

**BHEL PSWR  
Notice Inviting Tender**

**E-Tender Spec No: BHE/PW/PUR/RGMT-BAL CVL SG U1/2485**

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**TENDER SPECIFICATIONS**

S. No.	E- TENDER SPECIFICATION NUMBER
01	<b>BHE/PW/PUR/RGMT-BAL CVL SG U1/2485</b>

For  
**Balance Civil and Architectural works of SG Package of U#1 at  
2X800MW NTPC Telangana STPP, Ramagundam**

**VOLUME – I  
TECHNICAL BID  
THIS TENDER SPECIFICATION CONSISTS OF:**

<b>Notice Inviting Tender</b>	
<b>Volume-IA</b>	<b>Technical Conditions of Contract</b>
<b>Volume-IB</b>	<b>Special conditions of Contract</b>
<b>Volume-IC</b>	<b>General conditions of Contract</b>
<b>Volume-ID</b>	<b>Forms &amp; Procedures</b>
<b>Volume-IE</b>	<b>Technical Specifications</b>
<b>Volume II</b>	<b>Price Bid</b>



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

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<b>Volume No</b>	<b>Description</b>	<b>Hosted in website bhel.com (Briefly) and detailed in BHEL e-Procurement Portal as files titled</b>
NIL	Tender Specification Issue Details	Part of Vol-I-2485
NIL	Notice Inviting Tender	Part of Vol-I-2485
I-A	Technical Conditions of Contract	Vol-IA-2485
I-B	Special Conditions of Contract	Part of Vol-I-BCD-2485
I-C	General Conditions of Contract	Part of Vol-I-BCD-2485
I-D	Forms & Procedures	Part of Vol-I-BCD-2485
I-E	Technical Specifications	Enclosed
II	Price Bid Specification as specified at E-Procurement Portal	VolIIPriceBid2485

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01	<b>BHE/PW/PUR/RGMT-BAL CVL SG U1/2485</b>

**For**

**Balance Civil and Architectural works of SG Package of U#1 at  
2X800MW NTPC Telangana STPP, Ramagundam**

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

**GM (Purchase)**

Place: Nagpur

Date:

2485

# NOTICE INVITING TENDER

Bharat Heavy Electricals Limited





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dt: 06/10/2021

**NOTICE INVITING E-TENDER (NIT)**

**NOTE: BIDDER MAY DOWNLOAD/ UPLOAD THE TENDER/ OFFER FROM/ON BHEL E-PROCUREMENT PORTAL → <https://eprocurebhel.co.in>**

To,

Dear Sir/Madam,

**Sub : NOTICE INVITING E-TENDER**

Sealed offers in two part bid system (National competitive bidding (NCB) or International Competitive Bidding (ICB) are invited from reputed & experienced bidders (meeting [PRE QUALIFICATION CRITERIA](#) as mentioned in Annexure-1) 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**

S No.	ISSUE	DESCRIPTION	
i	E-TENDER NUMBER	BHE/PW/PUR/RGMT-BAL CVL SG U1/2485	
ii	Broad Scope of job	Balance Civil and Architectural works of SG Package of U#1 at 2X800MW NTPC Telangana STPP, Ramagundam	
iii	DETAILS OF TENDER DOCUMENT		
A	Volume-IA	Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	Applicable
B	Volume-IB	Special Conditions of Contract (SCC)	Applicable
C	Volume-IC	General Conditions of Contract (GCC)	Applicable
D	Volume-ID	Forms and Procedures	Applicable
E	Volume-IE	Technical Specifications	Applicable
F	Volume-II	Price Bid as specified in E-Procurement Portal	Applicable
iv	Issue of Tender Documents	<b>Tender documents will be available for downloading from BHEL website (<a href="http://www.bhel.com">www.bhel.com</a>) or e-procurement portal (<a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a>) as per schedule below:</b> <b>Start : 06/10/2021 , Time : 11:00</b> <b>Closes: 13/10/2021 , Time : 11:00</b> Brief information of the tenders shall also be available at central public procurement portal. ( <a href="https://eprocure.gov.in/epublish/app">https://eprocure.gov.in/epublish/app</a> )	Applicable
v	DUE DATE & TIME OF OFFER SUBMISSION	<b>Date: 13/10/2021, Time: 11.00 Hrs</b> • Place: on E-Tender Portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a>	Applicable
vi	OPENING OF TENDER (Techno-Commercial Bid)	<b>Date: 13/10/2021, Time: 17.00 Hrs</b> Notes:	Applicable

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S No.	ISSUE	DESCRIPTION	
		(1) In case the due date of opening of tender becomes a non-working day, then the due date & 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. For e-Tender, Bidder may witness the opening of tender through e-Procurement portal only.	
vii	EMD AMOUNT	<b>EMD amount is waived off. All the relevant clauses shall be read accordingly.</b>  <b>BID SECURITY FORMAT:</b> In view of waiver-off of EMD amount as cited above, Bidders are requested to submit the "Bid Security Declaration Format" as per Annexure-A of this NIT.	<i>EMD Not Applicable</i>
viii	COST OF TENDER	<i>Free</i>	
ix	LAST DATE FOR SEEKING CLARIFICATION	One day before due date of offer submission. Along with soft version also, addressing to undersigned & to others as per contact address given below: 1) Name: P R Chiwarkar Designation: GM Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Landline: +91-712-2858-633 Email :prchiwarkar@bhel.in Fax:+91-712-2858600 2) Name: Kamlesh Kumar Designation: Sr. Manager Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Land Line: +91-712-2858645 Email : <a href="mailto:kamleshbhel@bhel.in">kamleshbhel@bhel.in</a> 3) Name: Shubhangi Tembhumne Designation: Dy Manager Deptt: Purchase Address: Floor no. 5 & 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Phone: Land Line: +91-712-2858742 Email :shubh@bhel.in	<i>Applicable</i>
x	SCHEDULE OF Pre Bid Discussion (PBD)	-	Not Applicable
xi	INTEGRITY PACT & DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)	Sh Virendra Bahadur Singh, IPS (Retd.) and Sh. Arun Chandra Verma, IPS (Retd.)	Applicable

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S No.	ISSUE	DESCRIPTION
xii	Latest updates	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 Corrigendum), Central Public Procurement portal ( <a href="https://eprocure.gov.in/epublish/app">https://eprocure.gov.in/epublish/app</a> ) & on e-tender portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a> and not in the newspapers. 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 digitally using Class III DSC & uploaded in E-Procurement Portal, 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 Not Used
- 4.0 Unless specifically stated otherwise, bidder shall deposit EMD as per clause 1.9 of General Conditions of Contract.

For Electronic Fund Transfer the details are as below:-

NAME OF THE BENEFICIARY	BHARAT HEAVY ELECTRICALS LTD
ADDRESS OF THE COMPANY	5 <sup>th</sup> Floor, SHREE MOHINI COMPLEX 345, KINGSWAY, NAGPUR
NAME OF BANK	STATE BANK OF INDIA
NAME OF BANK BRANCH AND BRANCH CODE	SBI, NAGPUR MAIN BRANCH , CODE-00432
CITY	NAGPUR
ACCOUNT NUMBER	40227423158
ACCOUNT TYPE	MC-C C Clean (C&I)
IFSC CODE OF THE BENEFICIARY BANK BRANCH	SBIN0000432
MICR CODE OF THE BANK BRANCH	440002002

(Note -: In case of E-Tenders, proof of remittance of EMD should be uploaded in the E-Procurement Portal and originals, as applicable, shall be sent to the officer inviting tender within a reasonable time, failing which the offer is liable to be rejected.

**5.0 Procedure for Submission of Tenders:**

This is an E-tender floated online through our E-Procurement Site (<https://eprocurebhel.co.in>). The bidder should respond by submitting their offer online only in our e-Procurement platform at (<https://eprocurebhel.co.in>). Offers are invited in two-parts only.

**Documents Comprising the e-Tender**

The tender shall be submitted online ONLY EXCEPT EMD (in physical form) as mentioned below:

**a. Technical Tender (UN priced Tender)**

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All Technical details (e.g. Eligibility Criteria requested (as mentioned below)) should be attached in e-tendering module, failing which the tender stands invalid & may be REJECTED. Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- ~~i. Earnest Money Deposit (EMD) furnished in accordance with NIT Clause 4.0. Alternatively, documentary evidence for claiming exemption as per clause 29 of NIT.~~
- ii. Technical Bid (without indicating any prices).

**b. Price Bid:**

- i. Prices are to be quoted in the attached Price Bid format online on e-tender portal.
- ii. The price should be quoted for the accounting unit indicated in the e-tender document.
- iii. Note: It is the responsibility of tenderer to go through the Tender document to ensure furnishing all required documents in addition to above, if any. Any deviation would result in REJECTION of tender and would not be considered at a later stage at any cost by BHEL.
- iv. A person signing (manually or digitally) the tender form or any documents forming part of the contract on behalf of another shall be deemed to warrantee that he has authority to bind such other persons and if, on enquiry, it appears that the persons so signing had no authority to do so, the purchaser may, without prejudice to other civil and criminal remedies, cancel the contract and hold the signatory liable for all cost and damages.
- v. A tender, which does not fulfil any of the above requirements and/or gives evasive information/reply against any such requirement, shall be liable to be ignored and rejected.

**DO NOT'S**

Bidders are requested NOT to submit the hard copy of the Bid. In case offer is sent through hard copy/fax/telex/cable/electronically in place of e-tender, the same shall not be considered. **Also, uploading of the price bid in prequalification bid or technical bid may RESULT IN REJECTION of the tender.**

**Digital Signing of e-Tender**

Tenders shall be uploaded with all relevant PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION digital signature certificate (DSC).

**The Requirement:**

- 1. A PC with Internet connectivity &
- 2. DSC (Digital Signature Certificate) (**Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION**)

BHEL has finalized the e-procurement service Provider:-

**NIC PORTAL (<https://eprocurebhel.co.in>)**

**For E-PROCUREMENT ASSISTANCE & TRAINING, NIC PORTAL HELPDESK CONTACTS AS PER FOLLOWING:**

**For any technical related queries, please call at 24 x 7 Help Desk Number**

**0120-4001 002**

**0120-4200 462**

**0120-4001 005**

**0120-6277 787**

**1. Peter Raj, NIC, Ph: 9942069052**

**Email Support: [support-eproc@nic.in](mailto:support-eproc@nic.in)**

**Other details/update yourself from : <https://eprocurebhel.co.in>**

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The process of utilizing e-procurement necessitates usage of **DSC (Digital Signature Certificate) (Class 3- SHA2- 2048 BIT- SIGNING & ENCRYPTION)** and you are requested to procure the same immediately, if not presently available with you. Please note that only with DSC, you will be able to login the e-procurement secured site and take part in the tendering process.

The contact details of the DSC certifying authority:-  
please refer <http://www.mca.gov.in/> → MCA SERVICES → DSC SERVICES

Vendors are requested to go through seller manual available on <https://eprocurebhel.co.in>.

**Procedure for Submission of Tenders (To be used in case of Paper bid only):** 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)' in two separate sealed and superscribed envelopes (ENVELOPE-I & ENVELOPE-II)
- PART-II (Price Bid) in sealed and superscribed envelope (ENVELOPE-III)
- One set of tender documents shall be retained by the bidder for their reference

6.0 The contents for ENVELOPES and the superscription for each sealed cover/Envelope are as given below. **(All pages to be signed and stamped) (To be used in case of Paper bid only):**

Sl. no.	Description	Remarks
	<b>Part-IA</b>	
	<b><u>ENVELOPE – I superscribed as:</u></b> PART-I (TECHNO COMMERCIAL BID) TENDER NO: NAME OF WORK: PROJECT: DUE DATE OF SUBMISSION:  <b><u>CONTAINING THE FOLLOWING:-</u></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><u>Note:</u></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 : Technical 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)	

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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.	

	<b>PART-I B</b>	
	<b><del>ENVELOPE – II superscribed as:-</del></b> <del>PART-I (EMD)</del> <del>TENDER NO:-</del> <del>NAME OF WORK:-</del> <del>PROJECT:-</del> <del>DUE DATE OF SUBMISSION:-</del>  <b><del>CONTAINING THE FOLLOWING:-</del></b>	
	Earnest Money Deposit (EMD) in the form as indicated in this Tender	

	<b>PART-II</b>	
	<b>PRICE BID</b> consisting of the following shall be enclosed	
	<b><u>ENVELOPE-III</u></b> superscribed as: PART-II (PRICE BID) TENDER NO:- NAME OF WORK:- PROJECT:- DUE DATE OF SUBMISSION:-  <b>CONTAINING THE FOLLOWING</b>	
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>	
	<b><u>ENVELOPE-IV</u></b> (MAIN ENVELOPE / OUTER ENVELOPE) superscribed as: TECHNO-COMMERCIAL BID, PRICE BID & EMD TENDER NO:- NAME OF WORK:- PROJECT:- DUE DATE OF SUBMISSION:- <b>CONTAINING THE FOLLOWING:-</b>	
i	<input type="radio"/> Envelopes I <input type="radio"/> Envelopes II <input type="radio"/> Envelopes III	

- SPECIAL NOTE: All documents/ annexures to be submitted should be uploaded in respective places in the E-Tender portal as per the list mentioned given in this NIT. BHEL shall not be responsible for any in-complete 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



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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:**

**Bidder's capacity for executing the job under tender shall be assessed 'LOAD' wise and 'PERFORMANCE' wise as per the following:**

- **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 cut off month for reckoning 'Load' shall be the 3<sup>rd</sup> Month preceding the month corresponding to the 'latest date of bid submission', in the following manner -

**(Note:** For example, if latest bid submission is in Jan 2017, then the 'load' shall be calculated up to and inclusive of Oct 2016)

Total number of Packages in hand = Load (P)

Where 'P' is the sum of all unit wise identified packages (refer table-1) under execution with BHEL Regions as on the cut off month defined above, including packages yet to be commenced, excepting packages which are on Long Hold.

- **PERFORMANCE:** Here 'Monthly Performance' of the bidder for all the packages (under execution/ executed during the 'Period of Assessment' in all 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 and including the cut off month. The cut off month for reckoning 'Period of Assessment' shall be the 3<sup>rd</sup> Month preceding the month corresponding to 'latest date of bid submission', in the following manner:

**(Note:** For example, if 'latest date of bid submission' is in Jan 2017, then the 'performance' shall be assessed for a 6 months' period up to and inclusive of Oct 2016 (i.e. from May 2016 to Oct 2016), for all the unit wise identified packages (refer Table I))

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

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

- a)  $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  etc. be the packages (under execution/ executed during the 'Period of Assessment' in all Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions =  $P_T$  (i.e.  $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$ )
- 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 (i.e.  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$ )
- c) Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-T_1}$ ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' (i.e.  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-T_1}$ ). 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

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Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions (i.e. ' $S_T$ ' =  $S_1 + S_2 + S_3 + S_4 + S_5 + \dots S_N$ .)

- 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 packages for which performance should have been evaluated in all the Regions**

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

- e) Bidders to note that the risk of non-evaluation or non-availability of the 'Monthly Performance Evaluation' reports as per relevant formats is to be borne by the Bidder.

- f) Table showing methodology for calculating 'a', 'b' and 'c' above

Sl. No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	$P_1$	$P_2$	$P_3$	$P_4$	$P_5$	...	$P_N$	Total No. of similar packages for all Regions = $P_T$ i.e. Sum ( $\Sigma$ ) 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 Packages ( as in row 1)	$T_1$	$T_2$	$T_3$	$T_4$	$T_5$	...	$T_N$	Sum ( $\Sigma$ ) of columns (iii) to (ix)  = $T_T$
3	Monthly performance scores for the corresponding period (as in Row 2)	$S_{1-1},$ $S_{1-2},$ $S_{1-3},$ $S_{1-4},$ ... $S_{1-T1}$	$S_{2-1},$ $S_{2-2},$ $S_{2-3},$ $S_{2-4},$ ... $S_{2-T2}$	$S_{3-1},$ $S_{3-2},$ $S_{3-3},$ $S_{3-4},$ ... $S_{3-T3}$	$S_{4-1},$ $S_{4-2},$ $S_{4-3},$ $S_{4-4},$ ... $S_{4-T4}$	$S_{5-1},$ $S_{5-2},$ $S_{5-3},$ $S_{5-4},$ ... $S_{5-T5}$	.. .. .. .. .. ..	$S_{N-1},$ $S_{N-2},$ $S_{N-3},$ $S_{N-4},$ .. $S_{N-TN}$	-----



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Sl. No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
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 ( $\Sigma$ ) of columns (iii) to (ix) = S <sub>T</sub>

- ii). Calculation of Overall 'Performance Rating' ( $R_{BHEL}$ ) in case at least 6 evaluation scores for 'similar Package/Packages' for the tendered scope ARE NOT AVAILABLE, during the 'Period of Assessment':

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

- 'Period of Assessment' i.e. 6 months preceding and including the cut-off month
- 12 months preceding and including the cut-off month
- 24 months preceding and including the cut-off month

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

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

Sl. no.	Overall Performance Rating ( $R_{BHEL}$ )	Corresponding value of 'L'
1	=60	NA
2	> 60 and $\leq$ 65	0.4
3	> 65 and $\leq$ 70	0.35
4	> 70 and $\leq$ 75	0.25
5	> 75 and < 80	0.2
6	$\geq$ 80	NA

• **'Assessment of Capacity of Bidder':**

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

Max number of packages  $P_{Max} = (R_{BHEL} - 60)$  divided by corresponding value of 'L', i.e.  $(R_{BHEL} - 60)/L$

Note:

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

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

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• **Explanatory note:**

i). Similar package means Boiler or ESP or Piping or Turbine or Civil or Structure or Electrical or C&I 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, C&I, 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 (i.e. Boiler, ESP and Power Cycle Piping) and finally the Bidder's capacity to execute the tendered scope is assessed in line with III above.

ii). Identified Packages (Unit wise)

**Table-1**

Civil	Electrical and C&I	Mechanical
i). Enabling works ii). Pile and Pile Caps iii). Civil Works including foundations iv). Structural Steel Fabrication & Erection v). Chimney vi). Cooling Tower vii). Others (Civil)	i). Electrical ii). C&I iii). Others (Elect. and C&I)	i). Boiler & Aux (All types including CW Piping if applicable) ii). Power Cycle Piping/Critical Piping iii). ESP iv). LP Piping v). Steam Turbine Generator set & Aux vi). Gas Turbine Generator set & Aux vii). Hydro Turbine Generator set & Aux viii). Turbo Blower (including Steam Turbine) ix). Material Management x). FGD xi). ACC xii). Others (Mechanical)

iii). Bidders who have not been evaluated for at least six package months in the last 24 months preceding and including the Cut-off month in the online BHEL system for contractor performance evaluation in BHEL PS Regions, shall be considered "NEW VENDOR".

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

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

The "FIRST TIMER" tag shall remain till completion of all the contracts against which vendor has been tagged as First Timer or availability of 6 evaluation scores within last 24 months preceding and including the Cut-off month in the online BHEL system for contractor performance evaluation in BHEL PS Regions.

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

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

- iv). Consequent upon applying the criteria of 'Assessment of Capacity of Bidders' detailed above on all the bidders qualified against Technical and Financial Qualification criteria, if the number of qualified bidders reduces to less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then for further processing of the Tender, BHEL at its discretion reserves the right to also consider the bidders who are "not qualified" as per criteria of 'Assessment of Capacity of Bidders' and for this, procedure described in following three options shall be followed:
- a) All the bidders having Overall Performance Rating ( $R_{BHEL}$ )  $\geq 60$  shall be considered qualified against criteria of 'Assessment of Capacity of Bidders'.
  - b) If even after using option "a", the number of qualified bidders remains less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then in addition to bidders considered as per option "a", "First timer" bidders having average of available performance scores  $\geq 60$  upto and including the Cut Off month shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.
  - c) If even after using option "a" and "b", the number of qualified bidders remains less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then in addition to bidders considered as per option "a" and "b", "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall also be considered qualified against criteria of 'Assessment of Capacity of Bidders'.

**Note:-** In case, the number of bidders qualified against Technical and Financial Qualification criteria itself is less than minimum no. of bidders required for conducting RA as per extant RA Guidelines, then all bidders (a)- having Overall Performance Rating ( $R_{BHEL}$ )  $\geq 60$ , (b)- First timer" bidders having average of available performance scores  $\geq 60$  upto and including the Cut Off month, (c)- "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall be considered qualified against criteria of 'Assessment of Capacity of Bidders' for further processing of tender.

- v). 'Under execution' shall mean works in progress as per the following:
- a. Up to execution of 90% of anticipated Contract Value in case of Civil, MM, Structural and Turbo Blower Packages
  - b. Up to Steam Blowing in case of Boiler/ESP/Piping Packages
  - c. Up to Synchronization in all Balance Packages

Note: BHEL at its discretion can extend (or reduce in exceptional cases in line with Contract conditions) the period defined against (a), (b) and (c) above, depending upon the balance scope of work to be completed.

- vi). Contractor shall provide the latest contact details i.e. mail-ID and Correspondence Address to SCT Department, so that same can be entered in the Contractor Performance Evaluation System, and in case of any change/discrepancy same shall be informed immediately. Login Details for viewing scores in Contractor Performance Evaluation System shall be provided to the Contractor by SCT Department.

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vii). Performance Evaluation for Activity Month shall be completed in Evaluation Month (i.e. month next to Activity Month) or in rare cases in Post Evaluation Month (i.e. month next to Evaluation Month) after approval from Competent Authority. In case scores are not acceptable, Contractor can submit Review Request to GM Site/ GM Project latest by 27th of Evaluation Month or 5 days after approval of score, whichever is later. However, acceptance/rejection of 'Review Request' solely depends on the discretion of GM Site/GM Project. After acceptance of Review Request, evaluation score shall be reviewed at site and the score after completion of review process shall be acceptable and binding on the contractor.

vii). Project on Hold due to reasons not attributable to bidder -

a. **Short hold:** Evaluation shall not be applicable for this period, however Loading will be considered.

b. **Long hold:** Short hold for continuous six months and beyond or hold on account of Force Majeure shall be considered as Long Hold. Evaluation as well as Loading shall not be considered for this period.

viii). Performance evaluation as specified above in this clause is applicable to Prime bidder and Consortium partner (or Technical tie up partner) for their respective scope of work.

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

11.0 For any clarification on the tender document, the bidder may seek the same in writing or through e-mail and/or through e-procurement portal, 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.**

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**“Integrity Pact (IP)”**

- (a) IP is a tool to ensure that activities and transactions between the Company and its Bidders/ Contractors are handled in a fair, transparent and corruption free manner. Following Independent External Monitors (IEMs) on the present panel have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL.

Sl. No.	IEM	Email
1.	Shri Arun Chandra Verma, IPS (Retd.)	<a href="mailto:acverma1@gmail.com">acverma1@gmail.com</a>
2.	Shri Virendra Bahadur Singh, IPS (Retd.)	<a href="mailto:vbsinghips@gmail.com">vbsinghips@gmail.com</a>

- (b) The IP as enclosed with the tender is to be submitted (duly signed by authorized signatory) along with techno-commercial bid (Part-I, in case of two/ three part bid). Only those bidders who have entered into such an IP with BHEL would be competent to participate in the bidding. In other words, entering into this Pact would be a preliminary qualification.
- (c) Please refer Section-8 of IP for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to any of the above IEM(s). All correspondence with the IEMs shall be done through email only.

**Note:**

*No routine correspondence shall be addressed to the IEM (phone/ post/ email) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification/ issues shall be addressed directly to the tender issuing (procurement) department's officials whose contact details are provided below:*

Details of contact person(s):

**Name:** (1) P R Chiwarkar/ AGM (Purchase)                      2) Shubhangi Tembhumne / Dy Manager (Purchase)  
**Dept.:** Purchase Department  
**Address:** Floor No. 5 & 6, Shreemohini Complex, 345 Kingsway, Nagpur-440001  
**Phone:** (LL/ Mobile) (1) 0712-2858633    0712-2858742  
**Email:** [prchiwarkar@bhel.in](mailto:prchiwarkar@bhel.in)    [shubh@bhel.in](mailto:shubh@bhel.in)  
**Fax:**                      0712-2858699

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 authorized 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.

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19.0 **Reverse Auction:** Applicable. "BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://www.bhel.com) on "**supplier registration page**".) for this tender. RA shall be conducted among the techno-commercially qualified bidders.

Price Bids of all the techno-commercially qualified bidders shall be opened and same shall be considered as initial bids of bidders in RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.

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 for the said contract with a validity period of six months initially. In case bidder becomes L1, Consortium Agreement valid till contractual completion period shall be submitted to BHEL before signing the contract. Consortium Agreement shall be kept valid till scope of work awarded to consortium partner(s) as per contract is completed.

23.2 'Standalone' bidder cannot become a '**Prime Bidder**' or a '**Consortium bidder**' or '**Technical Tie up bidder**' in a consortium (or Technical Tie up) bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of non-compliance, consortium bids of such Prime bidders will be rejected.

23.3 Number of partners for a Consortium Bidding (or Technical Tie up) including Prime Bidder shall be NOT more than 3 (three).

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



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- 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 and BHEL shall take necessary action as per extant guidelines. In such a case, other consortium partner or partners meeting the PQR have to be engaged by the Prime Bidder, and if not, the respective work will be withdrawn and executed on risk and cost basis of the Prime Bidder. The new consortium partner or partners shall submit fresh SDs as applicable.
- 23.12 In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHEL.
- 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 one work with a consortium partner under direct order of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
- 23.14 The consortium 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. In case there are two consortium partners, then each partner shall submit SD equivalent to 0.5% of the total contract value in addition to the SD to be submitted by the Prime Bidder for the total contract value. However, Prime Bidder has also option for submission of SD on behalf of consortium partner (s).
- SD submitted by Consortium Partner(s) may be released in case corresponding scope of work of the respective Consortium partner(s) has been completed upto the extent of 80% based on certification by Construction Manager and concurrence by the prime bidder.
- 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/upload 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 The consultant / firm (and any of its affiliates) shall not be eligible to participate in tender(s) for the related works or services for the same project, if they were engaged for the consultancy services.
- 27.0 Guidelines/rules in respect of Suspension of Business dealings, Vendor evaluation format, Quality, Safety & HSE guidelines, Experience Certificate, etc. may undergo change from time to time and the latest one

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shall be followed. The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' is available on [www.bhel.com](http://www.bhel.com) on "supplier registration page".

28.0 The offers of the bidders who are on the banned/ hold list and also the offer of the bidders, who engage the services of the banned/ hold firms, shall be rejected. The list of **banned/ hold firms** is available on BHEL web site [www.bhel.com](http://www.bhel.com).

28.1 Integrity commitment, performance of the contract and punitive action thereof:

**28.1.1 Commitment by BHEL:**

BHEL commits to take all measures necessary to prevent corruption in connection with the tender Process and execution of the contract. BHEL will during the tender process treat all Bidder(s) in a transparent and fair manner, and with equity.

**28.1.2 Commitment by Bidder/ Supplier/ Contractor:**

- (i) The bidder/ supplier/ contractor commit to take all measures to prevent corruption and will not directly or indirectly influence any decision or benefit which he is not legally entitled to nor will act or omit in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India.
- (ii) The bidder/ supplier/ contractor will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract and shall adhere to relevant guidelines issued from time to time by Govt. of India/ BHEL.
- (iii) The bidder/ supplier/ contractor will perform/ execute the contract as per the contract terms & conditions and will not default without any reasonable cause, which causes loss of business/ money/ reputation, to BHEL.

If any bidder/ supplier/ contractor during pre-tendering/ tendering/ post tendering/ award/ execution/ post-execution stage indulges in mal-practices, cheating, bribery, fraud or and other misconduct or formation of cartel so as to influence the bidding process or influence the prices or acts or omits in any manner which tantamount to an offence punishable under any provision of the Indian Penal Code, 1860 or any other law in force in India, then, action may be taken against such bidder/ supplier/ contractor as per extent guidelines of the company available on [www.bhel.com](http://www.bhel.com) and / or under applicable legal provisions.

**~~29.0 Micro and Small Enterprises (MSE)~~**

~~Any Bidder falling under MSE category, shall furnish the following details & submit documentary evidence/ Govt. Certificate etc. in support of the same along with their techno-commercial offer.~~

Type under MSE	SC/ST owned	Women owned	Others (excluding SC/ ST & Women
— Micro			
— Small			

~~**Note:** - If the bidder does not furnish the above, offer shall be processed construing that the bidder is not falling under MSE category.~~

~~a) MSE suppliers can avail the intended benefits in respect of the procurements related to the Goods and Services only (Definition of Goods and Services as enumerated by Govt. of India vide Office Memorandum F.No. 21(8)/2011-MA dtd. 09/11/2016 office of AS & DC, MSME) only if they submit along with the offer, attested copies of either Udyam Registration Certificate or EM-II certificate having deemed validity (five years from the date of issue of acknowledgement in EM-II) or valid~~

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~~NSIC certificate or Udyog Aadhar Memorandum (UAM) & Acknowledgement or EM-II Certificate along with attested copy of a CA certificate (format enclosed as Annexure – 3) where deemed validity of EM-II certificate of five years has expired applicable for the relevant financial year (latest audited). Date to be reckoned for determining the deemed validity will be the last date of Technical Bid submission. Non submission of such documents will lead to consideration of their bids at par with other bidders. No benefits shall be applicable for this enquiry if the above required documents are not submitted before price bid opening. If the tender is to be submitted through e-procurement portal, then the above required documents are to be uploaded on the portal. Documents should be notarized or attested by a Gazetted officer. Documents submitted by the bidder may be verified by BHEL for rendering the applicable benefits.~~

30.0 The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice.

**31.0 PREFERENCE TO MAKE IN INDIA:**

For this procurement, the local content to categorize a supplier as a Class I local supplier/ Class II local Supplier/Non-Local Supplier and purchase preferences to Class I local supplier, is as defined I Public Procurement (Preference to Make in India), Order 2017 dated 04.06.2020 issued by DPIIT. In case of subsequent orders issued by the nodal ministry, changing the definition of local content for the items of the NIT, the same shall be applicable even if issued after issue of this NIT, but before opening of Part-II bids against this NIT.

**31.1 Compliance to Restrictions under Rule 144 (xi) of GFR 2017**

- I. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. The Competent Authority for the purpose of this Clause shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT).
- II. "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- III. "Bidder from a country which shares a land border with India" for the purpose of this Clause means: -
  - a. An entity incorporated established or registered in such a country; or
  - b. A subsidiary of an entity incorporated established or registered in such a country; or
  - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
  - d. An entity whose beneficial owner is situated in such a country; or
  - e. An Indian (or other) agent of such an entity; or
  - f. A natural person who is a citizen of such a country; or
  - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above
- IV. The beneficial owner for the purpose of (III) above will be as under:
  1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together or through one or more

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*juridical person, has a controlling ownership interest or who exercises control through other means.*

*Explanation*

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company.*
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.*
- 2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.*
- 3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person has ownership of or entitlement to more than fifteen percent of the property or capital or profits of the such association or body of individuals.*
- 4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;*
- 5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.*
- V. An Agent is a person employed to do any act for another, or to represent another in dealings with third person.*
- VI. The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.*

**Note:**

- (i) The bidder shall provide undertaking for their compliance to this Clause, in the Format provided in Annexure-11.*
- (ii) Registration of the bidder with Competent Authority should be valid at the time of submission as well as acceptance of the bids.*

**32.0** Bid should be free from correction, overwriting, using corrective fluid, etc. Any interlineation, cutting, erasure or overwriting shall be valid only if they are attested under full signature(s) of person(s) signing the bid else bid shall be liable for rejection.

All overwriting/cutting, etc., will be numbered by bid opening officials and announced during bid opening.

**33.0** In the course of evaluation, if more than one bidder happens to occupy L-1 status, effective L-1 will be decided by soliciting discounts from the respective L-1 bidders.

In case more than one bidder happens to occupy the L-1 status even after soliciting discounts, the L-1 bidder shall be decided by a toss/ draw of lots, in the presence of the respective L-1 bidder(s) or their representative(s).

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Ranking will be done accordingly. BHEL's decision in such situations shall be final and binding.

- 34.0 The Bidder declares that they will not enter into any illegal or undisclosed agreement or understanding, whether formal or informal with other Bidder(s). This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

In case, the Bidder is found having indulged in above activities, suitable action shall be taken by BHEL as per extant policies/ guidelines.

35.0 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

It may please be noted that guidelines/ circulars/ amendments/ govt. directives issued from time to time shall also be applicable.

For BHARAT HEAVY ELECTRICALS LTD  
(General Manager - Purchase)

**Enclosure:**

01. Annexure-1: Pre Qualifying Requirements.
02. Annexure-2: Check List.
03. ~~Annexure-3: Certificate by Chartered Accountant~~
04. Annexure-4: Reverse Auction Process Compliance Form
05. Annexure-5: Authorization of representative who will participate in the online Reverse Auction Process
06. Annexure-6: RA Price Confirmation and Breakup
07. Annexure-7: Integrity Pact
08. Annexure-8: Undertaking for insolvency
09. Annexure-9: Declaration reg. Related Firms & their areas of Activities
010. Other Tender documents as per this NIT.
011. Annexure-10: DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04TH JUNE, 2020 AND SUBSEQUENT ORDER(S)
012. Annexure 11: DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017
013. Annexure 12: Important information.

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**Annexure-A: Bid Security Declaration Format**

**Bid Security Declaration Form**

**(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)**

To,  
(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir/Madam,

Sub: Bid Security Declaration

Ref: NIT/Tender Specification No: BHE/PW/PUR/RGMT-BAL CVL SG U1/2485

**SCOPE OF WORK:** Balance Civil and Architectural works of SG Package of U#1 at 2X800MW NTPC Telangana STPP, Ramagundam.

1. I/We Mr/ Ms..... authorized person to sign the bid documents for tender pertaining to the captioned scope do hereby declare that I/We have gone through the entire tender documents including terms and condition mentioned in the tender documents and undertake to comply with them.
2. I/We further declare that we will not withdraw our bid or modify our offer during the period of validity of the bid after the deadline for submission of such documents.
3. If I/we withdraw or modify the bids during the period of validity, or if I/We are awarded the contract and fail to sign the contract, if applicable or to submit security deposit as defined in the tender document/LOA, we will be suspended for the period of time as specified in the tender document from being eligible to submit bids/proposals to BHEL.

Signature of the Authorised Signatory  
(With Name, Designation and Company seal)

Place:

Date:

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**ANNEXURE - 1**

**PRE QUALIFYING CRITERIA**

JOB	<b>Balance Civil and Architectural works of SG Package of U#1 at 2X800MW NTPC Telangana STPP, Ramagundam</b>		
TENDER NO	<b>BHE/PW/PUR/RGMT-BAL CVL SG U1/2485</b>		
SL NO	PRE QUALIFICATION CRITERIA	<b>Bidders claim in respect of fulfilling the PQR Criteria</b>	
		Applicability	
A	Submission of Integrity Pact duly signed (if applicable)  (Note: To be submitted by Prime Bidder & Consortium /Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	APPLICABLE	
B	<p><b><u>TECHNICAL PQR</u></b></p> <p>Bidder shall essentially meet all the Qualifying Requirements (<b>i.e. B.1 and B.2</b>) as under, in the last seven years as on latest date of bid submission:</p> <p><b>B.1:</b> Bidder should have Executed “<b>Piling or Civil or Structure or ‘Civil and Structural Works’ or RCC Chimney or RCC Cooling Tower or RCC Silo or Mill Bunker or any combination of these works</b>” for any one of the following in the last seven years from latest date of bid submission:</p> <p><b>B.1.1)</b> Executed One work of value not less than <b>Rs. 1120 Lakhs</b> against single work order.</p> <p style="text-align: center;"><b>OR</b></p> <p><b>B.1.2)</b> Executed Two works each of value not less than <b>Rs. 700 Lakhs</b> against maximum two work orders.</p> <p style="text-align: center;"><b>OR</b></p> <p><b>B.1.3)</b> Executed Three works each of value not less than <b>Rs. 560 Lakhs</b> against maximum three work orders.</p> <p style="text-align: center;"><b>AND</b></p> <p><b>B.2:</b> Bidder should have executed Reinforced Cement Concrete (RCC) quantities of atleast <b>8443 Cum</b> within a period of twelve consecutive months against one running/ completed contract.</p>	APPLICABLE	
C.1	<p><b><u>FINANCIAL TURNOVER:</u></b></p> <p>Bidders must have achieved an average annual financial turnover (audited) of <b>Rs.4,20,00,000/- (Rupees Four Crores Twenty Lakhs Only)</b> or more over last three Financial Years (FY) i.e. ‘2018-19, 2019-20 &amp; 2020-21’</p>	APPLICABLE	

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C.2	<b><u>NETWORTH</u></b> (only in case of Companies) Net worth of the Bidder based on the latest Audited Accounts as furnished for 'C-1' above should be positive.	<b>APPLICABLE</b>	
C.3	<b><u>PROFIT</u></b> Bidder must have earned profit in any one of the three Financial Years as applicable in the last three Financial Years as furnished for 'C-1' above.	<b>APPLICABLE</b>	
C-4	Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR, which will render him ineligible for participation in this tender, and shall submit undertaking ( <b>Annexure-8</b> ) to this effect.	<b>APPLICABLE</b>	
D	Assessment of Capacity of Bidder:  The "Assessment of Capacity of Bidders" for this Tender shall be carried out by considering the identified similar packages as " <b>Civil Works including foundations</b> "	<b>APPLICABLE</b>	
E	<b>Approval of Customer (if applicable)</b>  <b>Note:</b> Names of bidders (including consortium/Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval	<b>APPLICABLE</b>	
F	Price Bid Opening <b>Note:</b> Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E		<b>BY BHEL</b>
G	Consortium tie-ups	<b>NOT APPLICABLE</b>	
<b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b>  <b><u>Explanatory Notes for PQR B.1 (Technical)</u></b> <ul style="list-style-type: none"> <li>For the criteria (B.1), actual executed value shall be considered.</li> <li>Value of work is to be updated with indices for "All India Avg. Consumer Price index for industrial workers" and "Monthly Whole Sale Price Index for All Commodities" with base month as per last month of work execution and indexed up to three (3) months prior to the month of latest due date of bid submission as per following formula-</li> </ul> $P = R + 0.425 \times R \times \frac{(X_N - X_0)}{X_0} + 0.425 \times R \times \frac{(Y_N - Y_0)}{Y_0}$ <p>Where  P = Updated value of work  R = Value of executed work  X<sub>N</sub> = All India Avg. Consumer Price index for industrial workers for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).  X<sub>0</sub> = All India Avg. Consumer Price index for industrial workers for last month of work execution  Y<sub>N</sub> = Monthly Whole Sale Price Index for All Commodities for three months prior to the month of latest due date of bid submission (e.g. If latest bid submission date is 02-Mar-17, then bid submission month shall be reckoned as March'17 and index for Dec'2016 shall be considered).  Y<sub>0</sub> = Monthly Whole Sale Price Index for All Commodities for last month of work execution</p>			

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- The evaluation currency for this tender shall be INR.

**Explanatory Notes for Technical Criteria (B2):**

1. VOID
2. Unless otherwise specified, for the purpose of "B2 Technical Criteria", the word 'EXECUTED' means achievement of milestones as defined below -
  - a. "ACHIEVEMENT OF PHYSICAL QUANTITIES" as per PQRs.
  - b. "READINESS FOR COAL FILLING" of at least one Bunker, in respect of Mill Bunker Structure.
  - c. "CHARGING" in respect of Power Transformers/ Bus Ducts/ "HT/LT Switchgears" / "HT/LT Cabling".
  - d. For C&I works: "SYNCHRONISATION" in case of power project (excluding nuclear Projects) / "WORK EXECUTION of the value as defined in PQR" in case of industry & Nuclear Projects.
  - e. **"BOILER LIGHT UP" in respect of Boiler / CFBC / ESP.**
  - f. "CHARGING OF ATLEAST ONE PASS" in respect of ESP(R&M)
  - g. "GAS IN" in respect of HRSG.
  - h. "STEAM BLOWING" in respect of Power Cycle Piping.
  - i. "HYDRAULIC TEST"/ ANY OTHER EQUIVALENT TEST LIKE "100% RT/UT OF WELDED JOINTS" of the system in respect of Pressure parts/ LP Piping/CW Piping.
  - j. "FULL LOAD OPERATION OF THE UNIT" in respect of Insulation work.
  - k. "SYNCHRONISATION" in respect of STG / GTG.
  - l. "SPINNING" in respect of HTG.
  - m. "GAS IN" in respect of FGD
3. Boiler means HRSG or WHRB or any other types of Steam Generator.
4. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass.
5. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5 TPH 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 of the same in terms of MW shall be considered for evaluation.

**Explanatory Notes for PQR -C (Financial):**

**C-1:**

- i. Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above.
- ii. Evaluation of Turnover criteria shall be calculated from the Audited Balance Sheet and Profit & Loss Account for the three Financial Years (FY).
- iii. 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.
- iv. If financial statements are not required to be audited statutorily, then instead of audited financial statements, financial statements are required to be certified by Chartered Accountant.

**C-2:** Net Worth (Only in case of companies) of the bidder should be positive.

**Note:** Net worth shall be calculated based on the latest Audited Accounts as furnished for 'C-1' above.

Net worth = Paid up share capital + Reserves

**C-3:** Bidder must have earned profit in any one of the three financial years as applicable in the last three financial years as furnished for 'C-1' above.

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**Note:** PROFIT shall be PBT earned during any one year of last three financial years as in 'C-1' above.

**C-4:** Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under Liquidation / BIFR, which will render him ineligible for participation in this tender, and shall submit undertaking to this effect.

**Common Explanatory Notes:**

1. For evaluation of PQR, in case Bidder alone does not meet the pre-qualifying technical criteria B1 above, bidder may utilize the experience of its Parent/ Subsidiary Company along with its own experience, subject to following:
  - a. The parent company shall have a controlling stake of  $\geq 50\%$  in the subsidiary company (as per Format-1).
  - b. The Parent Company/ Subsidiary Company of which experience is being utilized for bidding shall submit Security Deposit(SD) equivalent to 1% of the total contract value
  - c. The parent/ subsidiary company and bidder shall provide an undertaking that they are jointly or severally responsible for successful performance of the contract (as per Format-2).
  - d. In case Bidder is submitting bid as a Consortium Partner, option of utilizing experience of parent/subsidiary Company can be availed by Prime Bidder only.
  - e. Parent Company/ Subsidiary Company of which experience is being used for bidding, cannot participate as a 'Standalone Bidder' or as a 'Consortium bidder'.
2. **Completion date for achievement of the technical criteria specified in the Common QR should be in the last 7 years ending on the 'latest date of Bid Submission' of Tender irrespective of date of the start of work. Completion date shall be reckoned from the "FY quarter of bid submission"**  
**(For e.g – Work completed on 01.01.2014 shall be considered even if latest date of bid submission is 20.03.2021)**
3. "Executed" means the bidder should have achieved the technical criteria specified in the Common QR even if the Contract has not been completed or closed.
4. In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&C portion for Electrical and C&I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&I and other works if any), then value of Erection & Commissioning for the Electrical and C&I portion shall be considered as 15% of the price for supply & erection of Electrical and C&I.
5. Following shall be complied with in case of consortium:
  - a. The Prime Bidder and Consortium Partner(s) are required to enter in to a consortium agreement and certify to BHEL regarding existence and validity of their consortium agreement in line with validity period mentioned in NIT.
  - b. Prime Bidder and Consortium partners shall be approved by Customer for being considered for the tender (applicable if customer approval is required).
  - c. Number of partners including prime Bidder shall be NOT more than 3 (three).
  - d. Prime Bidder alone shall necessarily comply with "B1 Technical Criteria" except for mechanical package where B1 criteria is not applicable.
  - e. Prime Bidder and Consortium Partner shall together comply with the 'Pre-Qualification Requirements' specified for the respective category of technical requirement as per "B2 technical criteria".
  - f. Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified.
  - g. All other conditions shall be read in conjunction with clause no 23.0 of NIT.
  - h. Prime Bidder shall be the Bidder who has a major share of work.
  - i. Prime Bidder shall be responsible for the overall execution of the Contract.

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	<p>j. Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.</p> <p>k. In case the Consortium partner backs out, another consortium partner meeting the QRs, has to be engaged by Prime Bidder and if not, the respective work will be withdrawn and executed on risk and cost basis of the prime bidder.</p> <p>l. In case Prime Bidder withdraws or insolvency / liquidation / winding up proceedings have been initiated / admitted against the Prime Bidder, BHEL reserves the right to cancel, terminate or short close the contract or take any other action to safeguard BHEL's interest in the Project / Contract. This action will be without prejudice to any other action that BHEL can take under Law and the Contract to safeguard interests of BHEL</p> <p>m. After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming a 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders. The Consortium 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.</p>
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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.

Credentials submitted by the bidder against "PRE QUALIFYING CRITERIAS" shall be verified for its authenticity. In case, any credential (s) is/are found unauthentic, offer of the bidder is liable to the rejection. BHEL reserves the right to initiate any further action as per extant guidelines for Suspension of Business Dealings.

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**Table-1:  
Bidder's Response against BHEL TECHNICAL PQR**

PQR No	Pre-Qualifying Requirement	Reference no. of Detailed Work Order, Name of the Work based on which bidder is claiming PQR	Ref no. of Completion Certificate/proof based on which bidder is claiming PQR
B	<u>Technical PQR</u>  B.1 and B.2 as detailed above		

**NOTE:**

- BIDDERS MUST CLEARLY INDICATE IN THE TABLE ABOVE, HOW THEY ARE SATISFYING TECHNICAL PQR ALONG WITH THE REFERENCE OF THE SUPPORTING DOCUMENTS.

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Format-1

**Certificate for relationship between Parent Company / Subsidiary Company and the bidder**

To,

.....

.....

Dear Sir,

**Sub:** Bid for NIT No .....dated..... for "....." (name of the tender).

We hereby certify that M/s..... is Parent Company/ Subsidiary Company of M/s.....(the bidder) and details of equity holding of the Parent Company in Subsidiary Company as on .....(not earlier than seven days prior to the Bid Submission Date) are given as below:

Name of Parent Company	Name of Subsidiary Company	Percentage of Equity Holding of Parent Company in Subsidiary Company

**(Insert Name and Signature of Statutory Auditor or practicing Company Secretary of the Bidder)**

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Format-2

**Undertaking from the Parent Company/ Subsidiary Company of the bidder**

*(On the Letter Head of Parent Company/ Subsidiary Company, as applicable)*

From,  
Name:  
Full Address:

Telephone No.:  
E-mail address:  
Fax/No.:

To,

Dear Sir,

We refer to the NIT No ..... dated..... for “.....” (name of the Tender).

“We have carefully read and examined in detail the NIT/Tender Terms and Conditions, including in particular, Clause .... of the NIT/Tender, regarding submission of an Undertaking, as per the prescribed Format 1 of the NIT/ Tender.

We confirm that M/s.....(the Bidder) has been authorized by us to use our Technical capability for meeting the Technical Criteria as specified in Clause.....of the PQR of the NIT/Tender referred above.

We agree to submit the Security Deposit equivalent to 1% of the total contract value in addition to Security Deposit to be submitted by Bidder as per Clause.....of the NIT/Tender for fulfillment of all obligations in terms of provisions of the contract, in the event of .....(the Bidder) being selected as the Successful Bidder.

We confirm that we along with M/s.....(the bidder), are jointly or severally responsible for successful performance of the contract.

We confirm that our company shall not participate in the above tender as a ‘Standalone Bidder’ or as a ‘Consortium bidder’ and also shall not authorize any other bidder to use our Technical capability for the above tender.

All the terms used herein but not defined, shall have the meaning as ascribed to the said terms under the referred NIT/Tender.

**Signature of Managing Director/Authorized signatory of Parent/ Subsidiary Company**

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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: <u>Please tick ( √ ) whichever applicable:-</u> <del>ONE TIME EMD</del> / 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/ <del>Not Applicable</del>	YES/NO
8	Copy of PAN Card	Applicable/ <del>Not Applicable</del>	YES/NO
9	Whether all pages of the Tender documents including annexures, appendices etc. are read understood and signed	Applicable/ <del>Not Applicable</del>	YES/NO
10	Integrity Pact	Applicable/ <del>Not Applicable</del>	YES/NO
11	Declaration by Authorized Signatory	Applicable/ <del>Not Applicable</del>	YES/NO
12	No Deviation Certificate	Applicable/ <del>Not Applicable</del>	YES/NO
13	Declaration confirming knowledge about Site Conditions	Applicable/ <del>Not Applicable</del>	YES/NO
14	Declaration for relation in BHEL	Applicable/ <del>Not Applicable</del>	YES/NO
15	Non-Disclosure Certificate	Applicable/ <del>Not Applicable</del>	YES/NO

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16	Bank Account Details for E-Payment	Applicable/ <del>Not Applicable</del>	YES/NO
17	Capacity Evaluation of Bidder for current Tender	Applicable/ <del>Not Applicable</del>	YES/NO
18	Tie Ups/Consortium Agreement are submitted as per format	Applicable/ <del>Not Applicable</del>	YES/ NO
19	Power of Attorney for Submission of Tender/Signing Contract Agreement Power of Attorney of Consortium Partner.	Applicable/ <del>Not Applicable</del>	YES/NO
20	Analysis of Unit rates	Applicable/ <del>Not Applicable</del>	YES/NO

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

**DATE :**

**AUTHORISED SIGNATORY**

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

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**ANNEXURE-3**

**Certificate by Chartered Accountant on letter head**

(applicable upto 31<sup>st</sup> March'2021 in line with MSME notification no. S.O. 2119 (E), dated 26<sup>th</sup> June'2020)

This is to Certify that M/S .....  
(hereinafter referred to as 'company') having its registered office at .....  
..... is registered under MSMED Act 2006, (Entrepreneur  
Memorandum No. .... (Part - II)/ Udyam Registration Certificate No. ....  
..... dtd: ....., Category: (Micro/Small/Medium)).  
(Copy enclosed).

Further verified from the Books of Accounts that the investment of the company as per the latest  
audited financial year ..... as per MSMED Act 2006 is as follows:

1. ~~For Manufacturing Enterprises:~~ Investment in plant and machinery (i.e. original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No. S.O.1722(E) dated October 5, 2006:  
Rs. .... Laacs
2. ~~For Service Enterprises:~~ Investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the ~~MSMED~~ Act, 2006:  
Rs. .... Laacs
3. ~~For Enterprises~~ (having EM - II Certificate/ valid NSIC Certificate or Udyog Aadhar Memorandum): Investment in plant and machinery or equipment is Rs. .... Laacs and turnover is Rs. .... Laacs (as notified in MSME notification no. S.O. 2119 (E) dated 26.06.2020)
4. ~~For Enterprises~~ (having EM - II Certificate/ valid NSIC Certificate or Udyog Aadhar Memorandum): Investment in plant and machinery or equipment is Rs. .... Laacs and turnover is Rs. .... Laacs (as notified in MSME notification no. S.O. 2119 (E) dated 26.06.2020)

**(Strike off whichever is not applicable)**

~~The above investment of Rs. .... Laacs is within permissible limit of  
Rs. .... Laacs for ..... Micro / Small/ Medium (Strike off which is not applicable)  
Category under MSMED Act 2006.~~

~~Or~~

~~The enterprise has been graduated upward from its original category (micro/small/medium) (strike off which is not applicable), the enterprise shall maintain its prevailing status till expiry of one year from the close of year of registration, as notified vide S.O. No. 2119 (E) dated 26.06.2020 published in the gazette notification dated 26.06.2020 by Ministry of MSME.~~

~~Or~~

~~The enterprise has been reverse graduated from its original category (micro/small/medium) (strike off which is not applicable), the enterprise will continue in its present category till the closure of the financial year and it will be given the benefit of the changed status only with effect from 1<sup>st</sup> April of the financial year following the year in which such change took place, as notified vide S.O. No. 2119 (E) dated 26.06.2020 published in the gazette notification dated 26.06.2020 by Ministry of MSME.~~

~~Date:  
(Signature)  
Name:  
Membership Number:  
Seal of the Chartered Accountant~~

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**ANNEXURE-4**

**Reverse Auction Process Compliance Form**

**(The bidders are required to print this on their company's letterhead and sign, stamp before RA)**

To

- M/s. {Service provider}
- Postal address}

**Sub: Agreement to the Process related Terms and Conditions**

Dear Sir,

This has reference to the Terms & Conditions for the Reverse Auction mentioned in the RFQ document for {Items} against BHEL enquiry/ RFQ no.{ .....} dt. {.....}

This letter is to confirm that:

- 1) The undersigned is authorized official/ representative of the company to participate in RA and to sign the related documents.
- 2) We have studied the Reverse Auction guidelines (as available on www.bhel.com), and the Business rules governing the Reverse Auction as mentioned in your letter and confirm our agreement to them.
- 3) We also confirm that we have taken the training on the auction tool and have understood the functionality of the same thoroughly.
- 4) We also confirm that, in case we become L1 bidder, we will FAX/ email the price confirmation & break up of our quoted price as per Annexure - VI within **two** working days (of BHEL) after completion of RA event, besides sending the same by registered post/ courier both to M/s. BHEL and M/s. {Service provider.}

We, hereby confirm that we will honor the Bids placed by us during the auction process.

With regards

Signature with company seal

Name:

Company / Organization:

Designation within Company / Organization:

Address of Company / Organization:

**Sign this document and FAX/ email it to M/s {Service provider} at {.....} prior to start of the Event.**



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**ANNEXURE – 5**

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

1	NAME OF THE BIDDER	
2	NAME & DESIGNATION OF OFFICIAL	
3	POSTAL ADDRESS (COMPLETE)	
4	TELEPHONE NOS. (LAND LINE & MOBILE BOTH)	
5	E-MAIL ADDRESS	
6	NAME OF PLACE/ STATE/ COUNTRY, WHEREFROM S/HE WILL PARTICIPATE IN THE REVERSE AUCTION	

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**ANNEXURE – 6**

**Reverse Auction price confirmation and breakup**  
**(To be submitted by L1 bidder after completion of Reverse Auction)**

**To**

- M/s. Service provider
- Postal address

CC: M/s BHEL POWER SECTOR WESTERN REGION, Nagpur

Sub: **Final price quoted during Reverse Auction and price breakup**

Dear Sir,

We confirm that we have quoted.

Rs. \_\_\_\_\_ (in value) &  
\_\_\_\_\_ (in words)

**for item(s) covered under tender enquiry No. .... dtd**  
**.....**

~~Total price of the items covered under above cited enquiries is inclusive of {Packing & forwarding, GST, E.D., C.S.T., freight and insurance charges up to {.....} District, {.....} State and Type Test Charges etc., (exclusive of service tax), other as per NIT}~~

as our final landed prices as quoted during the Reverse Auction conducted today {date \_\_\_\_\_} which will be valid for a period of {**in nos. & in words** \_\_\_\_\_} days. as mentioned in the subject tender.

Yours sincerely,

For \_\_\_\_\_

**Name:**

**Company:**

**Date:**

**Seal:**

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**ANNEXURE – 7**

**INTEGRITY PACT**

**Between**

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

**And**

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

**Preamble**

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

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

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

**Section 1 - Commitments of the Principal**

- 1.1 The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles: -
  - 1.1.1 No employee of the Principal, personally or through family members, will in connection with the tender for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.
  - 1.1.2 The Principal will, during the tender process treat all Bidder(s) with equity and reason. The Principal will in particular, before and during the tender process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential / additional information through which the Bidder(s) could obtain an advantage in relation to the tender process or the contract execution.
  - 1.1.3 The Principal will exclude from the process all known prejudiced persons.
- 1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

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

- 2.1** The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.
- 2.1.1** the Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he / she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.
- 2.1.2** The bidder(s)/ Contractors(s) will not enter with other Bidder(s) into any illegal or undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.
- 2.1.3** The Bidder(s)/ Contractor(s) will not commit any penal offence under the relevant Indian Penal Code (IPC) and Prevention of Corruption Act; further the Bidder(s)/ Contractor(s) will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.
- 2.1.4** Foreign Bidders (s)/ Contractor(s) shall disclose the name and address of agents and representative in India and India Bidder(s)/Contractor(s) to disclose their foreign principals or associates. The Bidders (s)/ Contractor(s) will, when presenting his bid, disclose any and all payments he has made, and is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract.
- 2.2** The Bidder(s)/ Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

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

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

**Section 4 – Compensation for Damages**

- 4.1** If the Principal has disqualified the Bidder from the tender process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/ Bid Security.
- 4.2** If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to terminate the contract according to Section 3, the Principal shall be entitled to demand and recover

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from the Contractor liquidated damages equivalent to 5% of the contract value or the amount equivalent to Security Deposit/ Performance Bank Guarantee, whichever is higher.

**Section 5 – Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on his subject, he can be disqualified from the tender process or the contract, if already awarded, can be terminated for such reason.

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

- 6.1 The Principal will enter into agreements with identical conditions as this one with all Bidders and Contractors. In case of sub-contracting, the Principal contractor shall be responsible for the adoption of IP by his sub-contractors and shall continue to remain responsible for any default by his sub-contractors.
- 6.2 The Principal will disqualify from the tender process all bidders who do not sign this pact or violate its provisions.

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

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

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

- 8.1 The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.
- 8.2 The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, BHEL.
- 8.3 The Bidder(s)/ Contractors(s) accepts that the Monitor has the right to access without restriction to all contract documentation of the Principal including that provided by the Bidder(s)/ Contractor(s). The Bidder(s)/Contractor(s) will grant the monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his contract documentation. The same is applicable to Sub-contractor(s). The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/ Sib-contractor(s) with confidentiality in line with Non-disclosure agreement.
- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meeting could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

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- 8.5 The role of IEMs is advisory, would not be legally binding and it is restricted to resolving issues raised by an intending bidder regarding any aspect of the tender which allegedly restricts competition or bias towards some bidders. At the same time, it must be understood that IEMs are not consultants to the Management. Their role is independent in nature and the advice once tendered would not be subject to review at the request of the organization.
- 8.6 For ensuring the desired transparency and objectivity in dealing with the complaints arising out of any tendering process, the matter should be examined by the full panel of IEMs jointly as far as possible, who would look into the records, conduct an investigation, and submit their joint recommendations to the Management.
- 8.7 The IEMs would examine all complaints received by them and give their recommendations/ views to CMD, BHEL, at the earliest. They may also send their report directly to the CVO and the Commission, in case of suspicion of serious irregularities requiring legal/ administrative action. IEMs will tender their advice on the complaints within 10 days as far as possible.
- 8.8 The CMD, BHEL shall decide the compensation to be paid to the Monitor and its terms and conditions.
- 8.9 IEM should examine the process integrity, they are not expected to concern themselves with fixing of responsibility of officers. Complaints alleging mala fide on the part of any officer of the organization should be looked into by the CVO of the concerned organization.
- 8.10 If the Monitor has reported to the CMD, BHEL, a substantiated suspicion of an offence under relevant Indian Penal Code/Prevention of Corruption Act, and the CMD, BHEL has not, within reasonable time, taken visible action to proceed against such offence or reported it to the Vigilance Office, the Monitor may also transmit this information directly to the Central Vigilance Commissioner, Government of India.
- 8.11 The number of Independent External Monitor(s) shall be decided by the CMD, BHEL.
- 8.12 The word 'Monitor' would include both singular and plural.

**Section 9 – Pact Duration**

- 9.1 This Pact shall be operative from the date IP is signed by both the parties till the final completion of contract for successful bidder and for all other bidder 6 months after the contract has been awarded. Issues like warranty / guarantee etc. should be outside the purview of IEMs.
- 9.2 If any claim is made/ lodged during currency of IP, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged/ determined by the CMD, BHEL.

**Section 10 – Other Provisions**

- 10.1 This agreement is subject to Indian Laws and jurisdiction shall be registered office of the Principal, i.e. New Delhi.
- 10.2 Changes and supplements as well as termination notices need to be made in writing. Side agreements have not been made.

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- 10.3 If the contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
- 10.4 Should one or several provisions of this agreement turn out to be invalid, the reminder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.
- 10.5 Only those Bidders/ Contractors who have entered into this agreement with the Principal would be competent to participate in the bidding. In other words, entering into this agreement would be a preliminary qualification.

-----  
For & On Behalf of the Principal

(Office Seal)

-----  
For & On Behalf of the Bidder/ Contractor

(Office Seal)

**Place** -----

**Date**-----

Witness: \_\_\_\_\_

(Name & Address) \_\_\_\_\_

\_\_\_\_\_

Witness: \_\_\_\_\_

(Name & Address) \_\_\_\_\_

\_\_\_\_\_



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**ANNEXURE - 8**

**UNDERTAKING**

(To be typed and submitted in the Letter Head of the Company/Firm of Bidder)

**To,**

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir/Madam,

**Sub: DECLARATION REGARDING INSOLVENCY/ LIQUIDATION/ BANKRUPTCY PROCEEDINGS**

**Ref:** NIT/Tender Specification No: BHE/PW/PUR/RGMT-BAL CVL SG U1/2485

I/We, \_\_\_\_\_ declare that, I/We  
am/are not under insolvency resolution process or liquidation or Bankruptcy Code Proceedings (IBC)  
as on date, by NCLT or any adjudicating authority/authorities, which will render us ineligible for  
participation in this tender.

**Sign. of the AUTHORISED SIGNATORY  
(With Name, Designation and Company seal)**

Place:

Date:

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**Annexure-9**

**DECLARATION**

Date: \_\_\_\_\_

To \_\_\_\_\_

BHEL, \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Email: \_\_\_\_\_

**Sub: Details of related firms and their area of activities**

Dear Sir/ Madam,

Please find below details of firms owned by our family members that are doing business/ registered for same item with BHEL, \_\_\_\_\_ (NA, if not applicable).

1	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
2	Material Category/ Work Description	
	Name of Firm	
	Address of Firm	
	Nature of Business	
	Name of Family Member	
	Relationship	
.....		

***Note: I certify that the above information is true and I agree for penal action from BHEL in case any of the above information furnished is found to be false.***

Regards,

( \_\_\_\_\_ )

From: M/s \_\_\_\_\_  
Supplier Code: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

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**Annexure-10**

**DECLARATION REGARDING MINIMUM LOCAL CONTENT IN LINE WITH  
REVISED PUBLIC PROCUREMENT (PREFERENCE TO MAKE IN INDIA), ORDER 2017 DATED 04<sup>TH</sup>  
JUNE, 2020 AND SUBSEQUENT ORDER(S)**

*(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)*

To,

(Write Name & Address of Officer of BHEL inviting the Tender)

Dear Sir,

**Sub:** Declaration reg. minimum local content in line with Public Procurement (Preference to Make in India), Order 2017-Revision, dated 04<sup>th</sup> June, 2020 and subsequent order(s).

**Ref :** 1) NIT/Tender Specification No: .....  
2) All other pertinent issues till date

We hereby certify that the items/works/services offered by..... *(specify the name of the organization here)* has a local content of \_\_\_\_\_ % and this meets the local content requirement for 'Class-I local supplier' / 'Class II local supplier' \*\* as defined in Public Procurement (Preference to Make in India), Order 2017-Revision dated 04.06.2020 issued by DPIIT and subsequent order(s).

The details of the location(s) at which the local value addition is made are as follows:

- |          |          |
|----------|----------|
| 1. _____ | 2. _____ |
| 3. _____ | 4. _____ |

...

...

...

Thanking you,  
Yours faithfully,

**(Signature, Date & Seal of  
Authorized Signatory of the Bidder)**

**\*\* - Strike out whichever is not applicable.**

**Note:**

1. Bidders to note that above format Duly filled & signed by authorized signatory, shall be submitted along with the techno-commercial offer.
2. In case the bidder's quoted value is in excess of Rs. 10 crores, the authorized signatory for this declaration shall necessarily be the statutory auditor or cost auditor of the company (in the case of companies) or a practising cost accountant or practicing chartered accountant (in respect of suppliers other than companies).
3. In the event of false declaration, actions as per the above order and as per BHEL Guidelines shall be initiated against the bidder.

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**Annexure-11**

**DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017**  
*(To be typed and submitted in the Letter Head of the Entity/Firm providing certificate as applicable)*

To,

*(Write Name & Address of Officer of BHEL inviting the Tender)*

Dear Sir,

**Sub:** Declaration regarding compliance to Restrictions under Rule 144 (xi) of GFR 2017

**Ref :** 1) NIT/Tender Specification No: .....  
2) All other pertinent issues till date

I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries. I certify that \_\_\_\_\_ *(specify the name of the organization here)*,

(a) is not from such a country / ☐

(b) has been registered with the Competent Authority *(attach valid registration by the Competent Authority, i.e., the Registration Committee constituted by the Dept. for Promotion of Industry and Internal Trade (DPIIT))*; ☐  
and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. *(attach relevant valid registration, if applicable)*

I hereby certify that we fulfil all requirements in this regard and is eligible to be considered.

Thanking you,  
Yours faithfully,

**(Signature, Date & Seal of  
Authorized Signatory of the Bidder)**

**Note:** Bidders to note that in case above certification given by a bidder, whose bid is accepted, is found to be false, then this would be a ground for immediate termination and for taking further action in accordance with law and as per BHEL guidelines.

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**Annexure-12: IMPORTANT INFORMATION**

**E -Tender** for this work is invited by BHEL PSWR NAGPUR and offer shall be submitted through BHEL e-procurement portal only. All correspondences regarding this tender shall be through E-procurement portal.

**Postal Address:**

AGM /Purchase BHEL PSWR,  
SRIMOHINI COMPLEX, Floor No. 5 & 6, 345 KINGSWAY, NAGPUR 440001, INDIA

Following are the concerned BHEL officials to whom bidders can contact in case of any difficulty:

GM Purchase, Email: [prchiwarkar@bhel.in](mailto:prchiwarkar@bhel.in). Ph: +91 – 712 – 2858 – 633  
Sr Manager, Purchase, Email: [kamleshbhel@bhel.in](mailto:kamleshbhel@bhel.in) +91 – 712 – 2858 – 645  
Dy Manager Purchase, Email: [shubh@bhel.in](mailto:shubh@bhel.in) Ph: +91-712 – 2858 –742  
Manager Purchase, Email: [svm@bhel.in](mailto:svm@bhel.in) Ph: +91 – 712 – 2858 –715

1. **Refer Chapter XII of Volume IB Special Conditions of Contract regarding Suspension of Business Dealings: The abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' has now been uploaded on [www.bhel.com](http://www.bhel.com) on "supplier registration page" at the following link: [http://www.bhel.com/vender\\_registration/pdf/Suspension\\_guidelines\\_abridged.pdf](http://www.bhel.com/vender_registration/pdf/Suspension_guidelines_abridged.pdf)**
2. **All Statutory Requirements as applicable for this project shall be complied with.**
3. **Following clause shall form part of the HSE documents issued under Chapter IX of Volume IB 'Special Conditions of Contract'**

"In case of any financial deduction made by Customer for lapses of safety other than what is provided elsewhere in the contract, the same shall be charged on back-to-back basis on the defaulting contractor without prejudice to any other right spelt anywhere in the tender /contract"
4. **"Pradhan Mantri Kaushal Vikas Yojna:** The contractor shall, at all stages of work deploy skilled/semi-skilled tradesmen who are qualified and possess certificate in particular trade from CPWD Training Institute/Industrial Training Institute/ National Institute of Construction Management and Research (NICMAR), National Academy of Construction, CIDC or any similar reputed and recognized Institute managed/ certified by State/ Central Government. The number of such qualified tradesmen shall not be less than 20% of total skilled/semi-skilled workers required in each trade at any stage of work. The contractor shall submit number of man days required in respect of each trade, its scheduling and the list of qualified tradesmen along with requisite certificate from recognized Institute to Engineer-in-Charge for approval. Notwithstanding such approval, if the tradesmen are found to have inadequate skill to execute the work of respective trade, the contractor shall substitute such tradesmen within two days of written notice from Engineer-in-Charge. Failure on the part of contractor to obtain approval of Engineer-in-Charge or failure to deploy qualified tradesmen will attract a compensation to be paid by contractor at the rate of Rs.100 per such tradesman per day. Decision of Engineer-in-Charge as to whether particular

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tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding”.

**5. The clause 2.7.9.1 below is added under the heading “Rights of BHEL” of General Conditions of Contract Volume-IC GCC.**

**2.7.9.1 Provision of Penalty in case of slippage of Intermediate Milestones:**

- i) Two major Intermediate Milestones are mentioned as M1 & M2 in Chapter VI: Time Schedule of Vol IA Technical Conditions of Contract.
- ii) In case of slippage of these identified Intermediate Milestones, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to Form 14.
- iii) In case delay in achieving M1 Milestone is solely attributable to the contractor, 0.5% per week of Executable Contract Value\*, limited to maximum 2% of Executable Contract Value, will be withheld.
- iv) In case delay in achieving M2 Milestone is solely attributable to the contractor, 0.5% per week of Executable Contract Value\*, limited to maximum 3% of Executable Contract Value, will be withheld.
- v) Amount already withheld, if any against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 Milestone.
- vi) Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA bills.
- vii) Final deduction towards LD (if applicable as per clause 2.7.9 above), on account of delay attributable to contractor shall be based on final delay analysis on completion / closure of contract. Withheld amount, if any due to slippage of identified intermediate milestone(s) shall be adjusted against LD or released as the case may be.
- viii) In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted into recovery.

\* **Executable Contract Value** - Value of work for which inputs/ fronts were made available to contractor and were scheduled for execution till the date of achievement of that milestone.

**6. The following clause is added under clause 1.10 Security Deposit in Vol-1C:**

**Clause No 1.10.8 of Vol-IC General Conditions of Contract: Timely Submission of Security Deposit for Execution of the contract:** “Bidder agrees to submit Security Deposit required for execution of the contract within the time period mentioned. In case of delay in submission of Security Deposit, enhanced Security Deposit which would include interest (Base rate of SBI +6%) for the delayed period, shall be submitted by the bidder. Further, if Security Deposit is not submitted till such time the first bill becomes due, the amount of Security Deposit due shall be recovered as per terms defined in NIT/contract, from the bills along with due interest.”

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**7. Acceptance of Bank Guarantee (BG)**

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

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

“Bank Guarantee issued by:

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

State Bank of India

ABN Amro Bank N.V.

Bank of Baroda

Canara Bank

Citi Bank N.A.

Corporation Bank

Deutsche Bank

HDFC Bank Ltd.

The Hongkong and Shanghai Banking Corporation Ltd

ICICI Bank Ltd.

IDBI Ltd.

Punjab National Bank

Standard Chartered Bank

State Bank of Travancore

State Bank of Hyderabad

Syndicate Bank

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

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

**8. Broad Terms & Conditions of Reverse Auction:**

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

“BHEL shall be resorting to Reverse Auction (RA) (Guidelines as available on [www.bhel.com](http://www.bhel.com)) (<https://www.bhel.com/guidelines-reverse-auction-2021>) for this tender. RA shall be conducted among the techno-commercially qualified bidders.

Price bids of all techno-commercially qualified bidders shall be opened and same shall be considered for RA. In case any bidder(s) do(es) not participate in online Reverse Auction, their sealed envelope price bid along with applicable loading, if any, shall be considered for ranking.”

**Note:-**

- 1. No benefits to MSE bidders w.r.t Reverse Auction Guidelines as available on [www.bhel.com](http://www.bhel.com) against works contract.**



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**2. In case of enquiry through e-procurement the sealed electronic price bid (e-bid) is to be treated as sealed envelope price bid.**

~~9. Bidders kindly to take note that EMD (Earnest Money Deposit) shall be furnished by MSE bidders as well, as per the amount and procedure indicated in the NIT/GCC.~~

**10. Performance Guarantee Period:** As per Clause no. 2.24 of GCC PERFORMANCE GUARANTEE FOR WORKMANSHIP, commencing from the date of Completion of contract as certified by BHEL Engineer

**11. Over Run Compensation clause no 2.12 of Vol I C GCC: Not Applicable**

**12. Price Variation Compensation clause no 2.17 of Vol I C GCC: Not Applicable**

**13. Previous contractor\*\* (Who was executing Package- A (Unit#01): Civil & Architectural Works Including Boiler & Mill Bunker foundation; ESP foundation; Duct supporting structure foundation; MRS foundation & associated trenches; ESP control room; Mill Bunker Building(RCC slab for Feeder Floor &Tripper floor ); foundations for coal mills, PA/FD/ID/SA fans foundation; approach road; compressor house; foundations for Pipe & Cable racks for complete SG Package area, Storm water drain; Rain water harvesting; Sewerage system for boiler area & connection up to trunk sewer and Paving etc of SG Island package of Unit#01 at 2x800MW NTPC Ramagundam Site, Dist- Karimnagar, Telangana.) shall not be eligible to participate in this tender.**

**\*\***

i). In case Previous contractor/supplier is The Sole Proprietorship Firm, any Sole Proprietorship Firm owned by same Sole Proprietor.

ii). In case Previous contractor/supplier is The Partnership Firm, any firm comprising of same partners/ some of the same partners (but not including any new partner); or sole proprietorship firm owned by any partner(s) as a sole proprietor.

**14. Clause No 1.10.1: Security Deposit of GCC: Referred clause has been amended as below:**

Existing Clause ( 1.10.1 of GCC)	Amended as ( 1.10.1 of GCC)
Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit towards fulfilment of any obligations in terms of the provisions of the contract. The total amount of Security Deposit will <b>be 5% of</b> the contract value.	Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit towards fulfilment of any obligations in terms of the provisions of the contract. The total amount of Security Deposit will <b>be 3% of</b> the contract value.

**Note:** All the applicable clauses pertaining to the Security Deposit shall be read accordingly.

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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC) INDEX

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10	Tentative Manpower Requirements	Chapter-X
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12	Section C and Section D	Enclosed separately as VOL I E

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter - I : PROJECT INFORMATION**

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<b>1.0 Project Information:</b>		
<b>Sl. No.</b>	<b>Description</b>	<b>Details</b>
<b>1.1</b>	<b>Location</b>	Ramagundam, Distt.-Karimnagar, Telangana State
<b>1.2</b>	<b>Nearest Railway Station</b>	Ramagundam (5 Kms)
<b>1.3</b>	<b>Nearest Airport</b>	Hyderabad (210 Kms)
<b>1.4</b>	<b>Access By Road</b>	Ramagundam Village (5 Kms)
<b>1.5</b>	<b>Major Towns/Cities</b>	Karimnagar (51 Kms)
<b>1.6</b>	<b>Source of Water</b>	Yellampally Barrage on Godavari River, at a distance of about 12 km
<b>1.7</b>	<b>Meteorological Data based on observations from 1951 to 1980</b>	
	Temperature (Max/Min)	47.2 <sup>0</sup> C / 7.8 <sup>0</sup> C
	Humidity (Max/Min)	66% / 44%
	Rainfall (Max/Min)	309.2 mm (Jul) / 5.1 mm (Feb)
	Mean Wind Speed	5.7 Km/Hr

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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### 2.0 Scope of Work:

The scope of civil, structural and architectural works shall include construction of all balance civil, structural and architectural works including supply of all construction materials for all buildings, equipment and facilities for the project, except cement, reinforcement steel, foundation bolts and earthing rod that shall be supplied free of cost by BHEL to the bidder at BHEL's store located inside plant area.

The nature of work generally involves earthwork in excavation, de-watering, backfilling around completed structures, plinth filling, disposal of surplus earth, concreting including reinforcement and form work, masonry work, plastering, painting, flooring, false ceiling, under deck insulation, false flooring, fencing, water supply and sanitation, acid and alkali resistant lining etc. at site and miscellaneous steel works (i.e. inserts, anchor bolts etc.), paving, gravel filling, providing pre-cast covers, damp proofing, roof water proofing, anti-weed treatment, roads, drainage, final grading and site clearance before handing over and any other items of work required for completion of all systems under the scope of work complete. The scope of Bidder for civil, structural and architectural works as defined above shall include but not be limited to the following buildings/areas/systems along with their foundations, super structures and finishes complete:

### 2.1 List of Building/Structure covered for Unit # 1 but not limited to;

- (i) Site Leveling and grading works.
  - (a) Cutting of trees including stacking of usable materials identified by BHEL at suitable location and disposal of unused materials at a location identified by engineer-in-charge and in a manner decided by him.
  - (b) Complete leveling and grading of the area as per drawing furnished during execution stage, specifications and as per directions of Engineer-in-Charge.
  - (c) Disposal and stacking of surplus excavated earth at a location identified by BHEL/NTPC.
  - (d) Land filling with selected earth or suitable granular fill from excavation and from areas designated from borrows pits arranged by bidder.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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- (e) Stone Pitching works.
- (ii) Balance foundations for all buildings/area/systems including machine foundations as per requirement for both shallow and deep foundations.
- (iii) All **Balance Civil**, Structural, Architectural works including underground facilities like drainage, sewerage, trenches, earthing mat/ grounding for the SG, ESP, ID fan & Chimney area covering the following:
  - (a) Boiler, Mill Bunker, Mill Bunker building, ESP, etc.
  - (b) Elevator Pit & Civil Works for M/C room in Boiler Structure.
  - (c) ESP control room building.
  - (d) Bottom Ash Hopper
  - (e) Mill Reject Silo & associated trenches
  - (f) Compressor House
  - (g) Fan (PA/FD/ID Fans)
  - (h) Coal Mill foundations
  - (i) Seal air Fan foundation and all other equipment foundations in Boiler area.
  - (j) Paving in SG, ESP, ID fan & Chimney Area from outer face of C row wall of Main Power House building to 25m beyond outer shell of Chimney towards ash handling facilities enclosed between peripheral roads, including Heavy duty passages, drains, culverts, fire water trench, rail/road crossing of fire water trench, drains.
  - (k) Hard crusting of pre-assembly, fabrication yard, boiler area, passage ways in boiler area.
  - (l) Balance civil works associated with buried pipes.
  - (m) Any other miscellaneous building or facility.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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- (iv) Balance Infrastructure Works:
  - (a) Approach road for building included in this package.
  - (b) Plant storm water drainage in Boiler area and along roads in Bidder's scope.
  - (c) Separate drainage network for plant effluents for all buildings and facilities in Bidder's scope.
  - (d) Sewerage system for Boiler area including other buildings in Bidder's scope and connection up to trunk sewer in the vicinity.
- (v) Balance civil works associated with Air conditioning & ventilation system.
- (vi) Balance Pipe/Cable/duct supporting structures, trenches, culverts, duct banks, pedestals, Hume pipe culverts and thrust blocks etc. associated with all systems covered under the scope.
- (vii) Balance civil works of foundations for Pipe / Cable supports / trestles in SG, ESP, ID fan, Chimney area, Ash handling, aux. boiler and fuel oil system area etc. of Unit #1.
- (viii) Earthing mats & risers for SG area.
- (ix) Dismantling/Removal of existing foundations/facilities if any would be in Bidder's scope.
- (x) Preparation of detailed working drawings and bar bending schedule for all reinforcement & concrete work and getting them approved before start of work by the BHEL Engineer.
- (xi) Fabrication and fixing of templates/frames, fixing of anchor bolts, sleeves, and embedment etc. in concrete.
- (xii) Supply of all instruments and personnel for conducting necessary tests at site as specified/as directed by the Engineer.
- (xiii) After the completion of civil work, the entire area shall be micro graded up to required levels by the contractor to achieve the ground profile as per pavement level requirement at no extra cost. Filling/ cutting required to bring the site up to the required finished levels is in the scope of the contractor. Extra earth required to make up to paved levels shall be arranged by the contractor at his own cost from approved borrow areas/approved earth material available within the site.



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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Civil, structural and architectural works though not explicitly mentioned in the above list but required for the completion of the various systems of the power plant shall also be in the scope of the bidder.

### 2.2 General Scope:

- 2.2.1 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 or specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provided by the engineer during the course of works.
- 2.2.2 Furnishing samples of all materials required by the engineers for testing/inspection and approval for use in the works. The samples may be retained by the engineer for final incorporation in the works.
- 2.2.3 Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
- 2.2.4 Giving all notices, paying all fees, taxes etc., in accordance with the general conditions of contract, that is required for all works including temporary works.
- 2.2.5 Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
- 2.2.6 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 NTPC/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.
- 2.2.7 Providing all incidental items not shown or specified but reasonably implied or necessary for the successful completion of the work in accordance with contract.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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2.2.8 Arranging for joint checking (with BHEL/NTPC/Consultant) of all site construction activities Preparation of joint protocols for each & every activity and maintaining quality records for audit/inspection.

~~2.2.9 The drawings enclosed with this tender are intended to give the tenderer a general idea of the type and extent of work involved. The drawings are as such only indicative and not to be considered as the exact construction drawings.~~

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

2.2.10 The scope of work will also include such other related works although they may not be specifically mentioned in the above paragraph and all such incidental items not specified but reasonably imply and necessary for completion of the job as a whole all as desired and as directed by the engineer.

2.2.11 The detail scope of work covered above is not a comprehensive list of items of work involved. The detail scope of work may vary considerably depending on the actual construction requirements as per RFC Drawings.

### 2.3 Works by Others:

Since, this NIT is for balance works of SG Unit #1, package, bidder has to assess the works done by others & left out job before participating in bidding. No work under the specification will be provided by any agency other than the contractor unless specifically mentioned elsewhere in the contract.

**2.4 NOTE:** Contractor should make him well conversant with the Customer specification (Section C, enclosed separately as VOLIE). In case of ambiguity between BHEL and customer specification, customer specification shall prevail.

### 2.5 Preamble for the Schedule of Quantities/BOQ:

2.5.1 Details of the items in this Schedule shall be read in conjunction with the NTPC / Consultants specifications (Sec-C, VOLIE) , drawings, technical specifications and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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- 2.5.2 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 during actual construction. Final drawings will be issued progressively during the execution of the work.
- 2.5.3 Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
- 2.5.4 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, overhead, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
- 2.5.5 The rate quoted shall be inclusive of cleaning the site of any vegetation, dressing and leveling etc., required for commencement of site activities. The rates shall also be inclusive of final micro grading before handing over. No separate payment will be made towards the same these works.
- 2.5.6 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/NTPC before procurement of bought out items/ building materials.
- 2.5.7 BHEL Engineer's decision shall be final and binding on the contractors regarding clarification of items in this schedule with respect to the other section of the contract.
- 2.5.8 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.
- 2.5.9 Mix design (M20, M25, M30 and M35) for all concreting shall be carried out either at site or from a reputed institute and should get the mix design approved by BHEL/ NTPC prior to start of work, contractor has to ensure

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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adding of admixture and minimizing of cement content in line with IS 456 as advised by BHEL time to time without any additional cost.

- 2.5.10 The scope shall also include setting up by the bidder a testing laboratory (one AC lab size 4.5mtr x 6 mtr and 1 non AC lab 4.5 mtr x 4.5 mtr) in the field to carry out all relevant tests. Detail of laboratory equipment as per TCC is to be arranged by the contractor within quoted rate for conducting day to day one no. chemist to be deployed as necessary. The bidder may tie up with approved/registered inspection agencies for setting up test lab on site as described above.
- 2.5.11 Laying / Cutting & Re-welding of associated electrical earthing works below the road & drains and surrounding areas shall also be done by civil contractor as per drawings for which 40mm dia. MS rod/GI flats shall be supplied by BHEL free of cost.

### 2.6 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/NTPC. Contractor shall establish their own field quality lab and have tie-up with approved lab by BHEL/NTPC in/outside of the plant if so required by BHEL/NTPC.

### 2.7 Issue of cement free of cost:

- 2.7.1 Cement is issued through bulkers being supplied from manufacturer/stockiest; the same shall be emptied in cement silos of batching plant and necessary assistance shall be provided by contractor.
- 2.7.2 Contractor to note that batching plant being established at site shall have minimum 2 cement silos of 100 MT capacities each.
- 2.7.3 In Case, Cement is issued through bags as received from the manufacturer/stockiest. The theoretical weight of each bag of cement for issued purposes will be considered as 50 kg. The contractor shall be accountable for the cement issued to the contractor on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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

### **2.8 Issue of steel free of cost:**

- 2.8.1 Reinforcement steel, Earthing Rod/GI Flats and Foundation Bolts shall be issued on weight basis (Unit – MT).

- 2.8.2 All the steel (reinforcement, earthing rod/GI Flat, Foundation bolts) issued by BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved Bar Bending schedule, fabrication drawings, approved laps, chairs and lugs etc. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS specifications.

IS 1786 or Grade-1 of IS 432 (Part-I) – For rounds including deformed high yield strength bars.

IS 1730: 1961 – Plates, Sheets, Strips/Flats

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

- 2.8.3 The steel issued to the contractor shall be mainly in standard length and sections as received from the supplier. However, the contractor shall be bound to accept the steel in length as available in the project stores, no claims for extra payment because of issue of non-standard length will be entertained.
- 2.8.4 The contractor shall satisfy himself of the quality and quantity of the materials at the time of taking delivery from BHEL stores. No claims whatsoever will be entertained by BHEL because of quality or quantity after the materials are taken by the contractor from BHEL stores.
- 2.8.5 The contractor shall submit to BHEL, a statement indicating estimated quantity of cement and steel required during a quarter. In addition, the contractor shall also furnish the estimated requirement of steel during a month by the third week of the previous month indicating his requirement.
- 2.8.6 One month limit for the maximum quantity of BHEL issue materials that would be with the contractor at any point of time when work is in progress (excluding what has already been incorporated in the works).

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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

### **2.9 Handling of Materials issued by BHEL free of cost:**

- 2.9.1 Materials shall be issued by BHEL based on the weighment basis/linear measurements & sectional weight. However, on specific request of the contractor "as a special case to expedite the job" the consignment received at BHEL stores can directly be diverted to the work site following issuance procedure of BHEL. Such direct issues shall be as per the Challan/dispatch document/LR received with the consignment. In such cases, contractor shall do unloading of materials from trucks/lorry at their own cost.
- 2.9.2 All materials issued by BHEL shall be stacked, stored above ground level by use of concrete or wooden sleepers. No materials shall remain on ground at any time. All concrete or wooden sleepers required for stacking the materials shall be arranged by contractor at his own cost within the quoted rates. All other equipment like winches, D-Shackles, slings of various sizes, pulley blocks, jacks, trucks, trailers etc required for such handling of steel from BHEL stores/storage yard etc shall be arranged by contractor within quoted/accepted rates.
- 2.9.3 Open land for storage purposes shall be provided by BHEL on free of cost/as available basis. Temporary barbed wire fencing of the open storage yard is to be done by the contractor and is included under the scope of his work. Contractor shall also remove grass, bushes, trees etc wherever required off the land provided to him and shall make proper continuous up keeping of the open yard /land by removing grass, bushes trees etc and same is included under the scope of his work & No extra payment shall be made to the contractor in this regard. The bidder shall make complete arrangement of necessary security personnel to safeguard all such materials in his custody. Materials issued will be used only for construction of permanent works. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering. Excessive rusting of steel in custody of agency/contractor must be avoided. In case, due to any cause attributable to the contractor, such rusting of steel occurs rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender.



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

### 2.10 Material consumption and wastage:

#### 2.10.1 Cement Consumption:

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

- (i) As per approved design mix for design mix concrete.
- (ii) As per minimum cement as specified or as approved by engineer-In-charge for nominal mix concrete.
- (iii) **Consumption of cement of items where MIX design and cement is not provided in drawings/specifications will be dealt as per for “Coefficient of cement consumption” DSR-2014.**
- (iv) Actual consumption = Issue - Surplus/unused quantity of cement returned in good condition by the contractor to BHEL store. (No sweep cement will be taken back by BHEL).

#### 2.10.2 Cement Wastage:

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

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

#### 2.10.3 Reinforcement steel, Earthing Rod/GI Flats and Foundation Bolts Consumption:

- (i) The theoretical consumption of various sections and/or diameter of reinforcement and earthing rod steel shall be based on approved construction drawing and bar bending schedule. Weight shall be calculated considering the sectional weights as per Indian standards. No



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

extra cost shall be payable to the contractor for any deviation in weights for the different procedures adopted for issue and calculation of the theoretical consumption including rolling tolerances.

- (ii) Actual consumption = Issue - Surplus.
- (iii) Surplus = un-tampered, unused, uncut quantity of steel including serviceable material returned by the contractor to BHEL store along-with relevant documents.
- (iv) Wastage = Actual consumption - Theoretical consumption.

### 2.10.4 Reinforcement steel, Earthing Rod/GI Flats and Foundation Bolts Wastage:

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

Sl. No.	Reinforcement steel, Earthing Rod and Foundation Bolts Consumption	Basis of issue and penal recovery
R-1	Theoretical consumption (without considering wastage and scrap or loss)	Free
R-2	Wastage limited to plus Three percent (+3%) of aforesaid theoretical consumption (R-1) towards allowable wastage.	Free
R-3	Wastage beyond Three percent (+3%) of the theoretical consumption above (R-1).	Penal Rate

### 2.11 Return of Materials:

#### 2.11.1 Return of Cement:

Sealed cement bags remaining unused and in perfectly good condition at the time of completion or termination of the contract shall be returned promptly, (within 15 days from assessment) if BHEL engineer is satisfied of the physical condition of the cement. Return of such cement to the project stores/place as identified within the project area by BHEL engineer will not be entitled to handling and incidental charges. Only surplus sealed cement bags will be taken back and any other cement with the contractor will have to be consumed.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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### **2.11.2 Return of Reinforcement Steel, Earthing Rod/GI Flats and Foundation Bolts:**

All surplus steel and all wastage materials will be taken back on weightment basis. Surplus, unused and untampered steel shall be sorted out section-wise and returned separately at a place directed by BHEL Engineer within the project area. Return of such materials will not be entitled for any handling and incidental charges. All wastage/scrap (including melting scrap, wastage and unusable scrap) shall be returned to the stores in consultation with BHEL Engineer and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any transportation and incidental charge. Scrap for reinforcement steel shall be returned separately.

### **2.12 Definition of Scrap and Serviceable Materials:**

**2.12.1** All structural steel of length above 2M except M.S Plate shall be considered as serviceable materials provided the materials are free from any physical damage, good condition and un-welded. Structural steel of length less than 2 M shall be treated as scrap.

**2.12.2** Plates having both side greater than 1 Meter OR if any side is less than 1M but greater than 0.5M and the total area is equal to or greater than 2 Sq. Meter shall be considered as serviceable material.

**2.12.3** All pipe measuring 2M and above in length shall be treated as serviceable materials provided they are free from any physical damage, good condition and un-welded. Pipe in less than 2M length shall be treated as Scrap.

**2.12.4** All TMT measuring 3M and above in length shall be treated as serviceable material provided they are free from physical damage, straight, un-welded and in good condition. TMT steel in less than 3M shall be treated as scrap.

### **2.13 Reconciliation of material issued by BHEL free of cost:**

#### **2.13.1 General Notes:**

- (i) All steel like reinforcement steel, earthing rod/GI flats and Foundation Bolts as specified in relevant BOQ shall be issued free of cost by BHEL for use in the work covered in this contract. The contractor shall collect these materials from BHEL stores/storage yard at specified places at his own cost and store the same at his stores as per standard norms. Materials issued will be used only for construction of permanent works.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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- (ii) BHEL reserves the right to recover from the contractor any loss arising out of damage/theft or any other causes or during verification/stacking or at any time under the custody of the contractor.
- (iii) The contractor shall take care of material issued by BHEL and shall protect the same from damage and weathering. Contractor shall construct waterproof cement store, in consultation with BHEL engineer (capacity minimum 250 MT/ 5000 Bags) for storing and stacking of cement.
- (iv) The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However in case of non-availability of any specific section(s) which delays the completion of work, such cases shall be recorded separately in joint review meeting and shall be considered for time extension of contract.
- (v) Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above/ BOQ, as required for the works and of such quality as acceptable to BHEL.
- (vi) The contractor shall maintain proper store account for all the BHEL issued materials and shall give Three (03) copies of monthly-computerized reconciliation statement of such account showing total receipt, consumption and balance at site to the BHEL. BHEL Engineer's certification for the reconciliation of steel shall be final. The detailed reconciliation (dia. wise or as required) shall be done at least once in three months (03) or before submission of final bill which comes earlier.
- (vii) Contractor shall also carryout in complete association with BHEL, the material management functions and execution like day-to-day update of materials issued to contractor, accounting for surplus/scrap material returned, etc. These functions shall also be carried out through computerized system utilizing suitable software. Contractor shall engage experienced software personnel to associate on dedicated basis for efficient discharge of the same in time.
- (viii) The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.
- (ix) BHEL issued materials, shall not be under any circumstances whatsoever, and shall be taken out of the project site unless otherwise permitted by BHEL for outside job.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

- 2.13.2 The contractor shall submit a reconciliation statement of cement and steel issued to the contractor with each RA Bill.
- 2.13.3 At the time of submission of bills, the contractor shall properly account for the material issued to him as specified herein to the satisfaction of BHEL certifying that the balance material are available in the contractor custody at site.
- 2.13.4 At the time of submission of bills, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate, then, BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.
- 2.13.5 The reference drawings for actual material consumption to be used for the purpose of reconciliation shall be drawings prepared by the BHEL and drawings approved by BHEL for fabrication works and such other drawings approved by BHEL. This shall also include the bar bending schedule prepared by the contractor and approved by BHEL.

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

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

Sl. No.	Items	Penal Rates (Rs.)
P-1	Cement (OPC/PPC)	6,500 per MT
P-2	Reinforcement steel, earthing rod/GI Flat etc.	65,000 per MT
P-3	Foundation Bolts	90,000 per MT

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

Material required for the entire job (other than issued by BHEL as explained above) like sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, electrical fittings and wiring material and all other material required for the completion of entire scope, has to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL/ NTPC reserves the right to reject any material not found satisfactory. Apart from the above, it shall be the responsibility of contractor to get materials procured from outside, should get laboratory approved by BHEL/NTPC to ascertain the quality if insisted by BHEL/NTPC.

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/NTPC representative.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Works

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*Bidders are requested to have pre-bid visit/ inspection of site to make them fully acquainted with the site situation & nature of job. No claim shall be entertained at later date on account of non-familiarization of site condition.*

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

Sl. No.	Description <b>PART I</b>	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, Free of Cost)	Yes		Location will be finalized after joint survey with owner
b	Open space for storage (as per availability, Free of Cost)	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	Firefighting 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>			
a	Open space for labour colony (as per availability)	Yes		<b>Free Of cost</b>
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 415 V (To be specified whether chargeable or free)</b>			
a	Single point source of 415 V	Yes		<b>Free.</b> Bidder to make it own arrangement of distribution of electricity at its own cost.

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

Sl. No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	<b>Electricity for the office, stores, canteen etc of the bidder(to be specified whether chargeable or free)</b>			
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	
3.2.3	<b>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc</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	
3.3.0	<b>WATER SUPPLY</b>			
3.3.1	<b>For construction purposes:(to be specified whether chargeable or free)</b>			
a	Making the water available at single point		Yes	Contractor has to make his own arrangement at its own Cost.
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
3.3.2	<b><u>Water supply for bidder's office, stores, canteen etc</u></b>			



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

Sl. No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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	
3.3.3	<b><u>Water supply for Living Purpose</u></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>			
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	

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

Sl. No.	Description <b>PART I</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
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	

Sl.No.	Description <b>PART II</b>	Scope / to be taken care by		Remarks
		BHEL	Bidder	
	<b>3.9.0 ERECTION FACILITIES</b>			
3.9.1	Engineering works for construction:			NOT APPLICABLE
a	Providing the erection/constructions drawings for all the equipment covered under this scope	Yes		
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

### (Scope Matrix)

Sl.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

### 3.1 Construction Power:

- i. Construction Power shall be made available to the Contractor at 415 V feeders of LT substation located at various points in the plant. Contractor shall be fully responsible to make all the arrangement beyond these LT feeder points for further distribution to meet all construction power requirements for the entire area in scope of this package.
- ii. Supply, erection, testing and commissioning of 415V switchboards, power and control cables, DC Systems etc. under the Contractor's scope. All necessary statutory requirements for charging construction power Contractor's network shall be in the Contractor's scope.
- iii. Contractor shall deploy and install required energy meter, cables, fuses, distribution boards, switchboards, bus bars, earthing arrangements, protection devices and any other installation as specified by statutory authority/act.
- iv. Contractor shall also obtain approvals of appropriate authority and pay necessary fees, levies etc towards the clearance of such installations, prior to use. Sufficient power factor compensation equipment's like capacitor shall be provided by contractor for reactive loads like welding machines etc. In case of any fine/penalty on account of low power factor, same shall be shared by contractor proportionately according to power consumption.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – III: Facilities in the scope of Contractor/BHEL

#### (Scope Matrix)

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- v. Contractor shall make necessary arrangements for onward distribution of construction power taking due care of surrounding construction activities like movement of cranes & vehicles, civil work, fabrication/construction/assembly/erection etc. and safety of personnel. It may become necessary to relocate some of the installations to facilitate work by other agencies or by him.
- vi. It shall be the responsibility of the Contractor to provide, maintain the complete installation on the load side of the supply with due regard to the safety requirements at site. All cabling and installations shall comply in all respects with the appropriate statutory requirements. The installation and maintenance of this shall be done by licensed and experienced electrician.
- vii. While reasonable efforts will be made to ensure continuous electric power supply, interruptions cannot be ruled out and no claim from the Contractor shall be entertained on this account such as idle labor, extension of time etc. The Contractor shall adjust his working shift accordingly and deploy additional manpower, if necessary, so as to achieve the target.
- viii. Contractor shall be well equipped with back-up power supply arrangement like DG set and diesel operated welding machine etc. to tackle situations arising due to failure of supplied power, so as to ensure continuity and completion of critical processes that are underway at the time of power failure or important activities planned in immediate future.
- ix. BHEL is not responsible for any loss or damage to the Contractor's equipment as a result of variations in voltage or frequency or interruptions in power supply.

#### **GENERAL:-**

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

### **3.2 Construction Water:**

Construction Water shall be arranged by contractor at his own cost during all stages of construction.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

### Tools & Plants:

Numbers of T&Ps to be deployed at site shall be decided with respect to monthly plan and review formats (F 14) based on site requirement. Below given Nos are tentative for planning purposes by the bidder.

Sl. No.	Description of T&P	Quantity
1	Concrete batching plant (20 Cum/Hr) (with 2 nos of silos of 100 MT capacity each)	01 No
2	Concrete Pump (15/30 Cum/Hr min capacity & lift 60M)	02 Nos
3	Concrete Transit Mixer	03 Nos
4	Electrical Winch (of required capacity)	01 No
5	Vibrators (electrical/diesel)	6 Nos.
6	Air Compressor/ Air Blowers	As per requirement
7	Concrete Breaker (HILTI or equivalent)	As per requirement
8	Welding Machine	03 Nos
9	Self-priming Dewatering pump of various capacity (Diesel/Electric) From 2 HP to 7.5 HP	05 Nos
10	Curing / dewatering pump – 1.5 / 2 HP	02 Nos
11	Hydraulic Excavator /Poclain	01 Nos
12	JCB	01 Nos
13	Hydra Crane (12/14 T cap)	01 No
14	Trailer (20 MT Cap)	01 No
15	Tractor mounted Grader/Loader	01 Nos
16	<ul style="list-style-type: none"><li>• Ply Shuttering board with adequate supporting structure – (Old steel shuttering plates will not be allowed).</li><li>• Steel shuttering (fare face)</li></ul>	Lot (As per requirement)
17	<ul style="list-style-type: none"><li>• Pipe Scaffolding, Clamps / Swivel Couplers (One/Two Way), Props, Jacks, Screw Nos, MS Pipes, Wooden Battens, Planks, Bullies, H Frames, Tie Rods with Nuts, Adjustable Acro Span (Considering Individual Areas)</li></ul>	As per requirement.
18	Dumper	03 Nos
19	Reinforcement bending machine	01 Nos
20	Reinforcement cutting machine	01 Nos
21	MS scaffolding pipe with matching Couplers	As per Requirement
22	Plate Compactor	01 Nos

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

23	Earth Compactors (3 MT capacity)	01 Nos
24	Total Station	01 Nos
25	Auto level & staff	02 Nos
26	Vibro roller	As per requirement
27	Water Tanker	01 Nos
28	All Equipment for area lighting like Halogen bulbs and Portable Light Towers etc for General Area Illumination	As per requirement
29	COMPUTER with printing/photocopying & CD writing facility	As per requirement
30	COMMUNICATION Facilities – Landline, WLL, Mobile, FAX, etc.	As per requirement

### 4.1 Measuring and Monitoring Devices (MMD)

To be finalized at site as per requirement.

### 4.2 ~~Computer Infrastructure:~~

~~The successful bidder(s) will have to establish computerized project management system along with one number supervisor with sufficient computer knowledge (knowledge of MS office) and the following are the minimum requirements of the system:~~

- ~~4.3.1 The bidder will have to install 2 nos PCs (multimedia PC work station Pentium-Duo,1 GHZ or above, 320 GB HDD, 2 GB RAM, 100 MBPS LAN card of HCL/ COMPAQ/ ZENITH or equivalent make with window 8 O/S with required accessories like mouse, keyboard, UPS and required software like MS Office 2010 Professional, AutoCAD 2011, ADOBE PDF CREATOR (version 8.0) with one no laser jet printer compatible for A4 and A3 size printing (ink/ cartridge for which to be supplied as and when required, (the consumption may be assumed as 1 cartridge per month) with power backup at places, as per instruction of BHEL for exclusive use of BHEL.~~
- ~~4.3.2 These computers/printers along with technical supervisor (two nos) shall remain contractor's property/ownership for all legal/technical purposes; however, contractor shall be allowed to take out/release the same after completion of the site works. Further, the computer/printer along with two nos technical supervisor shall remain/work at BHEL offices.~~
- ~~4.3.3 The contractor's technical supervisor shall provide data / information etc. in prescribed formats for periodical updating of the progress reports, Billing, daily progress report, updating of schedule pertaining to the contractor's scope of work etc.~~

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

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- ~~4.3.4~~ This facility has to be provided from 1st month from LOI date till completion of site works or as decided by BHEL. If contractor fails to provide computer/ printer as per requirement, for a continuous period of fifteen days or more, BHEL shall have the right to purchase it at risk and cost of bidder.
- ~~4.3.5~~ In the event of the contract period getting extended beyond the stipulated time for reasons not attributable to the bidder, the bidder will be reimbursed at Rs 8000.00 per month for two computers with printer facility, if the services of computer and printer are being used by BHEL.

### NOTE:

1. 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.
2. All above T&Ps are to be deployed by contractor as and when required as per instruction of BHEL engineer. If works gets delayed due to non-availability of above T&Ps, BHEL reserves the right to deploy the same and recover the charges thereof from the contractor as per prevailing market rate/hiring rate/BHEL internal hiring rates, as the case may be, + Applicable overhead rates.



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

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

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: TIME SCHEDULE

### 6.0 Time Schedule and Mobilization:

#### 6.1 Initial Mobilization and Time Schedule:

After issuance of LOI (through email/fax/courier), Contractor shall report to the Construction Manager/Site-in-Charge of BHEL at site or Project Manager of BHEL at HQ Nagpur within 15 days and conduct KOM (Kick of Meeting) for mobilization of manpower, T&P, Date of start of work and detailed completion program.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the **work completion period of 12 (Twelve) months** in a manner required by BHEL to match with the project schedule.

**Date of start (DOS) of works shall be reckoned as 15<sup>th</sup> day from the date of Issuance of LOI (Letter of Intent). However, the date of start may be reviewed and changed accordingly by Construction Manager/Site-in-Charge/Project Manager of BHEL with recorded reasons in the KOM (Kick of Meeting).**

#### 6.2 Schedule of Work Completion:

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

Sl. No	Activity	Completion Period from the Date of Start
1.	Compressor House	1 Month
2.	MRS system	1.5 Months
3.	Tipper & Feeder Floor	2 Months
4.	ESP Control Room	3 Months
5.	Duct Support Foundations, Pipe rack etc	4 Months
6.	Fire trenches & Culverts	6 Months
7.	Misc. Tank foundations	7 Months
8.	Drains & roads	10 Months
9.	Sewage System	11 Months
10.	Misc. finishing works	12 Months

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: TIME SCHEDULE

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### 6.3 PROVISION OF PENALTY IN CASE OF SLIPPAGE OF INTERMEDIATE MILESTONES:

In case of slippage of Two Major Intermediate Milestones, mentioned as M1 & M2 hereunder, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to F-14.

Milestones	Activity	Completion Period from the Date of Start
M1	Compressor House	1 Month
M2	ESP Control Room	3 Months

**Note:** Refer clause no 5 of Annexure-12: IMPORTANT INFORMATION NIT regarding modalities against provision of penalty in case of slippage of Intermediate Milestones.

#### Notes:

- Common activities like Plant roads, drains, fencing, paving and other misc. works etc. shall be completed in Phase wise manner / Instruction of Engineer within the Contractual time.
- Contractor shall note that individual milestones as above shall be achieved as per schedule furnished above.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VII: TERMS OF PAYMENT

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### 7.0 Terms of Payment:

#### 7.1 Progressive Payment / Final Payment:

The payments for works under the scope of this contract shall be as per clause no 2.6; clause 2.22; clause 2.23 of General Conditions of Contract and Chapter X of Special Conditions of Contract. However, Clause No. 10.5 on RA Bill Payments, in Volume-IB, Chapter-X of SCC, is revised as under:

*The payment for running bills will normally be released within 30 days of submission of running bill complete in all respects with all documents. It is the responsibility of the contractor to make his own arrangements for making timely payments towards labour wages, statutory payments, outstanding dues etc. and other dues in the meanwhile.*

Few points of consideration are as below:

- 7.1.1 The measurements sheets of work done in a month shall be submitted in triplicate duly agreed/signed by BHEL Engineer. The contractor shall extend all necessary assistance for verification of measurements of works without any extra cost.
- 7.1.2 The RA bill payments are interim payments and bills shall be submitted in prescribed formats.
- 7.1.3 **BHEL will release payment through Electronic Fund Transfer (EFT)/RTGS.**
- 7.1.4 Recoveries on account of electricity, water, statutory deductions etc. shall be made as per terms of contract.
- 7.1.5 **100% of item rate shall be made on pro-rata basis as per monthly progress of work. BHEL decision in this regard shall be final and binding on the contractor.**
- 7.1.6 Final bill shall be submitted after completion of works and upon material reconciliation along with all prescribed formats.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

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### 8.0 TAXES, DUTIES, LEVIES (Rev 14 dated 09/10/2020)

1. All taxes excluding GST, GST Cess & BOCW Cess **but including, Royalties, fees, license, deposits, commission, any State or Central Levy and other charges whatsoever, if any, shall be borne by you and shall not be payable extra.**
2. Any increase of the taxes excluding GST, GST Cess & BOCW Cess, at any stage during execution including extension of the contract shall have to be borne by the contractor. Quoted/ accepted rates/ price shall be inclusive of all such requirements. Please note that since GST on output will be paid by BHEL separately as enumerated below, your quoted rates/ price should be after considering the Input Credit under GST law at your end.
3. **GST** :  
The successful bidder shall furnish proof of GST registration .GST along with Cess (as applicable) legally leviable & payable by the successful bidder as per GST Law, shall be paid by BHEL. Hence Bidder shall not include GST along with Cess (as applicable) in their quoted price.
4. GST charged in the Tax Invoice/Debit note by the contractor shall be released separately to the contractor only after contractor files the outward supply details in GSTR-1 on GSTN portal and input tax credit of such invoice is matched with corresponding details of outward supply of the contractor and has paid the GST at the time of filing the monthly return
5. E-invoicing under GST has been implemented with effect from 1st October 2020 for all the taxable persons having turnover more than the threshold limit in any preceding financial year from 2017-18 onwards. Therefore, for all the taxable persons falling under the purview of E-invoice, it is mandatory to mention a valid unique Invoice Reference No. (IRN) and QR code as generated from E-Invoicing portal of the Government for the purpose of issuing a valid Tax Invoice. Only an E-invoice issued in the manner prescribed under rule 48(4) of CGST Rules shall be treated as valid invoice for reimbursement of GST amount.  
If the successful Bidder is not falling under the purview of E-Invoicing then he has to submit a declaration in that respect along with relevant financial statements.
6. Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules (Section 31 of GST Act & Rules referred there under) wherein the 'Bill To' details will as below:  
BHEL GSTN – As per **Annexure -1**  
NAME -- Bharat Heavy Electricals Limited  
ADDRESS – Site address

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

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7. Bidder to immediately intimate on the day of removal of Goods (in case of any supply of goods) to BHEL along with all relevant details and a scanned copy of Tax Invoice to below email ids to enable BHEL to meet its GST related compliances :-  
Email id ---- to be intimated later on.  
In case of delay in submission of the abovementioned documents on the date of dispatch, BHEL may incur penalty /interest for not adhering to Invoicing Rules under GST Law. The same will be liable to be recovered from the successful bidder, if such delay is not attributable to BHEL.
8. In case of raising any Supplementary Tax Invoice (Debit / Credit Note) Bidder shall issue the same containing all the details as referred to in Section 34 read with Rule 53.
9. Bidder shall note that in case GST credit is delayed/ denied to BHEL due to delayed / non receipt of goods and /or tax invoice or expiry of the timeline prescribed in GST Law for availing such ITC, or any other reasons not attributable to BHEL, GST amount shall be recoverable from the vendor along with interest levied / leviable on BHEL, as the case may be.
10. Bidder shall upload the Invoices raised on BHEL in GSTR-1 within the prescribed time as given in the GST Act. Bidder shall note that in case of delay in declaring such invoice in your return and GST credit availed by BHEL is denied or reversed subsequently as per GST Law, GST amount paid by BHEL towards such ITC reversal as per GST law shall be recoverable from the bidder along with interest levied / leviable on BHEL.
11. Way Bill: Successful Bidder to arrange for way bill / e-waybill for any transfer of goods for the execution of the contract.

The Bidder has to make their own arrangement at their cost for completing the formalities, if required, with Issuing Authorities, for bringing materials, plants & machinery at site for execution of the works under this contract, Road Permit/ Way Bill, if required, shall be arranged by the contractor and BHEL will not supply any Road Permit/ Way Bill for this purpose.

12. **New taxes and duties:-**Any New taxes & duties, if imposed subsequent to due date of offer submission as per NIT & TCN, by statutory authority during contract period including extension, if the same is not attributable to you, shall be reimbursed by BHEL on production of relevant supporting document to the satisfaction of BHEL. However, you shall obtain prior approval from BHEL before depositing new taxes and duties. Benefits and/or abolition of all existing taxes must be passed on to BHEL against new Taxes, if any, proposed to be introduced at a later date.  
In case any new tax/levy/duty etc. becomes applicable after the date of bidder's offer but before opening of the price bid, the bidder must convey its impact on his price duly substantiated by documentary evidence in support of the same before opening of the

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

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price bids. Claim for any such impact after opening the price bid will not be considered by BHEL for reimbursement of tax or reassessment of offer.

13. For transportation work, bidder shall declare in his quotation whether he is registered under GST, if yes, whether he intends to claim GST on forward charge basis. In absence of this declaration, BHEL will proceed further with the assumption that bidder intends not to claim GST on forward charge basis. However, in case of GST registered transporter, the amount to the extent of goods and service tax will be retained till BHEL avails the credit of GST. Further, transporter shall issue tax invoice which inter alia includes gross weight of the consignment, name of the consigner and the consignee, registration number of vehicle in which the goods are transported, details of goods transported, details of place of origin and destination, GSTIN of the person liable for paying tax whether as consigner, consignee or goods transport agency, and also containing other information as mentioned under rule 46.
14. **TDS under Income Tax shall be deducted at prevailing rates on gross invoice value from the running bills unless exemption certificate from the appropriate authority/ authorities is furnished.**
15. **TDS under GST shall be deducted at prevailing rates on applicable value from the running bills.**
16. **TCS under Income Tax 1961 has been implemented with effect from 1<sup>st</sup> October 2020 for every seller having turnover more than threshold limit during financial year immediately preceding financial year in which the sale of goods is carried out, who receives any amount as consideration for sale of any goods of the value or aggregate of such value exceeding threshold limit other than export of goods or who is already covered under other provision of section 206C, collect from the buyer, TCS as per applicable rates of the sale consideration exceeding threshold limit subject to following conditions**
  - i. Buyer shall be as per clause (a) of section 206C- (1H)
  - ii. Seller shall be as per clause (b) of section 206C- (1H)
  - iii. No TCS is to be collected, if the seller is liable to collect TCS under other provision of section 206C or the buyer is liable to deduct TDS under any provision of the Act and has deducted such amount.

**If Successful Bidder is falling under the purview of TCS then he has to submit a declaration in that respect along with relevant financial statements before the**

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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

start of work or if bidder is falling under preview of TCS during the work in progress then bidder is compulsorily required to submit relevant financial statement in the beginning of the respective FY.

For TCS claim, vendor has to submit relevant documents required as per Income Tax Act.

17. Refer Annexure – 2 for BOCW Act & Cess Act.

### ANNEXURE-1

#### State wise GSTIN no.s of BHEL

Sl. No	Projects under state	GSTIN
1	Andhra Pradesh	37AAACB4146P7Z8
2	Bihar	10AAACB4146P1ZU
3	Chhattisgarh	22AAACB4146P1ZP
4	Gujarat	24AAACB4146P1ZL
5	Jharkhand	20AAACB4146P5ZP
6	Madhya Pradesh	23AAACB4146P1ZN
7	Maharashtra	27AAACB4146P1ZF
8	Orissa	21AAACB4146P1ZR
9	Telangana	36AAACB4146P1ZG

### ANNEXURE-2

#### BOCW Act & Cess Act

Bidder may please note that the sub-contractor/bidder of BHEL engaging building or construction worker in connection with building or other construction work, are required to follow the procedures enumerated below:

1. It shall be the sole responsibility of the contractor as employer to ensure compliance of all the statutory obligations under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
2. It shall be sole responsibility of the contractor engaging Building Workers in connection with the building or other construction works in the capacity of employer to apply and obtain registration certificate specifying the scope of work under the relevant provisions of the Building and Other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 from the appropriate Authorities.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

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3. It shall be responsibility of the contractor to furnish a copy of such Registration Certificate within a period of one month from the date of commencement of Work.
4. It is responsibility of the contractor to register under the Building and other Construction Workers' Welfare Cess Act, 1996 and deposit the required Cess for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 at such rate as the Central Government may , by notification in the Official Gazette, from time to time specify. However, before registering and deposit of Cess under the Building and other Construction Workers' Welfare Cess Act, 1996, the contractor will seek written prior approval from the Construction Manager.
5. It shall be sole responsibility of the contractor as employer to get registered every Building Worker, who is between the age of 18 to 60 years of age and who has been engaged in any building or other construction work for not less than ninety days during the preceding twelve months as Beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996.
6. It shall be sole responsibility of the contractor as employer to maintain all the registers, records, notices and submit returns under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.
7. It shall be sole responsibility of the contractor as employer to provide notice of poisoning or occupation notifiable diseases, to report of accident and dangerous occurrences to the concerned authorities under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the rules made thereunder and to make payment of all statutory payments & compensation under the Employees' Compensation Act, 1923.
8. It shall be the responsibility of the sub-contractor as employer to make payment/deposit of applicable cess amount on the extent of work involving building or construction workers engaged by the sub-contractor within a period of one month from the receipt of payment. It shall also be responsibility of the Contractor to furnish BHEL on monthly basis, Receipts/ Challans towards Deposit of the Cess under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder along with following statistics :
  - (i) Number of Building Workers employed during preceding one month.
  - (ii) Number of Building workers registered as Beneficiary during preceding one month.
  - (iii) Disbursement of Wages made to the Building Workers for preceding wage month.
  - (iv) Remittance of Contribution of Beneficiaries made during the preceding month
9. BHEL shall reimburse the contractor the Cess amount deposited for the purposes of the Building and other Construction Workers' (Regulation of Employment and Conditions of

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter-VIII: Taxes and Duties

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Service) Act, 1996 under the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder. However, BHEL shall not reimburse the Fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and Contribution of Beneficiaries remitted.

10. It shall be responsibility of the Building Worker engaged by the Contractor and registered as a beneficiary under the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 to contribute to the Fund at such rate per mensem as may be specified by the State government by notification in the Official Gazette. Where such beneficiary authorizes the contractor being his employer to deduct his contribution from his monthly wages and to remit the same, the contractor shall remit such contribution to the Building and other construction Workers' Welfare Board in such manner as may be directed by the Board , within the fifteen days from such deduction.
11. Bidders may please note that though the quoted price is exclusive of BOCW (which will be reimbursed by BHEL as per sub-clause 9 above) , however, If at any point of time during the contract period, non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder is observed, BHEL reserves the right to deduct the applicable cess (1%) on the contract value and penalty ( if any, imposed by Cess Authorities) from the payables on account of non-compliance.
12. The contractor shall declare to undertake any liability or claim arising out of employment of building workers and shall indemnify BHEL from all consequences / liabilities / penalties in case of non-compliance of the provisions of the Building and other Construction Workers' (Regulation of Employment and Conditions of Service) Act, 1996 and the Building and other Construction Workers' Welfare Cess Act, 1996 and the rules made thereunder.

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**CHAPTER IX – Technical Specifications**

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**9.0 Following Technical Specifications and Drawings shall be integral parts of this tender:**

<b>SL. NO</b>	<b>DOCUMENTS</b>	
1.	<b>Section C:</b> Specific Technical Specification	Enclosed separately as VOL I E
2.	<b>Section D:</b> General Technical Specification	

TECHNICAL CONDITIONS OF CONTRACT (TCC)  
CHAPTER X – Tentative Manpower Requirements

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**Tentative Manpower Requirements:**

1. **Project manager – 01** with adequate experience of minimum 10-15 Years in Industrial Foundation, Building & Structural Works, Power Plant Civil & architectural Works.
2. Experienced Civil Engineers – 04 heads
3. Experienced Foreman / Supervisors – 8 heads
4. Planning & Billing Engineer – 01 heads
5. Stores, Gate Pass – 01 heads
6. Accounts & Administration– 01 head
7. Quality Control Engineer/Chemist – 01 head
8. Safety Engineer – 01 head
9. Surveyor – 01 heads capable to handle total station
10. Operator, Licensed Electrician, Mechanic – As per requirement
11. Experienced Carpenters & Helpers – lot for similar nature of work
12. Experienced Bar Benders & Helpers – lot for similar nature of work.
13. Security Guards (Round The Clock) – As per requirement

**10.0** Deputation of above man-power shall be jointly decided at site in line with construction schedule.

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

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

TECHNICAL CONDITIONS OF CONTRACT (TCC)  
CHAPTER X – Tentative Manpower Requirements

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**10.3** BHEL reserves the right to reject or approve the list of personnel proposed by the contractor. The persons whose bio-data have been approved by BHEL will have to be posted at site and deviation in this regard will not be permitted unless specific & reasonable justification is made.

**10.4** In addition to above, a well experienced qualified engineer to be designated, as 'Project Co-coordinator', shall be deployed by the contractor. Such engineer shall have adequate exposure on the job and shall remain fully involved in all planning activities, guidance etc. to contractor's own team during the complete execution period of contract.

The contractor should also submit the fitness/calibration certificate for T&Ps regularly and renew as per applicable IS standards and statutory requirements. The tools & tackles shall not be removed from site without written permission of BHEL.

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

BOQ				
SL. NO	DESCRIPTION OF ITEM	Unit	Qty (A)	Factors/Weightage for 'Total for Calculation purpose only' w.r.t total lumpsum price quoted by bidder (%)
<b>Part-I: Balance Civil Package</b>				
<b>100 EARTH WORK</b>				
	<b>Earth work in excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following.</b>			
<b>101</b>	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, levelling, dewatering (but excluding special type of dewatering viz. well point method), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading/levelling of disposed materials etc all complete for following depths below ground level.			
<b>a</b>	Depth from ground level but not exceeding 2 m	CUM	15695.48	<b>1.25744382</b>
<b>b</b>	Depth exceeding 2 m but not exceeding 4 m	CUM	510.08	<b>0.05108133</b>
<b>103</b>	<b>Earth work in excavation in soft rock</b> (rock without any recovery of excavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, dewatering (wherever required), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking, disposal of surplus excavated materials within a lead upto 500 m, spreading / levelling of disposed materials etc all complete for following depths below ground level.			



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

<b>a</b>	Depth from ground level but not exceeding 2 m	CUM	1315.96	<b>0.15593156</b>
<b>b</b>	Depth exceeding 2 m but not exceeding 4 m	CUM	2458.10	<b>0.34954005</b>
<b>c</b>	Depth exceeding 4 m but not exceeding 6 m	CUM	10.00	<b>0.00170633</b>
<b>105</b>	<b>Earth work in excavation in hard rock requiring controlled blasting</b> including wedging, line drilling, pre shearing etc as required, setting out, levelling, dewatering (wherever required), shoring & strutting (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated material within a lead upto 500m, spreading / levelling of disposed materials etc all complete for following depths below ground level.			
<b>a</b>	Depth from ground level but not exceeding 2 m	CUM	249.00	<b>0.05525847</b>
<b>b</b>	Depth exceeding 2 m but not exceeding 4 m	CUM	490.02	<b>0.1304451</b>
<b>c</b>	Depth exceeding 4 m but not exceeding 6 m	CUM	1484.58	<b>0.4744127</b>
<b>A107</b>	<b>Back filling</b> upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding <b>300 mm compacted thickness</b> using/with <b>selected materials from compulsorily excavated earth</b> available within a lead upto 500m and compacted as specified including re-excavation of stacked earth, watering, ramming/compaction by manual/mechanical means, dressing etc all complete.for the following.			
<b>b</b>	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	3717.35	<b>0.28540243</b>
<b>A108</b>	<b>Back filling</b> upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding <b>300 mm compacted thickness</b> using/with selected materials <b>directly from excavation</b> and compacted as specified including watering, ramming / compaction by manual/mechanical means, dressing etc all complete for the following.	-		
<b>b</b>	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	6210.27	<b>0.23837804</b>

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

109	<b>Extra over ST No. 101 and 103 to 107</b> for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	3854.20	<b>0.05790263</b>
111	<b>Supplying and filling sand</b> upto any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	91.87	<b>0.12964593</b>
<b>200 CONCRETE WORKS</b>				
<b>Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating and curing, (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.( BHEL will supply Cement Free of Cost as per TCC)</b>				
201	<b>Concrete of grade M7.5</b> (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as <b>filling course</b> at any depth below finished floor level, under and around foundations/floors, mass fill etc.	CUM	4216.67	<b>10.79222763</b>
202	Concrete of <b>grade M10</b> (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as <b>lean concrete, levelling course</b> , mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	1.00	<b>0.0025594</b>
204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.			
a	M15 Grade	CUM	30.26	<b>0.07744569</b>

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

205	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in foundations/substructure, grade slab, paving, drains, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.			
a	M25 Grade	CUM	9537.18	27.16492534
206	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in superstructure at any level above finished floor level, any shape, position or thickness etc complete including use of <b>plasticizer/ superplasticizer</b> conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.			
a	M25 Grade	CUM	536.79	1.5481215
A206	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works with coarse sand and graded hard stone aggregate of 20mm nominal size in superstructure at any level above finished floor level, any shape, position or thickness etc complete including use of <b>waterproofing</b> cum plasticizer/ superplasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.			
a	M25 Grade	CUM	46.32	0.13359496

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

<b>A207</b>	Providing and laying Design Mix cement concrete conforming to IS:456 & IS 10262-2009 for reinforced concrete works of grade <b>M-35 Grade</b> in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Coal mills at all elevations below/above finished floor level except TG deck and top decks supported over vibration isolation system including addition of suitable plasticizer conforming to IS 9103(latest) to achieve a slump more than 125mm in concrete as per manufacturer's recommendation with 20 mm nominal size graded aggregate in concrete all complete as per specification & drawing.	CUM	46.32	<b>0.13289936</b>
<b>209</b>	Extra over St. No. 205 to 208 for <b>controlling of temperature</b> of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	46.32	<b>0.02988114</b>
<b>210</b>	Extra over ST Nos. 205 to 207 for <b>conducting UPV test</b> for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	46.32	<b>0.01577186</b>
<b>211</b>	Providing and <b>encasing</b> of structural steel member with <b>concrete</b> using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. (Payment of welded wire mesh, chicken wire mesh shall be made separately)			
<b>a</b>	M30 grade	CUM	0.50	<b>0.00127925</b>
<b>212</b>	<b>Screed concrete conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness, drains etc complete as per following.</b>			
<b>a</b>	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	109.66	<b>0.28065724</b>
<b>b</b>	1:1.5:3 (1 part cement, 1.5 part sand, 3 parts of aggregate by volume)	CUM	0.50	<b>0.0015125</b>

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

213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete <b>in precast works</b> like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing, welding etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.			
<b>b</b>	M 30 grade	CUM	350.87	<b>1.54012127</b>
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in water retaining/conveying structures including addition of suitable plastisizer cum waterproofing cement additives confirming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nomi0l size graded aggregate for following grades.			
<b>b</b>	M 30 grade	CUM	1.00	<b>0.00390797</b>
215	<b>Dismantling concrete</b> work for all types of structures at all levels including stacking of servicable material to a lead of 500 m and disposal of unservicable material upto a lead of 2 km, cutting of reinforcement, labour, equipment, safety precautions etc all complete as per drawings, specification and instructions of engineer in charge.			
<b>a</b>	Plain cement concrete of all grades	CUM	0.20	<b>0.00016906</b>
<b>b</b>	Reinforced cement concrete of all grades	CUM	2.00	<b>0.00243674</b>
216	<b>Chipping of concrete</b> in reinforced concrete work, cutting pockets, making openings at all levels and according to shapes, disposal of waste materials upto a lead of 2 km as directed by engineer including equipment, safety precautions, making good the broken surface etc all complete as per specification, drawing, instructions of engineer in charge but excluding cutting of reinforcement .	CUDM	20.00	<b>0.00075075</b>

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

217	Extra over and above St No 216 for cutting of reinforcement, all sizes and types including labour, equipment, return of cut reinforcement to store etc all complete as per specification, drawings and instructions of engineer in charge. Measurement shall be on the cross section area of reinforcement cut.	SQCM	10.00	0.00002472
218	Cutting Reinforced concrete with mechanised tools like Core drilling machine etc. for cutting pockets, holes, cores in slab, beam, column or foundation as per direction of engineer in charge.	CUDM	5.00	0.00041434
<b>300 FORM WORKS</b>				
<b>Providing, fixing and removing formwork at any elevations for all structures, as per specifications and including all labour, material, scaffoldings and centereing complete including pockets etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.</b>				
A301	<b>Fairface form work</b> with good quality water proof ply wood with film face of required thickness and smooth surface <b>below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	12137.78	4.55806912
A302	<b>Fairface form work</b> with good quality water proof ply wood with film face of required thickness and smooth surface <b>above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights.	SQM	1607.43	0.71766154
A304	Providing, fixing and removing <b>formwork having film face in block-outs/pockets</b> and openings (below 0.1 sqm plan area) at all elevations including cutting, formation of all shapes and all other operations required for making the required shape and size all complete as per specification, drawing and instruction of engineer in charge.			
a	Upto 150 mm depth	Each	182.00	0.03097893

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

<b>b</b>	Pockets of depths more than 150mm and upto 300 mm depth	Each	83.00	<b>0.02486103</b>
<b>c</b>	Pockets of depths more than 300mm and upto 600 mm depth	Each	58.00	<b>0.0320317</b>
<b>d</b>	Pockets of depths more than 600mm and upto 1000 mm depth	Each	16.00	<b>0.0141101</b>
<b>e</b>	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	1.00	<b>0.00128824</b>
<b>400 REINFORCEMENT</b>				
<b>401</b>	Providing, straightening, cutting, bending, placing in position at any level, binding of <b>mild steel reinforcements</b> conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings.	MT	0.10	<b>0.00533387</b>
<b>A402</b>	Taking delivery from BHEL store, transportation to site, straightening, cutting, bending, placing in position at any level, binding in position of <b>steel reinforcements</b> of <b>TMT steel of grade Fe-500</b> confirming to <b>IS:1786</b> including cost of binding wire, labour, scaffolding, transportation to & from stores, submission of optimized bar bending schedule, stacking of cut pieces/scrap steel as per sizes for easy retrieval for further use etc complete all as per specifications, drawings and as directed by Engineer. (Reinforcement shall be provided free of cost)	MT	563.38	<b>4.44476515</b>
<b>500 WATER PROOOOFING WORKS</b>				
<b>Water proofing works including all labour, material, equipment, transportation, handling, curing, sampling, testing etc at any level as per specification, drawings and as directed by engineer - in - charge. ( BHEL will supply cement free of cost as per TCC)</b>				
<b>A501</b>	Providing and laying <b>plaster with cement mortar 1:4</b> (1 cement : 4 sand) and average thickness of 15 mm over grading underbed/slab including preparation of surface, batching, mixing, leveling etc. all complete.	SQM	2282.26	<b>0.19235058</b>



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

506	<b>Providing and applying PU based water proofing treatment with one coat of polyurethane</b> or any other equivalent material based primer with an application rate of minimum 6 sq.m per litre and <b>two successive liquid coatings of high solids content urethane pre-polymers</b> or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric for edges, joints & vulnerable points etc all complete as per specifications and directions of engineer in charge.	SQM	2425.02	1.7322767
507	<b>Providing and laying wearing course</b> consisting of <b>25mm thick plain cement concrete</b> of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	2159.99	0.65251325
A508	Providing and laying <b>chequered pressed precast concrete tiles</b> minimum 22 mm thick(size 200x200) conforming to IS:13801 of approved shade and colour with 20 mm thick 1:4 cement mortar over the top most layer of roofing treatment with fine joints including sealing of joints with polysulphide sealant (cost of material & application of polysulphide sealant is included in this itemcon/elastomeric sealant) etc all complete. (Water proofing paid elsewhere)	SQM	264.05	0.12361571
A509	<b>Providing and applying three coats of bitumen grade 85/25</b> as per IS 702 ( @ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	4672.32	0.47568852
<b>600 JOINTS AND FILLERS</b>				
<b>Joints &amp; fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>				



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

<b>601</b>	Supplying & installation of bitumen impreg0ted fibre board confirming to IS 1838 as joint filler at joints in concrete including Oiling, coating of both faces with coal tar pitch/bitumin etc. all complete.			
<b>a</b>	12 mm wide joints.	SQM	0.10	<b>0.00004105</b>
<b>b</b>	20 mm wide joints.	SQM	0.10	<b>0.00006475</b>
<b>c</b>	25 mm wide joints	SQM	1626.28	<b>1.2946962</b>
<b>d</b>	50 mm wide joints	SQM	0.10	<b>0.00015371</b>
<b>602</b>	Providing and applying <b>polysulphide based sealant</b> conforming to IS:12118 in expansion joints in concrete including cleaning of joints, raking out groove, application of primer, scaffolding etc. all complete for following size grooves:			
<b>a</b>	12mm X 25mm	RM	1.00	<b>0.00012216</b>
<b>b</b>	20mmX25mm	RM	1.00	<b>0.00019136</b>
<b>c</b>	25mmX25mm	RM	1.00	<b>0.00046396</b>
<b>d</b>	50mmX25mm	RM	1.00	<b>0.00089374</b>
<b>603</b>	Supplying and filling in position hot applied <b>bitumin sealing compund</b> (Grade A) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
<b>a</b>	10mm X 40mm	RM	0.50	<b>0.00001376</b>
<b>b</b>	12mm X 25mm	RM	0.50	<b>0.00001249</b>
<b>c</b>	20mmX25mm	RM	0.50	<b>0.00001501</b>
<b>Ad</b>	32mmx25mm	RM	0.50	<b>0.00001025</b>
<b>604</b>	Supplying and filling in position hot applied <b>bitumin sealing compund</b> (Grade B) confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.			
<b>a</b>	10mm X 40mm	RM	0.50	<b>0.00002327</b>
<b>b</b>	12mm X 25mm	RM	0.50	<b>0.00001959</b>
<b>c</b>	20mmX25mm	RM	0.50	<b>0.0000265</b>
<b>605</b>	Providing and sealing of joints with premium grade <b>silicon sealant</b> (Silpruf of GE silicons or approved equivalent) including cleaning of joints, raking out groove, joint filler tapes, application of primer, curing, scaffolding etc. all complete as per manufacturer's recommendation for following size groove:			
<b>a</b>	25mmX25mm	RM	0.50	<b>0.00008205</b>

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<b>b</b>	50mmX25mm	RM	0.50	<b>0.00014682</b>
<b>606</b>	Providing and fixing <b>PVC water stops</b> in joints conforming to IS 12200 & IS 15058 all complete for the following:			
<b>d</b>	230 mm wide and 6 mm thick	RM	126.60	<b>0.02028426</b>
<b>A608</b>	Providing and installing 3 mm thick stainless steel strip in matt or buff finish and minimum width 100 mm at the expansion joints from reputed manufacturers to contain the filler material and/ or to exclude passage of water or any other material into or out of the structure, without any longitudinal joint; and shall be procured and installed in largest practicable lengths having a minimum number of transverse joints with jointing procedure as per the manufacturer's recommendations including the material and tools required for jointing, testing, protection, etc all complete.	SQM	0.10	<b>0.00006176</b>
<b>A609</b>	Supply and installation of Polystyrene board of type-1 conforming to IS 4671 with density 20 kg/cum as joint filler at joint of concrete including Oiling, coating of both faces with coal tar pitch /butimen etc. all complete.			
<b>a)</b>	100mm thick	SQM	10.00	<b>0.00358745</b>
<b>700 MS EMBEDMENTS</b>				
<b>Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
<b>701</b>	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	41.73	<b>2.49920608</b>
<b>702</b>	Same as above with BHEL supplied material free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.	MT	1.00	<b>0.01363387</b>
<b>703</b>	Fixing of embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc. including scaffolding, setting in position, transportation from BHEL site stores to work spot etc. all complete.	MT	2.00	<b>0.02726775</b>

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<b>704</b>	Supply, Fabrication, transportation, delivery at site and erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling etc. all complete.	MT	0.25	<b>0.01868951</b>
<b>704a</b>	Erection, installation and alignment of mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. including welding, cutting, grinding, threading, drilling, including loading, transportation, unloading etc. all complete from BHEL store to plant site. etc. all complete.	MT	8.83	<b>0.11926096</b>
<b>705</b>	Supplying, fabricating, erecting and installing following items in concrete/brickwall for all kind of works, including setting material in concrete, layout, scaffolding, cutting, forming, grinding, drilling, bolting, welding, jointing, testing etc. all complete.			
<b>a</b>	MS pipes of all diameters	Quintal	0.25	<b>0.00001499</b>
<b>b</b>	PVC pipes / conduits of all diameters	Quintal	0.10	<b>0.00002127</b>
<b>c</b>	UPVC pipes / conduits of all diameters	Quintal	0.10	<b>0.00002219</b>
<b>d</b>	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:			
<b>i</b>	Upto 250 kg	Each	1.00	<b>0.00003457</b>
<b>ii</b>	Beyond 250 Kg and upto 500 kg	Each	1.00	<b>0.00004148</b>
<b>iii</b>	Beyond 500 Kg and upto 750 kg	Each	1.00	<b>0.00004609</b>
<b>e</b>	Expansion fasteners (mechanical galvanised) of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:			
<b>i</b>	Upto 250 kg	Each	1.00	<b>0.00008298</b>
<b>ii</b>	Beyond 250 Kg and upto 500 kg	Each	1.00	<b>0.00011986</b>
<b>iii</b>	Beyond 500 Kg and upto 750 kg	Each	1.00	<b>0.00019361</b>
<b>800 GROUTING</b>				

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<b>Grouting including all labour, material, equipment, roughening surface, cleaning, ramming, curing etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.(BHEL will provide Cement free of Cost as per TCC)</b>				
<b>801</b>	Providing & grouting with <b>cement slurry mix</b> of approved ratio using <b>pressure pump</b> for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at minimum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	10.00	<b>0.00418578</b>
<b>803</b>	Providing & grouting of pocket holes, pipe sleeves and under base plate of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>mix 1:1:2</b> (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips ) using non shrink admixture. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	0.10	<b>0.00130706</b>
<b>804</b>	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>ConbextraGP-1 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	0.10	<b>0.00532746</b>
<b>805</b>	Providing & grouting of pocket holes, pipe sleeves and under base plates of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing, etc. all complete with <b>Conbextra GP-2 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	0.10	<b>0.00629532</b>
<b>900 DOORS, WINDOWS, VENTILATORS, LOUVERS</b>				

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<b>Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material, equipments, transportation, handling, preparation of working drawings etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
<b>903</b>	Providing, fitting and fixing <b>solid core flush door shutter</b> as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldehyde synthetic resin, partical board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops ,125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anoidised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately)	SQM	10.40	<b>0.03627244</b>
<b>904</b>	Providing and fixing single or double steel door shutters with 45mm thk flush design shutter comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centres including void filled with mineral wool (density as per specification), all fittings, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete.	SQM	106.91	<b>0.45782796</b>

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<b>A906</b>	Providing and fixing anodized extruded aluminium doors (single or double shutter) conforming to IS:1948, IS:1949 fabricated from extruded sections of HINDALCO/JINDAL or equivalent make having minimum 2 mm wall thickness as per IS:1285, IS:733 and anodized and electro color coating of required shade as per IS 1868 ( minimum anodized coating of grade AC15 ). fixed with rawl plugs, expansion fasteners,SS screws / fixing clips necessary filling of gaps at Junctions, at top, bottom & sides with required PVC / neoprene felt for bi-metallic protection etc. Glazing shall be clear toughened glass of 10mm thickness including s0p fit type beading, concealed screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. (Glazing shall be paid separately)	SQM	20.04	<b>0.0076256</b>
<b>907</b>	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs.	SQM	22.68	<b>0.16343016</b>

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909	<p>Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventilators, partitions, railing etc with extruded standard tubular and other sections including all fittings &amp; fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bi-mettalic protection etc.including preperation of working drawings, aluminium cleat angle, aluminium s0p-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stailess steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately).Weight of aluminium section only shall be measure.</p>	Kg	3000.00	1.06399633
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<b>A910</b>	Providing and fixing of aluminum Composite Panel for encasing of internal columns at all heights and elevation, fixed on to the supporting steel members, fastening material and hardware complete with all labour, material, equipment, handling, transportation, workmanship, preparation of working drawings, staging, scaffolding, etc., all complete. The aluminum composite panel should consist of 3mm thick thermoplastic core of anti oxidant II B fire rated LDPE core mixed with mineral fibre sandwiched between 2 skins of 0.5mm thick aluminum alloy sheet making a total panel thickness of 4mm. The surface shall be finished with PVDF based coating of minimum 30 micron on the topsides and services coating on the reverse side shall be with polymer paint. Coating shall conform to ECCA or AAMA.the surface shall be protected with self adhesive peel of masking foil. The system shall be fixed to columns with necessary clamps, brackets and anchor fasteners. All clamps and brackets shall be Hot dip galvanized minimum 80 microns thick and shall conform to IS: 4759-1996. The extruded aluminum section shall be anodized in approved colour with a anodic coating of minimum 20 microns. Extruded section shall be 6063 T5 or T6 alloy conforming to ASTM B221. Any other festering straps, nuts, bolts, rivets, washers, etc. shall be in stainless steel SS304 grade. EPDM gaskets, open cell polyethylene backer rods, weather sealant etc. shall be provided as per requirement.	SQM	54.43	<b>0.30781275</b>
<b>911</b>	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type :			
<b>a</b>	Over head hydraulic door closures	Each	8.00	<b>0.00924197</b>
<b>b</b>	Floor mounted Hydraulic door closers	Each	6.00	<b>0.0119102</b>
<b>912</b>	Providing and fixing <b>pressed steel frames</b> fabricated from <b>16 gauge M.S sheet</b> mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	268.48	<b>0.02576678</b>



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913	Providing and fixing in position rolling shutter of hot rolled double dipped galvanised steel lath section of 18 SWG tested mild steel strips at 75mm rolling centres interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs, top cover, primer & shop coats of approved e0mel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).			
c	Electrically operated	SQM	23.50	0.06569627
915	Providing, fixing and fitting of <b>glazing of first grade class</b> in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.			
b	4 mm thick clear float glass	SQM	41.15	0.01856244
Ae	2mm thick fire and u/v resistant Polycarbonate sheet of GE plastic or equivalent approved make with profile matching with metal sheeting and suitable for continuous use up to a temperature of 100 deg C. Suitable aluminium beading shall be used. The open ends of the sheet shall be sealed as per manufacturer's recommendations .	SQM	1.00	0.00084757
Be	3 mm thick fire and u/v resistant Polycarbonate sheet of GE plastic or equivalent approved make with profile matching with metal sheeting and suitable for continuous use up to a temperature of 100 deg C. Suitable aluminium beading shall be used. The open ends of the sheet shall be sealed as per manufacturer's recommendations .	SQM	102.00	0.12967961
h	6 mm thick clear toughened safety glass	SQM	1.00	0.00151295
Ah	6 mm thick clear toughened glass conforming to IS:5437	SQM	11.70	0.01770155
Bh	8 mm thick clear toughened glass	SQM	20.04	0.03126915
Ch	6 mm thick toughened tinted glass	SQM	124.26	0.0708113
Dh	10 mm thick clear toughened glass	SQM	1.00	0.00195042

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<b>i</b>	Two nos. 6 mm thick clear toughened float glass hermetically sealed and separated by 12 mm thick air gap for thermal insulation (only single elevation area to be measured)	SQM	0.10	<b>0.00023454</b>
<b>k</b>	One outer 6mm thick tinted heat-reflecting type float glass and one inner 6mm thick plain float glass hermetically sealed and separated by 12 mm thick gap for thermal insulation (only single elevation area to be measured).	SQM	0.10	<b>0.00023289</b>
<b>Am</b>	Composite double glazing shall be 24mm thick consisting of 6mm thick clear float glass on inner side and 6mm thick reflective toughened glass on outer side. The two glasses shall be separated by 12mm air-gap and hermetically sealed by beading of anodized aluminium with outer edge sealed with silicon sealant. Outer glass of 6mm thickness shall have following technical characteristics: Solar factor 25% or less, U-value less than 2.268 W/SQMK,VLT min 30%. The glass to be used should be from the manufacturers of glass like Saint Gobain (India) or Asahi (India) Or equivalent. The glass should be free from distortion and thermal stress. (only single elevation area to be measured)	SQM	0.10	<b>0.00018589</b>
<b>916</b>	Supplying and fixing <b>weather stripping</b> of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	0.50	<b>0.00008378</b>
<b>918</b>	Providing and fixing <b>steel louvered window with ISMC 100 frame</b> all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	110.50	<b>0.24817825</b>
<b>A920</b>	Roof skylight structure with 10 mm thick Polycarbonate sheet multi (twin) wall fire retardant and ultra violet resistant with sealed open edges for sky light for approved shape. Joints are properly sealed with sealent, screws with pvc cap, self tapping screws, epdm rubber gasket.etc all complete as per detailed drawing and specification.	SQM	0.10	<b>0.00015728</b>

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<b>A921</b>	Providing and fixing anodised aluminium grill (anodised transparent or dyed to required shade according to IS: 1868 with minimum anodic coating of grade AC 15) of approved design/pattern, with approved standard section and fixed to the existing window frame with C.P. brass/ stainless steel screws @ 200 mm centre to centre, including cutting the grill to proper opening size for fixing and operation of handles and fixing approved anodised aluminium standard section around the opening, all complete as per requirement and direction of Engineer-in-charge. (Only weight of grill to be measured for payment).	Kg	10.00	<b>0.00354658</b>
<b>1000 BRICKWORK</b>				
<b>Brickwork masonry including all labour, material, equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge. (BHEL will provide Cement free of cost as per TCC)</b>				
<b>1001</b>	Providing <b>brick work</b> in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions <b>below plinth</b> including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.			
<b>a</b>	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	CUM	5.00	<b>0.02651212</b>
<b>1002</b>	Providing <b>brick work</b> in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position <b>above plinth</b> including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
<b>a</b>	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	CUM	128.15	<b>0.77063022</b>
<b>A1002</b>	Providing brick work in cement mortar 1:6 (1 cement 6 coarse sand) in walls, chambers etc. in <b>thickness 345mm</b> at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.			
<b>a</b>	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	CUM	15.30	<b>0.09197678</b>

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1003	Providing <b>brick work</b> in cement <b>mortar 1:4</b> (1 cement 4 coarse sand) in <b>partition walls</b> , chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.			
a	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	410.59	<b>0.29843953</b>
1004	Providing <b>brick soling</b> including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item). <b>Using brick on edge.</b>			
a	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	1.00	<b>0.00025032</b>
1005	Providing <b>brick soling</b> including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item).- <b>Using flat bricks.</b>			
a	Using <b>fly ash lime bricks</b> confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	6.35	<b>0.0013617</b>
1006	<b>Breaking</b> of existing brick <b>work</b> at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.	CUM	1.00	<b>0.00095632</b>
1007	Providing and encasing of structural steel member with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. (Chicken wire mesh to paid separately)	CUM	0.50	<b>0.00269635</b>
1008	Providing and laying 75 mm thick bed of <b>dry brick aggregate</b> including of excavation, disposal of surplus earth spreading of earth, ramming, watering etc. complete in all respects as directed by the engineer.	SQM	12.48	

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1009	<b>Making openings</b> in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	1.00	<b>0.00111975</b>
1010	Supply and placing in position <b>mild steel wire fabric</b> of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	0.50	<b>0.00012391</b>
A1010	Supply and placing in position <b>chicken wire mesh</b> at the junction of RCC and brickworks including cutting, bending, fixing etc. complete.	SQM	174.86	<b>0.04333548</b>
1011	<b>Filling existing brick wall/ partition wall opening</b> at all level including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	1.00	<b>0.00059744</b>
1012	Providing and filling <b>brick bats in soak pits etc.</b> all complete.	CUM	0.10	<b>0.00009158</b>
<b>1100 DAMP PROOF COURSE</b>				
<b>Damp proof course including all labour, material, equipment, transportation, handling, shuttering, centering, curing etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
A1101	<b>Providing Damp Proof Course 50mm thick 1:1.5:3 concrete</b> (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 1.7Kg./sqm shall be applied one before & one after the DPC.	SQM	5.59	<b>0.00134731</b>
<b>1200 CEMENT MORTAR PLASTER</b>				
<b>Cement mortar plaster including making grooves wherever required including all labour, material, scaffolding, curing etc at any level as per specification, drawings and as directed by engineer - in - charge.(BHEL will Provide Cement Free of Cost as per TCC)</b>				
1201	Providing <b>18mm thick plaster</b> in two layers <b>outside</b> the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	1171.32	<b>0.1886492</b>

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1202	Providing <b>12mm thick plaster inside</b> the building/boundary wall in cement <b>mortar 1:6</b> on walls finished to a smooth finish as per specification all complete.	SQM	635.64	<b>0.07107818</b>
1204	Providing <b>6mm thick plaster on ceiling in</b> cement <b>mortar 1:4</b> finished to a smooth all complete.	SQM	10.00	<b>0.00105975</b>
1207	Forming groove of uniform size from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens Oiled to the under layer, including removal of wooden battens, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	1.00	<b>0.00002304</b>
1208	Providing <b>drip coarse</b> on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	183.30	<b>0.00430942</b>
1209	Providing and laying encasement to box type steel beams at all levels with lath plaster 50 mm nominal thickness with cement plaster (1:4) over chicken wire mesh including all labour, materials, equipment, handling, transporting, mixing, placing, leveling, curing and cleaning, finishing the exposed surfaces etc including centering and shuttering all complete as per specification, drawing and instructions of enginner in charge (chicken wire mesh to be paid separately)	SQM	194.75	<b>0.06419184</b>
<b>1300 FINISHES TO CONCRETE / PLASTERED SURFACES</b>				
<b>Finishes, painting to concrete, plastered surfaces including all labour, material, equipment, surface preparation, scaffolding etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
1301	Two or more coats of <b>white wash/ colour wash</b> as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	1.00	<b>0.00002388</b>
A1304	Two or more coats of low VOC content <b>acrylic distemper</b> of approved brand and manufacture to give an even shade including a priming coat with distemper primer complete.	SQM	2808.11	<b>0.15138251</b>

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<b>A1305</b>	Providing and applying two or more coats of low VOC content <b>acrylic emulsion paint</b> as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	SQM	199.24	<b>0.01589464</b>
<b>1306</b>	Providing and applying 2 or more coats of <b>acid/alkali resistant paint</b> of approved brand and colour to floors, walls and ceiling including preparation of surface to receive paint, providing and applying bitumen primer confirming to IS 158 complete all as per manufacturer's recommendations and as approved by engineer, at all heights above or below grade level, complete as per specifications.	SQM	39.06	<b>0.00985563</b>
<b>1307</b>	Two or more coats of <b>fire resistant transparent paint</b> as per IS 162 on all woodwork over french polish as per IS 348 or flat oil paint as per IS 137 of approved grade and manufacture to give an even shade as per specifications.	SQM	0.10	<b>0.00001949</b>
<b>1311</b>	Providing and applying resin bonded granular textured finish, for external applications shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved 0tural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The fi0l finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	0.10	<b>0.00004523</b>
<b>1312</b>	Providing and applying 2 mm thick <b>plaster of paris punning on walls</b> including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	2619.35	<b>0.15472587</b>



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<b>A1315</b>	Providing and applying two or more coats of Premium acrylic smooth exterior paint of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellant and extremely durable with color fastness as per specification.	SQM	2650.09	<b>0.30674613</b>
<b>B1315</b>	Providing and applying two or more coats of Solvent based(100 % pure acrylic co-polymer resin based) paint of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/ washing, preparing the surface using coir brush/ wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellant and extremely durable with color fastness as per specification.	SQM	0.50	<b>0.0000551</b>
<b>A1316</b>	Providing and applying two coats of textured cement point (Sand tax Matt or equivalent) of approved colour and shade etc. all complete as per specification/drawing/approval of engineer in charge.	SQM	0.50	<b>0.00002288</b>
<b>1400 FLOORING AND SKIRTING</b>				
<b>Flooring and skirting at any level including base layer, labour, material, equipments, transportation, handling, curing, polishing etc. at any level as per specification, drawings and as directed by engineer - in - charge. (BHEL will provide cement free of Cost as per TCC)</b>				



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<b>A1401</b>	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick M20 grade cement concrete mix (with stone chips of size 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nomi0l size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	20318.43	<b>6.93498997</b>
<b>1402</b>	Providing and laying 25 mm thick <b>heavy duty cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates )</b> flooring with metallic hardener pigmented topping of 10 mm thick uniform graded treated iron particles <b>in skirting and dado</b> complete as per specification.	SQM	99.50	<b>0.02739924</b>
<b>A1404</b>	Providing and laying <b>interlocking 80mm thick M35 Grade RCC concrete blocks</b> in paving <b>with</b> approved colour and pattern including the preparation of sub base with 20mm thick sand and filling of joints with sand etc. all complete as per specifications and recommendations of manufacturer. (Cement will not be provided for this item)	SQM	303.45	<b>0.15951512</b>
<b>1416</b>	Providing and laying <b>vitrified ceramic tiles of polished variety</b> of size 600x600 from reputed / approved manufacturer, complete including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following			
<b>b</b>	10mm thick tiles In flooring	SQM	1.00	<b>0.00102939</b>
<b>d</b>	10mm thick tiles In skirting and dado upto specific height	SQM	326.39	<b>0.2734018</b>
<b>1417</b>	Providing and laying <b>vitrified ceramic tiles of matt finish</b> of size 600x600mm from reputed / approved manufacturer including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following.			
<b>b</b>	10mm thick tiles In flooring	SQM	255.13	<b>0.2626174</b>
<b>d</b>	10mm thick tiles In skirting and dado upto specific height	SQM	1.00	<b>0.00083766</b>

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1419	Providing and laying <b>granite stone slab</b> of 20mm thickness single piece for wash basin / sink slab /facia of black or approved colour with cutting,making corners,moulding and opening etc. all complete.	SQM	0.10	0.00049994
A1421	Providing and laying <b>Heavy Duty dust pressed (grade-5) Ceramic Tiles (Matt Finish) of size 300x300mm(approved size) and 7 mm thick</b> of reputed / approved manufacturer (Kajaria,jhonson,Spartek or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with Under bed shall average 43mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level including cement mortar all complete.	SQM	27.79	0.02571587
1422	Providing & fixing <b>Acid / Alkali resistant (Chemical resistant) tiles</b> confirming to IS:4457 in <b>flooring/Dado</b> and shall be laid over bitumastic lining of min 12mm thick ( to be laid in layers of 6mm each). The tiles shall be applied with 6mm thick Potassium Silicate bedding mortar as per IS:4441, 4443 & 4832 and including preparation of surface, application of bitumen primer, curing etc. all complete for following thicknesses. The tiles should be abrasion resistant & durable.			
a	20mm thick	SQM	22.57	0.04848085
b	38mm thick	SQM	0.10	0.00028483
A1427	Providing and fixing <b>glazed ceramic tiles of approved color and design of size 300x200mm in dado of approved size</b> , projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry including pigments, curing etc all complete for following thicknesses:			
b	7mm thick	SQM	70.52	0.05907048
A1428	Providing and laying <b>2mm thick antistatic PVC flooring / skirting</b> of approved shade,as per IS:3462 and laying as per IS:5318 all complete.	SQM	0.10	0.00001602

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1429	Providing and fixing <b>removable type flooring system</b> consisting of <b>fire resistant particle board</b> of size 600X600X35 mm with 0.05 mm thick aluminium foil lining at bottom and with 2 mm thick anti static PVC topping including proprietary floor supporting system complete as per specification.	SQM	0.10	<b>0.00027126</b>
1430	Providing and fixing <b>dividing strips</b> in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in charge.			
a	Glass strips 40 mm wide and minimum 6 mm thick.	RM	1.00	<b>0.00003075</b>
b	Aluminium strips 40 mm wide and minimum 3 mm thick	RM	0.10	<b>0.00000751</b>
c	Brass strips 20 mm wide and minimum 4 mm thick.	RM	0.10	
A1432	Providing and laying Matt finish (with grooves) Porselin tiles (for guiding band/s for visually impaired persons) shall be with 3mm groove joints as per approved pattern pointed neatly with 3X4mm stainless epoxy grout SP- 100 of Laticrete or approved equivalent in approved colour to match colour of tile etc. all complete.	SQM	0.10	<b>0.00009286</b>
<b>1600 FALSE CEILING</b>				
<b>False ceiling including all labour, material, equipment, transportation, handling, suspension system etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>				

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<b>A1603</b>	Providing and fixing permanently colour coated aluminium false ceiling of approved colour and of Luxalon, Armstrong or approved equivalent with corrosion resistant aluminium alloy panels of size 600 mm x 600 mm and 0.6 mm thk. with perforation patterns in combination with built in nonwoven tissue, for providing good acoustic properties and installed with T-Grid (of profile 24 mm) in same or contrasting colours or with 6 mm recess joints. The whole system shall be level adjusting arrangement and shall be suspended as per manufacturer guidelines including 50mm thick mineral wool insulation(density 48 kg/cum) conforming to IS:8183 bound in polythene bags on top of panels. Additio0l hangers and height adjustment clips shall be provided for return air grills, light fixtures, A.C. ducts etc all complete. Suitable M.S. channel grid with minimum MC 75 shall also be provided above the false ceiling level for movement of personnel to facilitate mainte0nce of lighting fixtures, AC ducts etc. ( Materials for structural platform grid made up of MS Channels/ Beams / Angles shall be supplied by BHEL and shall be paid under ST No 2301)	SQM	288.79	<b>0.44438437</b>
<b>1700 RAIN WATER DOWN TAKE PIPES</b>				
<b>Rain water down take pipes including all labour, material, transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
1702	<b>Providing and fixing galvanised MS down take pipes of 100 mm dia- Medium quality as per IS:1239(part-I) / IS:3589 all complete.</b>	RM	414.02	<b>0.39916728</b>
1704	<b>Providing and fixing galvanised MS down take pipes of 150 mm dia- Medium quality as per IS:1239(part-I) all complete.</b>	RM	1208.70	<b>1.74801636</b>
<b>A1709</b>	Providing 450x450mm KHURRAS for rain water down take pipes having minimum thickness of 30 mm with 1:2:4 concrete over PVC sheet of 1000mmx1000mm x 400 micron and finished with 12mm thk, cement sand plaster 1:3 etc. all complete as per specification.	Each	69.00	<b>0.04912458</b>
<b>1800 MISCELLANEOUS WORKS</b>				

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<b>Miscellaneous works including all labour, material, equipment etc. at any level unless otherwise specified as per specification, drawings and as directed by engineer - in - charge.</b>				
<b>A1801</b>	<b>Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 275 mm compacted thickness including breaking of stone boulders to required sizes, filling the interstices with well graded selected sand and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.</b>	<b>CUM</b>	<b>126.85</b>	<b>0.14226934</b>
<b>B1801</b>	<b>Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm compacted thickness including breaking of stone boulders to required sizes, filling the interstices with selected moorum and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.</b>	<b>CUM</b>	<b>6924.70</b>	<b>7.76658047</b>
<b>C1801</b>	<b>Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 230 mm in thickness (400 mm total compacted thickness) including breaking of stone boulders to required sizes, filling the interstices with selected moorum and compacting to 85 % of original volume of stone stack for all lifts etc. all complete. Payment shall be made for the measurement of the volume of the compacted fill.</b>	<b>CUM</b>	<b>5201.80</b>	<b>5.83421209</b>
<b>1803</b>	<b>Anti termite chemical treatment of soil with Chlorpyrifos/Lindane E.C. 20% with 1% concentration conforming to IS:8944 and as per IS 6313 all complete. (Plinth area of building at ground floor only shall be measured for payment)</b>	<b>SQM</b>	<b>0.50</b>	<b>0.00005841</b>

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1804	Supply and installation of approved <b>25mm thick vibration damping resilient pads</b> on/around foundation of vibrating equipment and at other locations all complete.	SQM	0.10	0.00139889
1807	Providing and fixing <b>G.I strips</b> minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	0.10	0.0000217
1808	Providing and fixing <b>aluminium strips</b> minimum 18 SWG thk and 300mm wide over expansion joints with minimum lap of 50mm length including brass / aluminium screws, rawl plugs etc. all complete.	Kg	0.10	0.00003964
1811	Providing and fixing <b>weep holes</b> in Drains consisting of <b>100 mm dia HDPE pipe sleeves</b> with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening covered with 40 mm downgraded aggregates in 300 X 300 mm sq. and 300 mm deep size all complete.	EACH	10.00	0.00141847
1812	Laying of <b>earthing mats/rods</b> including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. (Excavation & Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)	MT	140.00	0.88766999
1813	Providing <b>Earthing pit</b> as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	EACH	5.00	0.10852703
1814	Construction of below ground earthing system test pits as per drawing/ sketches including brickwork, plaster, concreting, reinforcement, formwork, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	EACH	1.00	0.01265426
1815	Providing and fixing <b>GI rungs</b> in concrete/brick walls having zinc coating of <b>minimum 900 g/sqm</b> etc. all complete.	Kg	64.46	0.00408735
1817	Providing and fixing <b>HDPE pipes in</b> concrete/brick work of following sizes including cutting, fixing and levelling in position etc. all complete.			
d	200 mm dia	RM	300.00	0.22323907
1822	Cutting of <b>groove</b> of 10mm X 40mm size with groove cutting machine in concrete paving all complete.	RM	40.00	0.0011276

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1823	Fire proofing of steel structures with <b>VERMICULITE</b> cementious coating including supply of all materials for vermiculite materials, reinforcement mesh (3mm thick wire, 50x50 size mesh) , nuts, tie wires, weldings, suface preparation, curing, staging, compatible paintings etc. all complete.	CUM	0.10	0.00629246
1824	Supply & fixing <b>expanded metal steel sheet</b> conforming to IS:412. Size of mesh shall be 10mmX40mm with strands of 2.5mm width and 1mm thickness to the structural steel for facilitating fireproofing works.	SQM	0.10	0.00002143
1825	Supply and laying approved quality Stone aggregate 40mm size in transformer yards.	CUM	77.45	0.12564367
1826	Supply and laying approved quality rounded pebbles / gravels of 40mm size in transformer yards.	CUM	1.00	0.00205603
1828	Dismantling old existing reinforced/non-reinforced brickwork/blockwork/stone maso0ry work in mud/lime/ cement mortar at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto1km all complete.	CUM	1.00	0.00095632
1829	Dismantling old existing plain/re-inforced concrete work at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto 1km all complete.	CUM	1.00	0.00103191
1830	Dismantling old existing structural steel work at any level including plates, bolts, cutting rivets, welding, dismembering and stacking the dismantled materials within a lead upto 1km etc all complete.	MT	0.10	0.00083673
1831	Sprinkling of water by water tanker fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust supression and reduction of suspended material at site for day to day work, as directed by BHEL site engineer (water for this purpose shall be provided by BHEL free of cost and utilisation of machine will be in terms of Tank-hour put in actual use for water sprinkling).	TANK-HR	5.00	0.00212286



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<b>1832</b>	Providing & filling <b>Bentonite Powder (Sodium base) mixed with water in electronic earthing pit</b> as per drawing & direction below ground level including all materials, transportation, labour, incidental etc all complete as per specification.	CUM	0.10	<b>0.00062902</b>
<b>2000 FENCING AND GATES</b>				
<b>Fencing and gates including all labour, material, equipment etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
<b>A2003</b>	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating ) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. The PVC coated chain link will be stretched by the clips at 0.5m intervals to three strands of galvanized high tensile spring steel wire (HTSSW) of 2.5 mm diameter interwoven with chain link wire mesh and kept under tension which in turn are attached to the fence post with security nuts and bolts. On every fourth post a clamping strip will be threaded through the links of chain link and bolted to the fence post with the help of security nuts and bolts. Concerti0 of height of 600 mm at top of chain link fencing shall be provided with all accessories. Concerti0l shall be from tensile serrated galvanised wire (HTSW) made with wire diameter of 2.5 mm which will be stretched to 6m and attached on two strands of galvanised HTSSW (high tensile spring steel wire) of 2.5mm dia by means of clips at 1m interval. These two HTSSW strands will be attached to the fence posts/ angles with 12 mm security fasteners. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts etc. all complete. (Structural post shall be separately under ST No. 2007)	RM	201.24	<b>0.33099404</b>
<b>2007</b>	Supply and fixing of hot dip galvanised mild steel posts for fencing. Rate of zinc coating shall not be less than 710 g/m2 on steel posts.	MT	1.00	<b>0.0816372</b>



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2010	Supply, fabrication and installing in position and testing <b>MS Gates</b> out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc. all complete.	MT	2.24	<b>0.15589061</b>
A2011	Providing two or more coats of chlorinated rubber paint (as per IS: 13467) over a suitable primer of approved quality colour and shade to give an even shade on surface with all in complete.	MT	2.00	<b>0.00540284</b>
<b>2100 WATER SUPPLY</b>				
<b>Water supply work including men, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>				
2101	Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks including sockets, union, nuts etc all complete – 15mm nomi0l bore.	EACH	3.00	<b>0.00133931</b>
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc all complete – 15mm nomi0l bore.	EACH	12.00	<b>0.0026129</b>
2103	Providing and fixing in position heavy duty <b>brass full way valve</b> with wheel of approved quality including all specials etc all complete for following sizes:			
a	25mm nomi0l bore.	EACH	6.00	<b>0.00217647</b>
b	50mm nomi0l bore.	EACH	1.00	<b>0.00064308</b>
2104	Providing and fixing GI pipes class B medium class conforming to IS:1239 pipes shall be concealed and painted with anticorrsvive paint, complete for inter0l works with GI sockets, unions, elbows, tees, nipples etc and clamps including cutting and making good the walls etc all complete for following sizes:			
a	15 mm nomi0l bore.	RM	37.70	<b>0.00956354</b>
b	20 mm nomi0l bore.	RM	10.00	<b>0.00287067</b>
c	25 mm nomi0l bore.	RM	10.00	<b>0.003463</b>
2105	Providing and fixing GI pipes class B complete for exter0l work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:			
a	15 mm nomi0l bore.	RM	2.00	<b>0.00039716</b>

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<b>b</b>	20 mm nomi0l bore.	RM	18.50	<b>0.00429175</b>
<b>c</b>	25 mm nomi0l bore.	RM	5.00	<b>0.00145609</b>
<b>d</b>	50 mm nomi0l bore.	RM	5.00	<b>0.00226984</b>
<b>A2106</b>	Providing and fixing <b>looking mirror 600 x 900 x 6 mm</b> , edge mounted with teak beading and minimum 12 mm thick plywood backing with fittings, fixtures, accessories, cutting and making good the walls etc. all complete as per specification and as directed by Engineer-in-charge. etc all complete.	EACH	3.00	<b>0.00262569</b>
<b>A2108</b>	Providing and fixing 20 mm diameter <b>stainless steel towel rails</b> (600mm X 20mm) all complete.	EACH	3.00	<b>0.00156374</b>
<b>2109</b>	Providing and fixing 20mm dia <b>chromium plated</b> M.S. pipes wall mounted <b>towel rod</b> with C.P. Brackets etc all complete.	EACH	1.00	<b>0.00052968</b>
<b>2110</b>	Providing and fixing <b>C.P. soap holder</b> mounted with C.P. screws etc all complete.	EACH	5.00	<b>0.00155092</b>
<b>2111</b>	Providing and fixing stainless steel / C.P. <b>liquid soap dispenser</b> . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete.	EACH	3.00	<b>0.00139878</b>
<b>2112</b>	Providing and fixing glazed vitreous wall mounted <b>paper holder</b> with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	3.00	<b>0.00064308</b>
<b>2113</b>	Providing and fixing <b>chromium plated brass shower</b> rose with 15 or 20 mm inlet all complete.	EACH	2.00	<b>0.00020513</b>
<b>A2113</b>	Providing and fixing <b>rotating type chromium plated shower</b> including all fitting and fixtures etc. all complete.	EACH	1.00	<b>0.00010256</b>
<b>2114</b>	Providing & fixing in position <b>P.V.C. water tank</b> of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. GI pipes shall be paid separately under ST No. 2105.			
<b>a</b>	1000 litres capacity	EACH	4.00	<b>0.01814777</b>
<b>b</b>	2000 litres capacity	EACH	1.00	<b>0.01349514</b>

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<b>A2115</b>	Providing and fixing approved <b>stainless steel sink with integrated drainboard</b> as per IS:13983 of size 610x510x200mm with drain board of at least 450 mm length with trap including hot and cold water mixer, CI brackets, stainless steel chain with rubber plug 40mm, cp brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc. all complete as per specification.	EACH	1.00	<b>0.00401796</b>
<b>A2116</b>	Providing and fixing Electric operated hand dryer with photo voltaic control including fittings, cutting and making good the wall where required etc. all complete as per specification.	EACH	3.00	<b>0.04267876</b>
<b>A2117</b>	Providing and fixing geyser of 25 liters capacity, with inlet and outlet connections including fittings, cutting and making good the wall where required etc. all complete as per specification.	EACH	1.00	<b>0.00667309</b>
<b>2200 SANITARY WORKS</b>				
<b>Sanitary work including all labour, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge.( BHEL will supply cement free of cost as per TCC)</b>				
<b>2201</b>	Supply and fixing glazed vitreous china Wash Basin conforming to IS:2556 part 4 of oval shape with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug, 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, fittings, cutting and making good the walls where required etc all complete.			
<b>b</b>	Colored	EACH	1.00	<b>0.0087773</b>
<b>A2201</b>	Supply and fixing <b>glazed ceramic oval shaped wash basin</b> 450x 550 mm (approx.) conforming to IS:2556 mounted over 18mm thick granite beveled edge counter fitted with photo-voltaic control system for water controls, bottle trap including fittings, fixtures, accessories, cutting and making good the walls etc. all complete as per specification and as directed by Engineer-in-charge.			
<b>b</b>	Colored	EACH	2.00	<b>0.01755461</b>

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2203	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	1.00	0.00390115
2204	Providing and fixing colour glazed vitreous chi0 European type water closet conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.			
b	Wall mounted	EACH	3.00	0.02566514
2205	Providing and fixing <b>colour glazed vitreous indian type Orissa pattern</b> (580x440mm) <b>water closet</b> conforming to IS:2556 part 3 with all fittings including foot rests, low level 12.5 litre PVC flushing cistern with valveless fittings, necessary C.P connections etc all complete.	EACH	1.00	0.00448237
2206	Providing and fixing white flat back glazed vitreous chi0 uri0ls of size 440x265x355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	3.00	0.01602596
2207	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following.			
a	75mm dia pipes	RM	194.40	0.03759414
b	110mm dia pipes	RM	20.00	0.0055227
2208	Providing, laying light duty non pressure <b>NP3 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc all complete for following.			
b	300mm dia	RM	46.50	0.04248843
c	450mm dia	RM	78.00	0.12757401
d	600mm dia	RM	78.00	0.16565586
A2208	Providing, laying <b>spun CI pipes conforming to IS:1536</b> including jointing, testing of joints etc all complete for following.			
a	150mm dia	RM	271.06	0.70732437
b	200mm dia	RM	74.40	0.2975824
2209	Providing, laying light duty non pressure <b>NP2 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2			

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	including testing of joints etc complete for following.			
c	300mm dia	RM	72.50	<b>0.04706679</b>
d	500mm dia	RM	10.00	<b>0.01086328</b>
2211	Providing and fixing <b>C.I Manhole heavy duty cover of size 600mmx450mm</b> including frame from reputed manufacture etc. all complete.	EACH	5.00	<b>0.043899</b>
2212	Providing and fixing <b>circular heavy duty C.I. manhole cover of 600 mm dia</b> with frame etc. all complete.	EACH	2.00	<b>0.01836904</b>
2213	Providing and fixing <b>square mouth S.W Gully trap</b> grade 'A' complete with CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:			
b	150x100mm P or S Type.	EACH	3.00	<b>0.00374233</b>
c	150x150mm P or S Type.	EACH	3.00	<b>0.00402517</b>
2214	Providing and fixing <b>square mouth S.W Gully trap</b> grade 'A' complete with CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:			
2215	Providing and fixing <b>C.I. floor traps with C.P jalli</b> all complete.	EACH	36.00	<b>0.02925837</b>
A2216	Providing and fixing <b>heavy duty UPVC floor traps with stainless steel jalli</b> including fittings, fixtures etc. all complete.	EACH	16.00	<b>0.01256394</b>
2219	Providing and fixing white vitreous urinal partitions of size 675x325x85mm all complete.	EACH	1.00	<b>0.00102632</b>
2220	Providing and fixing eye and face drinking water fountain (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	1.00	<b>0.032775</b>
<b>2300 STRUCTURAL STEEL</b>				
<b>Structural steel works including all labour, material, equipments, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>				

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A2303	Extra over ST NO. 701 for Manual cleaning of steel structures embedded in concrete and applying Primer Coat of Chlorinated Rubber based Zinc Phosphate primer of 50 micron (DFT).	MT	50.00	0.1350712
2307	Fabrication, erection and alignment of factorymade <b>electroforged galvanised grating</b> units with mild steel (having minimum galvanisation of 610 g/sqm) conforming to IS:2062 Or <b>Chequered Plate</b> conforming to IS 2062 in flooring, platforms, drain and trench covers, walk- ways, passages, staircases with edge binding strips and anti-skid nosing in treads etc. including fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete. (Gratings shall be supplied by BHEL at free of cost)	MT	22.71	0.3096254
2318	Providing and fixing flexible open ended <b>bellow strap of neoprene</b> of minimum thickness 2 mm and minimum width 200 mm with aluminium stripped edges as sealing below top of bunker and bottom of tripper floor to avoid the coal dust nuisance all complete.	RM	1.00	0.00091499
<b>2400 ROAD WORKS</b>				
<b>Providing Road Work including necessary material, labour, machinery, transportation etc as per specification, drawing, relevant IRC &amp; IS codes and as directed by the Engineer-in-charge for the following.(BHEL will supply free of cost as per TCC)</b>				
2401	<b>Preparation of sub grade</b> by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	3222.48	0.1774749
A2402	Supplying and <b>filling with selected good earth</b> of approved quality in layers not exceeding <b>300 mm compacted thickness</b> using compulsory excavated earth and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	100.00	0.02336597

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2405	Providing & laying <b>water bound macadam base course</b> in layers of required thickness with stone aggregate 63mm to 45mm size, stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete.	CUM	2953.34	<b>4.22919595</b>
2406	providing & Laying <b>water bound macadam base course</b> with stone aggregate 53mm to 22.4mm size stone screening & binding material including screening, sorting, spreading to template & consolidation with road roller including carriage spreading & consolidation of blinding material moorum etc all complete.	CUM	15.00	<b>0.02669978</b>
A2412	Supplying and laying 300mmx250mmx150mm deep precast concrete kerb stone of grade M-25 with 20 mm nomi0l size stone aggregate and of shape as per detailed drawing including fixing with cement mortar (1:6) in 13mm thick joints, finishing of joints with neat cement paste, making drai0ge opening where required etc all complete.	RM	60.00	<b>0.01371925</b>
	<b>Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating, shuttering, formwork and curing (excluding cost of reinforcement), with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specification and as per direction of engineer in charge for the following.</b>			
2417	Providing and laying of plain cement concrete of grade <b>M15</b> using 40 mm graded stone aggregate including providing and fixing formwork, compaction etc. all complete	CUM	1.00	<b>0.0025594</b>
A2418	Providing and laying cement concrete of grade <b>M35</b> using 20 mm nomi0l size stone aggregate with approved admixture (if required), in road pavement using fully mechanized paver fitted with electronic sensors, provision for necessary joints including compaction, finishing to lines and grades, curing and providing & fixing forwork etc. all complete as per specification. (Excluding the cost of reinforcement and dowel bar)	CUM	35.00	<b>0.10041579</b>



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<b>A2419</b>	Providing & laying dry lean cement concrete of grade M10 (in pavement/shoulders) with 20 mm nominal size graded stone aggregate with mechanical paver over granular sub-base including compaction by vibratory roller, finishing, curing etc all complete.	CUM	35.00	<b>0.08660049</b>
	<b>REINFORCEMENT</b>			
<b>2420</b>	Providing and fixing in position <b>MS dowel bar</b> reinforcement including surface painted with bitumen and greasing, dowel end caps with cotton fills etc all complete as per specification, drawing and as directed by Engineer.	MT	0.40	<b>0.02129209</b>
	<b>MISCELLANEOUS</b>			
<b>2423</b>	Providing & installation of 25 mm thk. bitumen impregnated fibre board conforming to IS 1838 at all levels as joint filler including Oiling, coating of both faces with coal tar pitch/bitumin etc. all complete as per specification, drawing and as directed by engineer.	SQM	37.96	<b>0.04393808</b>
<b>2424</b>	Providing and filling in position <b>hot applied bitumen sealing compound (Grade A)</b> of specified thick confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints, sealant primer etc all complete as per specification, drawing and as directed by Engineer.	RM	382.54	<b>0.00392543</b>
<b>2425</b>	Providing and laying <b>debonding strip/tape</b> , 25 mm wide & 5 mm thk. before applying sealant including cleaning etc all complete as per specification, drawing and as directed by Engineer.	RM	1.00	<b>0.00005501</b>
<b>2425A</b>	Providing and laying Impermeable plastic sheeting 125 microns thick laid flat without creases as per IRC 15-2002 etc all complete as per specification, drawing and as directed by Engineer.	SQM	150.00	<b>0.00264566</b>
<b>2426</b>	Providing & laying <b>75 mm thick precast interlocking designer concrete blocks (of M35 grade concrete)</b> of approved colour and pattern as per specification and recommendation of manufacturer. (Cement will not be provided for this item)	SQM	100.00	<b>0.07831448</b>
<b>2427</b>	Providing and laying <b>20mm thick sand layer</b> below concrete blocks including compaction etc all complete as per specification, drawing and as directed by Engineer.	SQM	100.00	<b>0.00285767</b>



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<b>Part-II: Leveling and Grading Works</b>				
<b>1</b>	<b>Cutting of trees having girth more than 300 mm</b> measured at a height of 1m above ground level including removal of roots, stacking the seviceable material like trunks,branches etc at specified area within the plant boundary and disposal of unseviceable parts/materials withthin a lead upto 1km etc all complete.	EACH	1.00	<b>0.00025849</b>
<b>2</b>	<b>Earth work in stripping</b> of top soil upto a maximum <b>depth of 0.30m</b> below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a <b>lead upto 1km</b> etc all complete as per specification, drawing and as directed by the engineer-in-charge.	Sq.m	1.00	<b>0.00002669</b>
<b>3</b>	Earth work in excavation upto any <b>depth below ground level in all types of soil</b> including moorum, ash which can be excavated by any means for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom/graded surface, stacking/disposal of surplus excavated materials within a <b>lead upto 1km</b> , spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1.00	<b>0.00008899</b>
<b>4</b>	<b>Earth work in excavation</b> upto any depth below ground level in <b>soft rock</b> (rock without any recovery of exacavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc (but does not require chiselling or blasting) for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, ramming/compacting the excavated bottom, stacking/disposal of surplus excavated materials within a <b>lead upto 1km</b> , spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1.00	<b>0.00013082</b>

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<b>6</b>	<b>Earth work in excavation</b> upto any depth below ground level in <b>hard rock requiring controlled blasting</b> including wedging, line drilling, pre shearing etc as required for grading, setting out, levelling, dewatering (wherever required), dressing the sides & bottom, all lifts, necessary licenses/statutory clearances for blasting, supply, storage & handling of blasting materials, stacking/disposal of surplus excavated materials within a <b>lead upto 1km</b> , spreading / levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1.00	<b>0.00040669</b>
<b>A9</b>	<b>Earth work in filling with soil/soft rock</b> upto any depth below ground level for grading to proper grade and level in layers <b>not exceeding 300mm compacted thickness</b> with selected approved earth from compulsorily <b>excavated earth available within a lead upto 1km</b> and compacted as specified including re-excavation of stacked earth, all lifts, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete as per specification, drawing and as directed by the engineer for the following.			
<b>a</b>	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	1.00	<b>0.00007386</b>
<b>10</b>	Extra over <b>ST No. 2,3,4,6 &amp; A9</b> for carriage of unserviceable material/earth for every 1 km or part thereof beyond an initial lead of 1km.	CUM	1.00	<b>0.00000538</b>

**Note: The quantity indicated in the BOQ is approximate only and is liable for variation. Payment will be as per actual quantity executed as certified by BHEL Engineer above Unit rate of individual items of BOQ.**

## **Instructions to the Bidders**

1. **Bidders shall quote Total Lump-sum Price for the entire scope of work in Rupees only in VOL II PRICE BID at BHEL E-procurement Portal.** Any other entry of price elsewhere in the offer of the bidder shall be treated as Null and Void.
2. BHEL has pre-fixed the Weightages %/ Factors in percentage as detailed above in this chapter. Considering these BHEL pre-fixed the Weightages %/ Factors w.r.t the total Lump-sum price quoted by the bidder in VOL II Price bid; *Total amount for calculation purpose only* of individual items shall be derived, this will be rounded off to two decimal places.
3. *Total amount for calculation purpose only* derived as per sl no. 02 above shall be divided by the quantity(A) and thus unit rate of individual items shall be derived. Unit Rate/Item Rate (B) thus arrived shall be rounded-off to two decimal places.
4. Based on the quantities of individual item and the item rates arrived in Sl No 3 above, the actual total amount ( C ) for individual items shall be derived by multiplying them.
5. **Bidders to note that this is an *item rate contract*. Payment shall be made for the actual quantities of work executed at the unit rate arrived at as per Sl No.3 above.**
6. For the convenience of bidders, BHEL has issued an **Excel Sheet For Calculation Purpose Only-2485** with all the requisite formulae as described above. ***However the referred excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.***