVL/1109</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. Bidder must fill up this column as per applicability</b>
A	Submission of Integrity Pact duly signed (if applicable)	<b>NOT APPLICABLE</b>	
B	<p><b><u>Technical</u></b> Bidder must have, achieved <b>B.1 AND B.2</b> in last seven (7) years as on latest date of bid submission:</p> <p><b><u>B.1)</u></b> B.1.1) <b>PRIME- BIDDER-</b> Bidder must have Executed at least <b>876 CuM</b> concreting quantities within a period of twelve consecutive months in one work order or cumulative of two concurrently running contracts.</p> <p align="center">AND</p> <p>B.1.2) Bidder must have successfully executed <b>Fabrication &amp; Erection of Structural Works</b> of <b>160 MT</b> or more within a period of twelve consecutive months in one work order or cumulative of two concurrently running contracts.</p>	APPLICABLE	

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	<p>In-case the Prime Bidder (who is submitting the offer) do not satisfy criteria of <b>B.1.2 for Structural Works</b>, can form consortium with an experienced agency meeting the qualifying requirement criteria B.1.2. In such case, the prime bidder shall also submit along with the technical bid proper documents related to experience of the consortium Partner (i.e. work order, work completion certificate &amp; profile of organization) to meet the QR. Prime bidder has to submit the copy of consortium agreement executed between the Prime Bidder and the consortium Partner in a non judicial stamp paper of value Rs 50/-, duly certified by Notary as per Format No- F-22 of Vol- BCD Rev-01 of tender.</p> <p style="text-align: center;">AND</p> <p><b><u>B.2)</u></b> Prime Bidder must have also achieved any one of the following:</p> <p>B.2.1) Executed One Civil work not less than value of <b>Rs 260 Lakhs.</b> OR B.2.2) Executed Two Civil works each of not less than value of <b>Rs 163 Lakhs.</b> OR B.2.3) Executed Three Civil works each of not less than value of <b>Rs 130 Lakhs</b></p> <p>***** *****</p> <p>i.e Bidder Must have achieved <b>(B1.1 and B1.2 and B.2 independently) OR (B1.1 and B.2, with consortium for B1.2)</b></p>		
C-1	<p><b><u>Financial Turnover</u></b></p> <p>Bidders must have achieved an average annual financial turnover (Audited) of <b>Rs 97.50 Lakhs</b> or more over last three Financial Years (FY) i.e. 2009-2010, 2010-2011, 2011-12 .</p>	APPLICABLE	
C-2	NETWORTH (only in case of Companies)	APPLICABLE	

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	Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive		
C-3	PROFIT 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.	APPLICABLE	
D	Assessment of Capacity of Bidder to execute the work as per sl no 9 of NIT (if applicable)	APPLICABLE	By BHEL
E	Approval of Customer	Not APPLICABLE	
F	Price Bid Opening Note: Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E	APPLICABLE	BY BHEL
F	Consortium criteria (if applicable)	NOT APPLICABLE	
<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:-NETWORTH : 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. 'Additional' Criteria in respect of 'Technical' criteria of PQR (as in 'B' above) for Civil, Electrical, CI, unless otherwise specified :             <ol style="list-style-type: none"> <li>1. Bidder should have executed similar work of any one of the following:                 <ol style="list-style-type: none"> <li>a. One (1) work of value not less than Rs XXX OR</li> <li>b. Two (2) works of not less than Rs YYY OR</li> <li>c. Three (3) works of not less than Rs ZZZ (Value XXX, YYY, ZZZ shall be as indicated by BHEL)</li> </ol> </li> <li>2. 'Similar' work for criteria 5 above means                 <ol style="list-style-type: none"> <li>a. Civil or Structures or Civil &amp; Structures or Chimney respectively as applicable to the tendered scope in respect of 'CIVIL' Works</li> <li>b. Electrical works in respect of 'ELECTRICAL'</li> <li>c. CI works in respect of 'CI' Works</li> <li>d. Material Handling and/or Management works in respect of 'MM' works</li> </ol> </li> </ol> </li> </ol>			

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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
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
8. ~~Unless otherwise specified, for the purpose of 'Technical' criteria of PQR (as in 'B' above), the word 'EXECUTED' means:~~
  1. ~~"BOILER LIGHT UP" in respect of Boiler & Aux and ESP~~
  2. ~~"SYNCHRONISATION" in respect of STG/GTG and 'SPINNING' in case of HTG~~
  3. ~~"STEAM BLOWING COMPLETION" in respect of at least Main Steam Line of Power Cycle Piping~~
  4. ~~"HYDRAULIC TEST" of the system in respect of Structures, Pressure parts/IBR Piping~~
  5. ~~"CHARGING" in respect of power Transformers, Bus ducts, HT/LT switchgears~~
  6. ~~"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.~~
  7. ~~Achievement of physical Quantities as per respective PQRs in respect of Civil & Structures and Piling Works~~
  8. ~~"Readiness for coal Filling" in respect of Bunker Structure Work.~~
9. ~~Boiler means HRSG or WHRB or any other types of Steam Generator~~
10. ~~Critical/Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass, LP Bypass lines~~
11. ~~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.~~
12. ~~In case the experience/POAWO 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.~~
13. ~~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.~~
14. ~~In case the tendered scope is not a Pulverised Fuel Boiler, experience of Oil/Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.~~
15. In case of consortium binding , the following shall be complied with
  - a. Prime bidder and Consortium Partner shall meet their respective technical Pre qualifying Criteria.
  - b. Prime bidder shall comply with all other Pre qualification Criteria for the Tender unless otherwise specified.
  - c. Prime Bidder shall be responsible for overall execution of the Contract.
  - d. Tie-up partner shall provide Technical Supervision and support to the Prime Bidder for execution of job.
  - e. Performance shall be evaluated for Prime Bidder and the Consortium Partner for their respective scope of work.

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	<ul style="list-style-type: none"><li><b>f.</b> The Consortium partner shall submit SD ( Security Deposit ) equivalent to 2% of the total contract value in addition to the SD submitted by the prime bidder for the total contract value.</li><li><b>g.</b> Prime bidder and the Consortium partner are required to enter into a consortium agreement with a validity period of Six months initially (During submission of tender). Thereafter both the agencies shall extend the validity of the agreement for the entire contract period, if the work is awarded.</li><li><b>h.</b> In case Tie-up partner backs out, another Tie-up partner meeting the QR shall be engaged by the Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of prime bidder.</li><li><b>i.</b> In case Prime Bidder withdraws, the whole contract shall be considered cancelled and short closed</li></ul>
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BIDDER SHALL SUBMIT ABOVE PRE-QUALIFICATION CRITERIA FORMAT, DULY FILLED-IN, SPECIFYING RESPECTIVE ANNEXURE NUMBER AGAINST EACH CRITERIA AND FURNISH RELEVANT DOCUMENT INCLUSIVE OF WORK ORDER AND WORK COMPLETION CERTIFICATE ETC IN THE RESPECTIVE ANNEXURES IN THEIR OFFER.

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**ANNEXURE - 2**

**CHECK LIST**

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

1	Name and Address of the Tenderer		
2	Details about type of the Firm/Company		
3.a	Details of Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
3.b	Details of alternate Contact person for this Tender	Name : Mr/Ms Designation: Telephone No: Mobile No: Email ID: Fax No:	
4	EMD DETAILS	DD No:                      Date : Bank :                      Amount: Please tick ( <input checked="" type="checkbox"/> ) whichever applicable:- ONE TIME EMD / ONLY FOR THIS TENDER	
5	Validity of Offer	TO BE VALID FOR SIX MONTHS FROM DUE DATE	
		APPLICABILITY (BY BHEL)	ENCLOSED BY BIDDER
6	Whether the format for compliance with <b>PRE QUALIFICATION CRITERIA</b> (ANNEXURE-I) is understood and filled with proper supporting documents referenced in the specified format	Applicable	YES / NO
7	Audited profit and Loss Account for the last three years	Applicable	YES/NO
8	Copy of PAN Card	Applicable	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc are read understood and signed	Applicable	YES/NO
10	Integrity Pact	Not Applicable	YES/NO
11	Declaration by Authorised Signatory	Applicable	YES/NO
12	No Deviation Certificate	Applicable	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable	YES/NO
14	Declaration for relation in BHEL	Applicable	YES/NO
15	Non Disclosure Certificate	Applicable	YES/NO

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16	Bank Account Details for E-Payment	Applicable	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Not Applicable	YES/NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement	Applicable	YES/NO
20	Analysis of Unit rates	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 :**  
(With Name, Designation and Company seal)

**AUTHORISED SIGNATORY**

1109

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



## TECHNICAL CONDITIONS OF CONTRACT (TCC) CONTENTS

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SI No	DESCRIPTION	Chapter	No. OF PAGES
<b>Volume-IA</b>	<b>Part-I: Contract specific details</b>		
1	Project Information	Chapter-I	2
2	Scope of Works and Technical Specifications	Chapter-II	10
3	Facilities in the scope of Contractor/BHEL (Scope Matrix)	Chapter-III	8
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	3
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	1
6	Time Schedule	Chapter-VI	1
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8	Taxes and other Duties	Chapter-VIII	2
9	Tender Drawings	Chapter-IX	2
9	Appendix	Chapter-X	1

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - I : Project Information

### INTRODUCTION

#### 01. GENERAL:-

Steel authority of India Limited (SAIL) is going to install 3 Nos Turbo Blower Station at Sail-Bhilai Steel Plant at Bhilai, District Durg, and State: Chhattisgarh, India. BHEL has been awarded EPC Main Civil Package comprising of Design, Engineering, Manufacture, Supply, Transportation, Comprehensive Insurance, Erection, Testing and Commissioning, and Conducting Performance Guarantee (PG) Test of all Units and handing over of the project within 27 months from zero date / 11/10/2010.

#### 02. SITE CONDITIONS AND INFRASTRUCTURE FACILITIES

##### 02.01 Site conditions

##### 02.01.01 Location:-

Bhilai steel plant (BSP), SAIL is located at Bhilai in Durg District of the state of Chhattisgarh in the central region of India. The site lies between 21.15<sup>0</sup> North latitude and 81.22<sup>0</sup> East longitude. The nearest convenient rail head is drug which is about 12km west of Bhilai. Bhilai/drug stations are on the Howrah – Mumbai rail line of SEC Railway of the Indian Railways

##### **The location of Bhilai is as follows:-**

- From New Delhi, the national capital - 1359 kms
- From Kolkata - 868 kms
- From Chennai - 1269 kms
- From Mumbai - 1100 kms
- 

The distance from state capital Raipur to Bhilai Steel plant is 30km. It is well connected by rail and road network. The nearest national highways are NH 6 & NH 43 Crossing through Raipur.

##### 02.01.02 Meteorological data

In the absence of meteorological data at Bhilai / drug, the data of the state capital Raipur, 30kms away, are considered. The meteorological details at Raipur are given below:-

##### Ambient Temperature

- Absolute maximum : 47.7<sup>0</sup> C
- Absolute minimum : 3.9<sup>0</sup> C
- Highest of mean monthly : 45.2<sup>0</sup> C

##### Ambient Air

- Ambient air quality : Industrial

##### Relative Humidity

- Maximum : 100%

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - I : Project Information

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- Minimum : 7%
- Climate : Tropical Humid

### **Rainfall**

- Heaviest rainfall in 24 hours : 370.3 mm
- Annual Average : 1288.8 mm

### **Wind**

- Predominant wind direction : SW to NE (Oct-Feb) and west to East (Mar-Sep)
- Mean wind speed : 6.8 kmph
- Maximum Wind speed : 45 kmph

### **Altitude**

- Average altitude of the land is 300 M above MSL

Temperature inside shop premises is generally taken as 5 above Ambient, unless otherwise specified.

### **Infrastructure Facilities Outside the Plant**

#### **Railway**

Bhilai Steel Plant is connected to Indian Railways network via Bhilai/Durg Station of SEC Railway on the Howrah-Mumbai line. The track gauges of SEC Railways as well as of the plant track are standard broad gauge i.e. 1676 mm

#### **Road**

The Plant is well connected to the country by Road. National Highways NH6 & NH43 both pass through Raipur.

#### **Sea Port**

The nearest sea port is Vishakhapattanam, approximately 550 km away from site by rail.

#### **Air Traffic**

The nearest air port connected to the national network is mana at Raipur, 30kms away.

### **Infrastructure Facilities Inside the plant**

#### **Railway**

The track gauge for the entire plant corresponds to the Indian Railway standard broad gauge i.e. 1676 mm

#### **Road**

Main road and side Road of the plant shall have roadways of 7.0 M And 4.0 M width respectively and temporary roads provided during the construction stage shall be designed to cater the needs of movement of heavy construction vehicles.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II : Scope of Works and Technical Specifications

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### 2.0 SCOPE OF WORK

#### 2.0.01 **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. However if extra earth required to make up to paved levels shall be arranged by the contractor from approved borrow areas / or stack from excavated earth, the same shall be paid under relevant item of BOQ..

#### 2.0.02

The work to be performed under the scope of this tender mainly consists of but not limited to complete Civil, structural and Architectural work including all materials, T&Ps, manpower and their maintenance for specified period of the following plant buildings, structural equipment foundations and other miscellaneous structures.

For indicative foundation/structure sizes and number of equipment refer GA Drawing (Chapter-IX). Please note that these are tentative and likely to change.

#### 1) Construction of foundations for the following Equipment.

- a) Steam Turbine with Turbo Blower (**except RCC bottom raft**) & its auxiliaries - **2 Units i.e. For unit # 2&3 only.**
- b) Air inlet filter for blowers and other miscellaneous skids – for 2 Units **i.e. For unit # 2&3 only.**
- c) Miscellaneous other equipment foundation as per Mechanical, Electrical & Instrumentation scope/layout – for 2 Units **i.e. For unit # 2&3 only.**

#### 2) Construction of foundation & super structure for the following

- a) Platforms for blower silencer- – for 2 Units **i.e. For unit # 2&3 only.**
- b) Pipe rack for all 3 units (entire pipe/cable rack)

#### 3) Construction of Misc. Structures & Services:-

- a) Structural platforms, monorail beams, walkways, crossovers, handrails etc. for miscellaneous equipment, piping etc. – **for 2 Units i.e. For unit # 2&3 only.**
- d) Final grading of site up to (micro grading) – **for 2 Units i.e. For unit # 2&3 only.**

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

The civil work for **Turbo-blower foundation for Unit no. 2&3** is already in progress and bottom RCC raft is already done by other agency. Now the balance works of Civil & Structures for Unit 2&3 are being withdrawn/ isolated from the scope of previous agency due to unavoidable reasons. Successful bidder has to undergo for joint measurements in

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter - II : Scope of Works and Technical Specifications

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presence of BHEL representatives at site before taking over the site for construction of successive works & freeze the cut-off point of old contract.

#### **2.0.03 THE WORK WILL INVOLVE.**

All civil, structural and architectural works connected with the above mentioned structures such as earth work, concrete work, steel work, embedment,

#### **2.0.04 CIVIL AND ARCHITECTURAL WORKS**

The scope covers all Civil and Architectural within the battery limits for Unit#2&3 turbo-blower.. The important works covered are as below.

- 1) Excavation of earth and backfilling including dewatering of excavations for foundations, trenches, tunnels pits, etc. till the construction of the same is completed and disposal of surplus.
- 2) Construction of Raft / Foundation with pedestals, foundation and footing for lightly loaded structures, grade beams, tie beams at foundation level, grade slabs, equipment foundations etc. (except bottom raft of Turbo-blower for unit 2&3)
- 3) Complete civil and architectural works such as brick work, plastering, painting, all types of floor/roof finishes, all types joinery etc.
- 4) 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.
- 5) Preparation of detailed working drawings and bar bending schedules for all reinforced concrete work and getting them approved by the BHEL Engineer.
- 6) Taking delivery from BHEL stores for the materials specifically mentioned as BHEL supply.
- 7) Fabrication supply and fixing of anchor bolts, sleeves, fixing frames, embedment etc. in concrete.
- 8) Supply of all instruments and personnel for conducting necessary tests at site as specified/as directed by the Engineer.
- 9) Making appropriate fabrication drawing as per agreed schedule before starting fabrication work for any structural GA drawing.
- 10) Taking delivery from BHEL stores for the materials specifically mentioned as BHEL supply & its fabrication & erection, Supply, fabrication and erection of structural steel work including all interfacing works and miscellaneous works, supply of steel will be made by Contractor other than BHEL supply. The nature of structural work shall include columns , beams, splicing of steel works as needed, bracings, sheeting runners , sag rods, ties struts, walkways, galleries, stairs, ladders, hand railing , floor gratings, chequered plate work, M.S pipes, equipment supporting platform, and all other structures required for the successful completion of the project.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II : Scope of Works and Technical Specifications

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### **2.0.05 GENERAL**

- 1) 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) 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.
- 3) 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.
- 4) All Construction and building related materials shall be purchased from the Customer / SAIL approved manufactures only. Contractor has to take prior approval from BHEL/SAIL before procurement of Cement, steel and all Construction and building related materials.

### **2.0.06 ALSO INCLUDED IN THE SCOPE**

Unless otherwise specified, the work to be provided by the contractor for the items mentioned in the "Schedule of items" shall include but not be limited to the following.

- 1) Furnishing all labour, materials, supervision, construction plans, equipment, supplies, transport, to and from the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
- 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.
- 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.
- 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.
- 5) Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter - II : Scope of Works and Technical Specifications

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- 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.
- 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.

#### **2.0.07 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.

#### **TECHNICAL SPECIFICATIONS & DRAWINGS FOR INFORMATION.**

##### ***SECTION DESCRIPTION***

- 1) **SECTION – A LIST OF TECHNICAL SPECIFICATIONS**
- 2) **SECTION – B LIST OF TENDER DRAWINGS (Refer Chapter IX)**

##### **NOTE:**

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

#### **SECTION-A: LIST OF TECHNICAL SPECIFICATIONS.**

Sl. No	Description	Specification number	Rev	Pages
1.	<b>General Scope</b>	PEDC/STD.SPEC/001	00	3
2.	EARTHWORK IN EXCAVATION & BACKFILLING	PEDC/STD.SPEC/003	0	19
3.	CEMENT CONCRETE-PLAIN& REINFORCED	PEDC/STD.SPEC/004	0	56
4.	FABRICATION & STRUCTURAL STEEL WORK	PEDC/STD.SPEC/005	0	25
5.	ERECTION OF STRUCTURAL STEEL WORK	PEDC/STD.SPEC/006	0	15
6.	MISCELLANEOUS STEEL WORK	PEDC/STD.SPEC/007	0	5
7.	PAINTING ON STRUCTURAL STEEL	PEDC/STD.SPEC/009	0	4
8.	INSERTS / EMBEDMENTS IN CONCRETE WORK	PEDC/STD.SPEC/0010	0	3

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter - II : Scope of Works and Technical Specifications

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9.	GROUTING	PEDC/STD.SPEC/0011	0	4
10.	DEMOLITION & DISMANTLING	PEDC/STD.SPEC/0026	0	5
11.	TYPE AND MAKE OF MATERIALS TO BE USED	PEDC/STD.SPEC/0027	0	2

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

1) Details of the items in this Schedule shall be read in conjunction with the Corresponding specifications, drawings and other BID documents and shall have precedence over any contrary statement mentioned anywhere in this document.

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.

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

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

5) The rate quoted shall be inclusive of cleaning the site of any vegetations, dressing and levelling etc., required for commencement of site activities. No separate payment will be made towards the same.

6) The rate shall also be inclusive of carrying out topography survey of site to establish levels and coordinates at suitable intervals, from 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.

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 before procurement of bought out items/ building materials including Cement.

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.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter - II : Scope of Works and Technical Specifications

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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.

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.

#### **2.0.09 HIERARCHY**

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

- 1) Statutory Regulations
- 2) Items in Schedule of quantities
- 3) IS/BS standards
- 4) BHEL's standard specification (with prior approval of Engineer-in-charge).

**2.0.010** 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 (excluding test pit/earth pit) for which 40mm dia. MS rod/GI flats shall be supplied by BHEL free of cost.

#### **2.0.2 Other Related Activities:**

- 1. Draw Construction Power from Customer's Given Point at One Location inside the Plant Including All Materials.**
- 2. Draw Construction Water from Customer's given Point at one location inside the plant including all materials.**

#### **2.0.3 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. For this, contractor shall either establish their own field quality lab or have tie-up with approved lab by BHEL in/outside of the plant. All quality checks and protocol shall be jointly signed by BHEL, SAIL and Contractor's representative.

#### **2.0.4 Procurement of Materials by Successful Contractors and Testing:**

Material required for the entire job like cement, steel, sand, aggregates, painting & finishing material, electrical fittings and wiring material and all other material required for the completion of entire scope, bolts & nuts, HSEFG/HT bolts have to be arranged by the contractor. BHEL reserves the right to reject any material not found satisfactory.

Contractor shall produce manufacturer's test certificate (*MTC*) for cement for every batch of manufacturing along with each consignment brought to the site. Cement shall be procured from fresh stock only. Apart from the above, it shall be the responsibility of contractor to get the

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - II : Scope of Works and Technical Specifications

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testing of cement, or any other materials procured from outside laboratory approved by **BHEL/SAIL** to ascertain the quality if insisted by **BHEL/BHEL's customer**.

Approved Manufacturers for Procurement of Reinforcement Steel & Structural Steel

- 1) SAIL,
- 2) RINL,
- 3) TISCO,
- 4) JINDAL

All Steel Shall Conform To Relevant BIS Standard. Preference shall be given to SAIL materials only & in case of non availability of required section/sizes, steel from other manufacturers shall be allowed with prior permission.

Ordinary Portland Cement (OPC) of grade 43/53 conforming to IS 269 – 1989 shall be used in all the concrete works. Approved manufacturers for procurement of cement.

- 1) ULTRATECH
- 2) ACC
- 3) BIRLA GOLD WITH A PRIOR APPROVAL

Rate 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/BHEL customer's representative. The variation in price of all the plant materials supplied by the contractor shall be subject to the relevant price variation clause (PVC).

### **2.0.5 Other Responsibilities in General**

#### **2.0.5.1**

Contractor shall be responsible for proper usage of their materials like cement, steel, and aggregates etc. As per standard requirement of is codes and control the wastage within limit. No compensation shall be made for any excess consumption under any circumstances.

#### **2.0.5.2**

Contractor shall be fully responsible for any delay in progress of work due to delay/short supply of material to be procured by them for this job.

#### **2.0.5.3**

Rusting of steel should be avoided to the maximum extent possible without hampering the continuity of construction/erection. In case rusting of steel occurs rendering the same unusable, the contractor shall remain responsible to make good the loss at his own cost.

#### **2.0.5.4**

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter - II : Scope of Works and Technical Specifications

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As-built drawing: contractor shall arrange to incorporate all changes, in AFC drawings, made as per the site requirement on completion of work and submit the same to BHEL for preparing final as-built drawing. This shall form part of work and rates quoted shall be inclusive of this.

#### **2.0.5.5**

The contractor in the event of engaging 10 or more workmen will obtain independent licence under the contract labor (regulation and abolition) act 1970 from the concerned authorities based on the certificate (form-v) issued by the principal employer/customer.

#### **2.0.5.6**

It is the responsibility of the contractor to arrange gate pass for all his employees, T&P etc. Necessary coordination with SAIL officials is the responsibility of the contractor. Contractor to follow all the procedures lay down by SAIL for making gate passes.

#### **2.0.5.7**

BHEL/SAIL may insist upon witnessing the regular payment to the labor. They may also like to verify the relevant records for compliance with statutory requirements. Contractor shall enable such facilities to BHEL /SAIL

#### **2.0.5.8**

Contractor shall also comply with the provisions of ESI act in vogue and submit evidence thereof to BHEL site in charge. Also all other employees benefits to be borne by the contractor as per the labor laws. Contractor shall produce necessary certificates towards their compliance with such statutes and payment of all statutory dues.

#### **2.0.5.9**

Contractor shall also comply with the requirements of local authorities/ project authorities calling for police verification of antecedents of the workmen, staff etc.

#### **2.0.5.10**

Where permitted, by BHEL/SAIL, to work beyond normal working hours, the contractor shall arrange necessary gate passes.

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

*As this being a withdrawn work from other agency, Bidders are requested to have **pre-bid visit/ inspection of site** to make them fully acquainted with the actual status of work, site situation & nature of job. No claim shall be entertained at later date on account of non-familiarization of site condition. Bidders may fix up their site visit in consultation with construction manager BHEL site office SAIL BHILAI. Name, address & contact point of site is as below:*

Shri Suresh Agrawal  
Construction Manager  
BHEL Site Office – SAIL, BHILAI,  
CHHATISGARH.  
Mob: 09424209102

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

---

SI.No	Description	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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 PURPOSES OF THE BIDDER</b>		Yes	Contractor has to make his own arrangements for space, shelter and transportation of labors as per their requirement
A	Open space for labour colony (as per availability)		Yes	
B	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	
3.2.0	<b>ELECTRICITY</b>			
3.2.1	<b>Electricity for construction purposes 3 Phase 415/440 V (To be specified whether chargeable or free)</b>			

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

SI.No	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
A	Single point source	Yes		Construction power will be provided free of cost at one point at a distance of approx. 300 M. Further distribution shall be in bidder's scope.
B	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
C	Duties and deposits including statutory clearances if applicable			
3.2.2	<b><i>Electricity for the office, stores, canteen etc of the bidder.</i></b>			
A	Single point source	Yes		Power will be provided free of cost at one point at an available distance. Further distribution shall be in bidder's scope.
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><i>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc</i></b>		Yes	Contractor has to make his own arrangement.
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 <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.3.0	<b>WATER SUPPLY</b>			
3.3.1	<i>For construction purposes: (to be specified whether chargeable or free)</i>			
A	Making the water available at single point	Yes		Construction water will be provided free of cost at one point at a distance of approx. 300M.  Further distribution shall be in bidder's scope.
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>			
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	
3.3.3	<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**

SI.No	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
A	For construction work (supply of all the necessary materials) 1. At office/storage area 2. At the preassembly area 3. At the construction site /area		Yes	
B	For construction work (execution of the lighting work/ arrangements) 1. At office/storage area 2. At the preassembly area 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>		<b>YES</b>	
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	

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

SI.No	Description <b>PART II</b> <b>3.9.0 ERECTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
3.9.1	Engineering works for construction:			NOT APPLICABLE
A	Providing the erection/constructions drawings for all the equipments covered under this scope	Yes		<b>For Details PI 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- example – routing of small bore pipes		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	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 SI No. e		Yes	In consultation with BHEL
H	Daily erection / work plan based on SI No. g		Yes	In consultation with BHEL

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

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SI.No	Description <b>PART II</b> <b>3.9.0 ERECTION FACILITIES</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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	
J	Preparation of preassembly bay			NOT APPLICABLE
K	Laying of racks for gantry crane if provided by BHEL or brought by the contractor/bidder himself			NOT APPLICABLE
L	Arranging the materials required for preassembly			NOT APPLICABLE

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps and MMEs to be deployed by Contractor**

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**A: TOOL & PLANTS**

SN	DESCRIPTION	
1	<b>(a) T &amp;Ps FOR STRUCTURAL WORKS</b>	
	<b>SL</b>	<b>Qty</b>
	<b>Major T&amp;P items</b>	
	1. 18 T Crawler crane	As per requirement
	2. Hydra (8 / 10 T Cap.)	01No.
	3. Radial drill machine	04Nos.
	4. Pillar drill m/c	03Nos.
	5. Drill M/C NW 10	12Nos.
	6. MIG welding machine	5Nos.
	7. Welding Rectifier	5Nos.
	8. Welding m/c	6Nos.
	9. Grinding machine	10Nos.
	10. Portable diesel welding M/C	01Nos.
	11. Pug cutting m/c	02Nos.
	12. Hand cutting set	10Nos
	13. Hydraulic jack of different capacity	10Nos.
	14. Stationery oven	02Nos.
	15. Portable oven	04Nos.
	16. Chain pulley of different capacity	5Nos.
	17. Max puller	6Nos.
	18. DG set of 160KVA for backup supply during power failure	01No.
	19. Hand winch 5T CAP.	As per requirement
	20. Screw jack	As per requirement
	21. 15T/20T tractor & trailor	02Nos.
	22. Ultrasonography testing M/c for str. Steel	As per requirement
	23. Radiography sources	As per requirement
	24. Fabrication Bed	As per requirement
	<b>(b) T &amp; Ps FOR CIVIL WORKS</b>	
	01 Mini batching plant 5Cum. Capacity – 1 no. for Concrete works	01No. (in case RMC is not arranged)
	02 Concrete Pump (30 Cum/Hr min capacity & lift 70M)	01No.
	03 Self priming Dewatering pump 5 HP (Diesel/Electric)	02Nos.
	04 Submersible Dewatering pump 5 HP	01No..

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps and MMEs to be deployed by Contractor**

SN	DESCRIPTION	
05	Self priming Dewatering pump 10 HP	01No..
06	Self priming Dewatering pump 2 HP	01No.
07	Sludge Pump – Submersible	01No..
08	Curing / dewatering pump – 1.5 / 2 HP	01No.
09	Hydraulic Excavator /Poclain with rock breaker attachment (mule/rock breaker as per requirements)	As per requirement
10	Ply Shuttering board with adequate supporting structure (Old steel shuttering plates will not be allowed).	As per requirement.
11	Dumper /Tippers	03Nos.
12	Reinforcement bending machine	01No.
13	Reinforcement cutting machine	01No.
14	MS scaffolding pipe with matching nos. of couplers	19200 RM
15	Power driven earth rammer	02Nos.
16	Total Station (Survey Instruments)	01No.
17	Auto level & staff	01No.
18	JCB	As per requirment
19	02 Nos. Trailors/ tractor	01No.
20	Conventional mixer machine	01 No.
21	Water tanker	01No.
22	Poles, cables, halogen, bulbs etc. for area illumination	As per requirement
23	Computer (Window Xp), with printer & CD writers	01 set
24	Communication facilities, Land line, WLL, Mobile, Fax. Etc	As per requirement

**(c) CIVIL WORKS - FIELD QUALITY LAB EQUIPMENTS –**

- (a) Automatic compression testing machine (2000KN) – 1 no.
- (b) Cube moulds (150mm size) – 24 nos
- (c) Slump cone with tamping rod – 02no
- (d) Sieves of different sizes for fine & coarse aggregate testing – 2 sets
- (e) Core cutter test apparatus – 06sets
- (f) Oven (capacity 120ltr, range – 250c) – 1no
- (g) Moisture container(steel/aluminum) – 10nos

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – IV: T&Ps and MMEs to be deployed by Contractor**

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SN	DESCRIPTION
	(h) Rapid moisture meter – 4nos (i) Vicat apparatus with plungers for cement testing – 2set (j) Cube moulds (70mm size) – 10nos (k) Physical balance – 02no. (l) Jars – 4 nos.

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

AS PER REQUIREMENT TO BE FINALIZED AT SITE.

**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.

TECHNICAL CONDITIONS OF CONTRACT (TCC)  
Chapter – V: T&Ps and MMEs to be deployed by BHEL

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

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: Time Schedule

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### TIME SCHEDULE & MOBILIZATION

#### 6.1.1 INITIAL MOBILIZATION AND TENTATIVE SCHEDULE

Contractor shall reach site, make his site establishment and be ready to commence the work **within two weeks from the date of fax Letter of Intent** or as per directions of Construction Manager/ Project Manager of BHEL.

The total contract period for completion of entire work shall be **06 (Six months)** from the date of start of work at site as jointly agreed by BHEL & Contractor.

**Note:**

Agency should note that the construction works for TURBO BLOWER FOUNDATIONS above bottom raft along with its auxiliaries shall have to go parallel to match with the commissioning schedule of the plant. For this it will be necessary to deploy “Dedicated Resources” like Manpower, Machineries and Materials Area wise to execute the works simultaneously.

**TB-2 & 3 Deck slab including columns and condenser pedestals to be completed by 30<sup>th</sup> April 2013. Agency has to arrange separate set of formwork & staging materials for Deck slab of Unit # 2&3.**

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.

#### 6.1.2

In order to meet above schedule and other intermediate targets/activities as set by **BHEL engineer in charge** at site, to meet customer requirements/project schedule, contractor shall arrange all necessary resources and work force in consultation with BHEL engineer at site to undertake works concurrently in all possible fronts as made available to contractor.

**The date of start of first activity as mutually agreed by BHEL site & Contractor shall be reckoned as the start of contract period for this purpose.**

The contractor shall complete all the work in the scope of this contract within the contract period.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VII: TERMS OF PAYMENT

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### **7.00 TERMS OF PAYMENT**

7.0.1 Progressive Payment (RA BILLS) for Civil, Structural And Architectural Work.

The percentage of payment for progressive completion of work in various categories of work shall be as under:

#### **7.0.2 CIVIL AND ARCHITECTURAL WORK**

95% OF ITEM RATE ON PRO-RATA BASIS AGAINST MONTHLY RA BILLS AS PER CL.NO. 10.0 OF SCC. BALANCE 5% RETENTION SHALL BE RELEASE AS PER GCC CLAUSE NO. 2.22

#### **7.0.3 STRUCTURAL WORK**

95% OF ITEM RATE ON PRO-RATA BASIS AGAINST MONTHLY RA BILLS AS PER CL.NO. 10.0 OF SCC. BALANCE 5% RETENTION SHALL BE RELEASE AS PER GCC CLAUSE NO. 2.22

As per schedule of rate for item no. 2301 (a) for Supply, fabrication and one coat of primer paint can be further break up as follows

- (A) ON SUPPLY AND VERIFICATION AT SITE – 65% OF ITEM RATE
- (B) COMPLETION OF FABRICATION : 25% OF ITEM RATE
- (C) COMPLETION OF SURFACE PREPARATION AND ONE COAT OF PRIMER : 10% OF ITEM RATE

As per schedule of rate for item no. 2301 (b) for erection, alignment & welding can be further break up as follows

- (D) ERECTION: 75% OF ITEM RATE
- (E) WELDING, ALIGNMENT AND GROUTING : 20% OF ITEM RATE
- (F) ON COMPLETION OF 2<sup>ND</sup> COAT OF PRIMER: 5% OF ITEM RATE

#### **7.0.4 EXTRA/ADDITIONAL ITEMS OF WORK:-**

**As Per GCC.**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

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### **8.0 TAXES, DUTIES, LEVIES (Consolidated Rev 02 dated 20/09/2012)**

#### **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 12.36 %) 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.

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

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Other Duties

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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 )~~

~~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

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

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter-VIII: Taxes and Other Duties

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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 BUILDING & OTHER CONSTRUCTION WORKERS (REGULATION OF EMPLOYMENT AND CONDITIONS OF SERVICE) ACT, 1996 (BOCW Act) AND RULES OF 1998 READ WITH BUILDING & OTHER CONSTRUCTION WORKERS CESS Act, 1996 & CESS RULES, 1998.**

In case any portion of work involves execution through building or construction workers, then compliance to the above titled Acts shall be ensured by the contractor and contractor shall obtain license and deposit the cess under the Act. In the circumstances it may be ensured as under:-

- i. It shall be the sole responsibility of the contractor in the capacity of employer to forthwith (within a period of 15 days from the award of work) apply for a licence to the Competent Authority under the BOCW Act and obtain proper certificate thereof by specifying the scope of its work. It shall also be responsibility of the contractor to furnish a copy of such certificate of licence / permission to BHEL within a period of one month from the date of award of contract.
- ii. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under these act and rules including that of payment / deposit of 1% cess on the extant of work involving building or construction workers engaged by the contractor within a period of one month from the receipt of payment.
- iii. It shall be the responsibility of the sub-contractor to furnish the receipts / challans towards deposit of the cess together with the number, name and other details of beneficiaries (building workers) engaged by the sub-contractor during the preceding month.
- iv. It shall be the absolute responsibility of the sub-contractor to make payment of all statutory payments & compensations to its workers including that is provided under the Workmen's Compensation Act, 1923.

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

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FOLLOWING DRAWINGS ARE ENCLOSED WITH THE TENDER.

➤ **Drawings Given by Customer / PED.**

<b>SL. NO.</b>	<b>TITLE</b>	<b>DRAWING NO.</b>	<b>REV</b>
1.	Plot plan for Turbo Blower	0-381-01-01188	06
2.	Turbo Blower Foundation general arrangement-plans	1-38142-12139	02
3.	Turbo Blower Foundation general arrangement-Sections	1-38142-12140	02
4.	General Notes on RCC works	1-38142-12142	00
5.	Turbo Blower Foundations RCC details of Raft and Columns	1-38142-12143	01
6.	Turbo Blower Foundations Plans and RCC details of Top Deck and Platform Details	1-38142-12144	01 (Sheet 1 of 2)
7.	Turbo Blower Foundations Plans and RCC details of Top Deck and Platform Details	1-38142-12144	01( sheet 2 of 2)
8.	Turbo Blower Building Equipment at elevation 0.00 M	1-381-01-04253	06 (Sheet 1 of 3)
9.	Turbo Blower Building Equipment at elevation 4.50 M	1-381-01-04253	06 (Sheet 2 of 3)
10.	Turbo Blower Building Equipment at elevation 9.00 M	1-381-01-04253	06 (Sheet 3 of 3)
11.	RC details of Condensate Extraction Pump	1-38142-12145	00

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

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### **Appendix A:** **Tentative Manpower Requirement**

1. Project manager – with adequate experience in Industrial Foundation, Building & Structural Works, Power Plant Civil & Structural Works.
2. Experienced Civil Engineers – 1 heads
3. Experienced Foreman / Supervisors - 4 heads
4. Planning & Billing Engineer – 01 head
5. Stores, Gate Pass – 01 heads
6. Accounts & Administration- 01no
7. Quality Control Engineer – 1 head
8. Safety Engineer – 1no
9. Surveyor – 01 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