

## **E-TENDER SPECIFICATION**

<b>Sl. No</b>	<b>E-Tender Specification Number</b>
1	<b>PW/NGP/PUR/2306038</b>

### **Job Description:**

Hiring of RMC Agency for Installation of Batching Plant, Production of Required Grade of Concrete, including Aggregate, Sand, Admixture, etc. excluding Cement (Issued by BHEL free of cost) as per Scope of Work.

at

**3x800 MW PVUNL Patratu**

**VOLUME - I**

**FOR**

**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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NIL	Tender Specification Issue Details	(Part of <b>Vol-IA-2306038</b> )
NIL	Notice Inviting Tender	(Part of <b>Vol-IA-2306038</b> )
I-A	Technical Conditions of Contract	Vol-I-A-2306038
I-B	Special Conditions of Contract	Vol-I-BCD-2306038
I-C	General Conditions of Contract	(Part of Vol-I-BCD-2306038)
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## E-TENDER SPECIFICATION

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1	<b>PW/NGP/PUR/2306038</b>

**Job Description:**

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At

**3x800 MW PVUNL Patratu**

EARNEST MONEY DEPOSIT: Refer Notice Inviting Tender

LAST DATE FOR TENDER SUBMISSION      Refer Notice Inviting Tender

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

M/s. ....

.....

PLEASE NOTE:  
THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

**GM (Purchase)**

Place: Nagpur

Date:

2306038

# NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



**BHEL PSWR  
Notice Inviting Tender**

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Ref: PW/NGP/PUR/2306038

Date: 31/05/2023

**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	PW/NGP/PUR/2306038	
ii	Broad Scope of job	Hiring of RMC Agency for Installation of Batching Plant, Production of Required Grade of Concrete, including Aggregate, Sand, Sand Bottom Ash Mixture, Mixing of Fly Ash, etc. as per Scope of Work.  At <b>3x800 MW PVUNL Patratu</b>	
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	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: Start: 31/05/2023, Time: 17:00 Closes: 12/06/2023, Time: 14:00 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	Date: 12/06/2023, Time: 14.00 Hrs Place: on E-Tender Portal <a href="https://eprocurebhel.co.in">https://eprocurebhel.co.in</a>	Applicable
vi	OPENING OF	Date: 12/06/2023, Time: 17.00 Hrs	Applicable

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	<b>TENDER (Techno-Commercial Bid)</b>	<p><i>Notes:</i> (1) In case the due date of opening of tender becomes a non-working day, then the due date &amp; time of offer submission and opening of tenders get extended to the next working day. (2) Bidder may depute representative to witness the opening of tender. For e-Tender, Bidder may witness the opening of tender through e-Procurement portal only.</p>	
vii	<b>EMD AMOUNT</b>	<b>Not Applicable</b>	<i>Not Applicable</i>
viii	<b>COST OF TENDER</b>	<i>Free</i>	
ix	<b>LAST DATE FOR SEEKING CLARIFICATION</b>	<p>One day before due date of offer submission. Along with soft version also, addressing to undersigned &amp; to others as per contact address given below:</p> <ol style="list-style-type: none"> <li>1) Name: N C Sharma Designation: Manager Deptt: Purchase Address: Floor no. 5 &amp; 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Mobile-9911170053 Email: <a href="mailto:ncsharma@bhel.in">ncsharma@bhel.in</a></li> <li>2) Mr. Kamlesh Kumar Designation: DGM Dep't: Purchase Address: Floor no. 5 &amp; 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001 Email: <a href="mailto:kamleshbhel@bhel.in">kamleshbhel@bhel.in</a> Mob: 9425554615</li> <li>3) Name: R. M. Malhotra Designation: GM Deptt: Purchase Address: Floor no. 5 &amp; 6, Shree Mohini Complex, 345 Kingsway, Nagpur-440001</li> </ol>	<i>Applicable</i>
x	<b>SCHEDULE OF Pre Bid Discussion (PBD)</b>		<i>Not Applicable</i>
xi	<b>INTEGRITY PACT &amp; DETAILS OF INDEPENDENT EXTERNAL MONITOR (IEM)</b>	<ol style="list-style-type: none"> <li>1) <i>Shri Otem Dai, IAS (Retd.)</i></li> <li>2) <i>Shri Bishwamitra Pandey, IRAS (Retd.)</i></li> <li>3) <i>Shri Mukesh Mittal, IRS (Retd.)</i></li> </ol>	<i>Applicable</i>
xii	<b>Latest updates</b>	<p>Latest updates on the important dates, Amendments, Correspondences, Corrigenda, Clarifications, Changes, Errata, Modifications, Revisions, etc to Tender Specifications will be hosted in BHEL webpage (<a href="http://www.bhel.com">www.bhel.com</a>--&gt;Tender Notifications →View Corrigendum), Central Public Procurement portal (<a href="https://eprocure.gov.in/epublish/app">https://eprocure.gov.in/epublish/app</a>) &amp; 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</p>	

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		all such information.	
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- 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)**

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):

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- 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>

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.

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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://eprocarebhel.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-I A</b>	
	<p><b><u>ENVELOPE – I superscribed as:</u></b>  <del>PART I (TECHNO COMMERCIAL BID)</del>  TENDER NO:  NAME OF WORK:  PROJECT:  DUE DATE OF SUBMISSION:</p> <p><b><u>CONTAINING THE FOLLOWING:-</u></b></p>	
i.	Covering letter/Offer forwarding letter of Tenderer.	
ii.	<p>Duly filled in 'No Deviation Certificate' as per prescribed format to be placed after document under sl no (i) above.</p> <p><b><u>Note:</u></b></p> <p>a. In case of any deviation, the same should be submitted separately for technical &amp; commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be placed after document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>b. BHEL reserves the right to accept/reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p style="padding-left: 20px;">i). In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p style="padding-left: 20px;">ii). In case of unacceptable deviations, BHEL reserves the right to reject the tender</p>	
iii.	<p>Supporting documents/ annexure/ schedules/ drawing etc. as required in line with Pre-Qualification criteria.</p> <p>It shall be specifically noted that all documents as per above shall be indexed properly and credential certificates issued by clients shall distinctly bear the name of organization, contact ph. no, FAX no, etc.</p>	
iv.	All Amendments/Correspondences/Corrigenda/Clarifications/Changes/Errata etc. pertinent to this NIT.	

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v. —	Integrity Pact Agreement (Duly signed by the authorized signatory)	If applicable
vi. —	Duly filled in annexures, formats etc. as required under this Tender Specification/NIT	
vii. —	Notice inviting Tender (NIT)	
viii. —	Volume – I A : <u>Technical</u> Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc.	
ix. —	Volume – I B : Special Conditions of Contract (SCC)	
x. —	Volume – I C : General Conditions of Contract (GCC)	
xi. —	Volume – I D : Forms & Procedures	
xii. —	Volume – II (UNPRICED – without disclosing rates/price, but mentioning only 'QUOTED' or 'UNQUOTED' against each item	
xiii. —	Any other details preferred by bidder with proper indexing.	

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

<b>OUTER COVER</b>		
	<p><b><u>ENVELOPE-IV (MAIN ENVELOPE / OUTER ENVELOPE)</u></b>            superscribed as:            TECHNO-COMMERCIAL BID, PRICE BID &amp; EMD            TENDER NO:            NAME OF WORK:            PROJECT:            DUE DATE OF SUBMISSION:</p>	

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	<b>CONTAINING THE FOLLOWING:</b>	
i	<ul style="list-style-type: none"><li>○ Envelopes I</li><li>○ Envelopes II</li><li>○ Envelopes III</li></ul>	

- **SPECIAL NOTE: All documents/ annexures 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 thereof. Also BHEL shall not entertain any correspondence from bidders in this matter (except for the refund of EMD).
- 9.0 **Void**
- 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

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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.**

**“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 Otem Dai, IAS (Retd.)	<a href="mailto:iem1@bhel.in">iem1@bhel.in</a>
2.	Shri Bishwamitra Pandey, IRAS (Retd.)	<a href="mailto:iem2@bhel.in">iem2@bhel.in</a>
3.	Shri Mukesh Mittal, IRS (Retd.)	<a href="mailto:iem3@bhel.in">iem3@bhel.in</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):

<b>Name:</b>	R M Malhotra/ GM (Purchase)	N C Sharma/Manager (Purchase)
<b>Dept:</b>	Purchase Department	
<b>Address:</b>	Floor No. 5 & 6, Shreemohini Complex, 345 Kingsway, Nagpur-440001	
<b>Email:</b>	<a href="mailto:rmalhotra@bhel.in">rmalhotra@bhel.in</a>	<a href="mailto:ncsharma@bhel.in">ncsharma@bhel.in</a>
<b>Phone:</b>	0712-2858633	9911170053

- 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 all 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 Void

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 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.

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- (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 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.

b) *Since splitting of the contract is not applicable against the subject tender, preferential award to MSE bidders will not be applicable against this tender.*

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

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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 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.*

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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).

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:

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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 as per PQR C4 of Annexure-1 i.e. PQR
09. Annexure-9: Declaration reg. Related Firms & their areas of Activities
010. 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)
011. Annexure 11: DECLARATION REGARDING COMPLIANCE TO RESTRICTIONS UNDER RULE 144 (xi) OF GFR 2017
012. Annexure 12: Important information

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**ANNEXURE - 1**

**PRE QUALIFYING CRITERIA**

JOB	Hiring of RMC Agency for Installation of Batching Plant, Production of Required Grade of Concrete, including Aggregate, Sand, Sand Bottom Ash Mixture, Mixing of Fly Ash, etc. as per Scope of Work.  At <b>3x800 MW PVUNL Patratu</b>		
TENDER NO	PW/NGP/PUR/2306038		
<b>SL NO</b>	<b>PRE QUALIFICATION CRITERIA</b>	<b>Bidders claim in respect of fulfilling the PQR Criteria</b>	
		<b>Applicability</b>	
A	Submission of Integrity Pact duly signed (if applicable) (Note: <del>To be submitted by Prime Bidder &amp; Consortium / Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder</del> )	<b>APPLICABLE</b>	
B	Bidder shall essentially meet all the Qualifying Requirements ( <b>i.e. B.1 &amp; B.2</b> ) as under, in the last seven years as on latest date of bid submission:  <b>B.1:</b> Bidder should have Executed " <b>Piling or RMC Supply 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: <b>B.1.1)</b> Executed One work of value not less than <b>Rs. 956 Lakhs</b> against single work order. <b>OR</b> <b>B.1.2)</b> Executed Two works each of value not less than <b>Rs. 598 Lakhs</b> against maximum two work orders. <b>OR</b> <b>B.1.3)</b> Executed Three works each of value not less than <b>Rs. 478 Lakhs</b> against maximum three work orders. <b>AND</b> <b>B.2:</b> Bidder should have executed Reinforced Cement Concrete (RCC) quantities of at least <b>17774 Cum</b> in cumulative of maximum two running/completed contracts within a common period of "twelve consecutive months" in any Power or Industrial Projects in the last seven (07) years.	<b>APPLICABLE</b>	
C.1	Bidders must have achieved an average annual financial turnover (audited) of <b>Rs. 360.00 Lakhs or more</b> over last three Financial Years (FY) i.e. 2019-20, 2020-21 & 2021-2022' In case bidder provides the Audited balance sheet for 2022-23, in such case bidders average annual financial turnover for FY 20-21, 21-22 & 22-23 shall be considered.	<b>APPLICABLE</b>	
C.2	<b>NETWORTH</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>PROFIT</b>	<b>APPLICABLE</b>	

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	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.		
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 packages i.e. " <b>Civil Works including foundations</b> "	<b>NOT APPLICABLE</b>	
E	<b>Approval of Customer (if applicable):</b>  <b>Note:</b> Names of bidders ( <del>including consortium/Technical Tie up partners in case consortium bidding is permitted</del> ) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval	<b>NOT 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>	
<p><b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b></p> <p><b><u>Explanatory Notes for PQR B.1 (Technical)</u></b></p> <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> <ul style="list-style-type: none"> <li>The evaluation currency for this tender shall be INR.</li> </ul>			

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**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 / "WORK EXECUTION of the value as defined in PQR" in case of industry.~~
  - 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 'B' above 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 "Financial Year 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.~~

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- ~~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.~~
- ~~j. Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.~~
- ~~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.~~
- ~~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~~
- ~~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.~~
- ~~n. 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.~~

**6. Relaxation in Pre-Qualifying Requirement (PQR) for Micro and Small Enterprises (MSE's) and Startups:**

- a) **Technical Pre Qualifying Requirement (PQR) for prior experience:** The technical pre-qualifying requirements, is relaxed by 50% (quantities or amount) of the original Pre -Qualifying Requirement specified in the tender (round off to the higher limit or number. Further, if the required quantity as per Original PQR is only one (1), then relaxed PQR shall also remain the same, since quantity is non-divisible in this case.)
- b) **Financial Pre Qualifying Requirement (PQR) including Turnover:** The financial pre-qualifying requirements is relaxed by 50% of the original Pre -Qualifying Requirement specified in the tender.
- c) Other Pre-Qualifying requirements such as Machineries, BIS, or any form of licenses or ~~customer approval~~ or requirements other than stated in **Point no. (a) and (b)** above, shall remain the same for all bidders.

Definition of Start-up shall be in line with Gazette Notification No DL 33004/99 dated 19.02.2019 and subsequent amendments, if any.

**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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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 / ONLY FOR THIS TENDER</del>	
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 GST & 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	OFFER FORWARDING LETTER / TENDER SUBMISSION LETTER	Applicable/ <del>Not Applicable</del>	YES/NO
12	Declaration by Authorized Signatory	Applicable/ <del>Not Applicable</del>	YES/NO
13	No Deviation Certificate	Applicable/ <del>Not Applicable</del>	YES/NO
14	Declaration confirming knowledge about Site Conditions	Applicable/ <del>Not Applicable</del>	YES/NO
15	Declaration for relation in BHEL	Applicable/ <del>Not Applicable</del>	YES/NO

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16	Non-Disclosure Certificate	Applicable/ <del>Not Applicable</del>	YES/NO
17	Bank Account Details for E-Payment	Applicable/ <del>Not Applicable</del>	YES/NO
18	Capacity Evaluation of Bidder for current Tender	Applicable/ <del>Not Applicable</del>	YES/NO
19	Tie Ups/Consortium Agreement are submitted as per format	Applicable/ <del>Not Applicable</del>	YES/ NO
20	Power of Attorney for Submission of Tender/Signing Contract Agreement  <del>Power of Attorney of Consortium Partner.</del>	Applicable/ <del>Not Applicable</del>	YES/NO
21	Analysis of Unit rates	Applicable/ <del>Not Applicable</del>	YES/NO
22	Annexure-5: Authorization of representative who will participate in the online Reverse Auction Process	Applicable/ <del>Not Applicable</del>	YES/NO
23	Annexure-6: RA Price Confirmation and Breakup	Applicable/ <del>Not Applicable</del>	YES/NO
24	Annexure-8: Undertaking as per PQR C4 of Annexure-1 i.e. PQR	Applicable/ <del>Not Applicable</del>	YES/NO
25	Annexure-9: Declaration reg. Related Firms & their areas of Activities (x) Other Tender documents as per this NIT.	Applicable/ <del>Not Applicable</del>	YES/NO
26	Annexure-10 Declaration regarding minimum local content	Applicable/ <del>Not Applicable</del>	YES/NO
27	Annexure-11: Declaration regarding compliance to restrictions under rule 144 (xi) of GFR 2017	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 .....Lacs
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 .....Lacs
3. **For Enterprises** (having EM-II Certificate/ valid NSIC Certificate or Udyog Aadhar Memorandum): Investment in plant and machinery or equipment is Rs..... Lacs and turnover is Rs. .... Lacs (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..... Lacs and turnover is Rs. .... Lacs (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 .....Lacs is within permissible limit of Rs.....Lacs 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.{ PW/NGP/PUR/2306038} 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 - 6 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. PW/NGP/PUR/2306038.**

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 or 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 *Hiring of RMC Agency for Installation of Batching Plant, Production of Required Grade of Concrete, including Aggregate, Sand, Sand Bottom Ash Mixture, Mixing of Fly Ash, etc. as per Scope of Work At 3x800 MW PVUNL Patratu (ETS no.: PW/NGP/PUR/2306038)*. 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.

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1.2 If the Principal obtains information on the conduct of any of its employees which is a penal offence under the Indian Penal Code 1860 and Prevention of Corruption Act 1988 or any other statutory penal enactment, or if there be a substantive suspicion in this regard, the Principal will inform its Vigilance Office and in addition can initiate disciplinary actions.

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

2.1 The Bidder(s)/ Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the tender process and during the contract execution.

2.1.1 The Bidder(s)/ Contractor(s) will not, directly or through any other person or firm, offer, promise or give to the Principal or to any of the Principal's employees involved in the tender process or the execution of the contract or to any third person any material, immaterial or any other benefit which he/ she is not legally entitled to, in order to obtain in exchange any advantage of any kind whatsoever during the tender process or during the execution of the contract.

2.1.2 The Bidder(s)/ Contractor(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 Bidder(s)/ Contractor(s) shall disclose the name and address of agents and representatives in India and Indian Bidder(s)/ Contractor(s) to disclose their foreign principals or associates. The Bidder(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.

2.3 The Bidder(s)/ Contractor(s) shall not approach the Courts while representing the matters to IEMs and will await their decision in the matter.

**Section 3 - Disqualification from tender process and exclusion 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 the separate "Guidelines on Banning of Business dealings with Suppliers/ Contractors", framed by the Principal.

**Section 4 - Compensation for Damages**

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

**Section 5 - Previous Transgression**

- 5.1 The Bidder declares that no previous transgressions occurred in the last 3 years with any other company in any country conforming to the anti-corruption approach or with any other Public Sector Enterprise in India that could justify his exclusion from the tender process.
- 5.2 If the Bidder makes incorrect statement on this 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 /Subcontractors**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, 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)/ Contractor(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) / Sub-contractor(s) with confidentiality in line with Non-disclosure agreement.

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- 8.4 The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the contract provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.
- 8.5 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 organisation.
- 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 bidders 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 Integrity Pact is subject to Indian Laws and exclusive jurisdiction shall be of the competent Courts as indicated in the Tender or Contract, as the case may be.

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- 10.2 Changes and supplements as well as termination notices need to be made in writing.
  - 10.3 If the Bidder(s)/ Contractor(s) is a partnership or a consortium or a joint venture, this Integrity Pact shall be signed by all partners of the partnership or joint venture or all consortium members.
  - 10.4 Should one or several provisions of this Integrity Pact turn out to be invalid, the remainder of this Integrity Pact 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 Integrity Pact with the Principal would be competent to participate in the bidding. In other words, entering into this Integrity Pact would be a preliminary qualification.
  - 10.6 In the event of any dispute between the Principal and Bidder(s)/ Contractor(s) relating to the Contract, in case, both the parties are agreeable, they may try to settle dispute through Mediation before the panel of IEMs in a time bound manner. In case, the dispute remains unresolved even after mediation by the panel of IEMs, either party may take further action as the terms & conditions of the Contract. The fees/expenses on dispute resolution through mediation shall be shared by both the parties. Further, the mediation proceedings shall be confidential in nature and the parties shall keep confidential all matters relating to the mediation proceedings including any settlement agreement arrived at between the parties as outcome of mediation. Any views expressed, suggestions, admissions or proposals etc. made by either party in the course of mediation shall not be relied upon or introduced as evidence in any further arbitral or judicial proceedings, whether or not such proceedings relate to the dispute that is the subject of mediation proceedings. Neither of the parties shall present IEMs as witness in any Alternative Dispute Resolution or judicial proceedings in respect of the dispute that was subject of mediation.

-----

For & On behalf of the Principal

-----

For & On behalf of the Bidder/ Contractor

(Office Seal)

(Office Seal)

Place-----

Date-----

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

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

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

(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,**

GM-PURCHASE, BHEL-PSWR,  
Floor No. 5&6, Shri Mohini Complex  
345, KINGSWAY, NAGPUR-440001

Dear Sir/Madam,

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

**Ref:** NIT/Tender Specification No: PW/NGP/PUR/2306038

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:

**BHEL PSWR  
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**Annexure-9**

**DECLARATION**

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

To

GM-PURCHASE, BHEL-PSWR,  
Floor No. 5&6, Shri Mohini Complex  
345, KINGSWAY, NAGPUR-440001

**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,

GM-PURCHASE, BHEL-PSWR,  
Floor No. 5&6, Shri Mohini Complex  
345, KINGSWAY, NAGPUR-440001

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: **PW/NGP/PUR/2306038**,  
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,

GM-PURCHASE, BHEL-PSWR,  
Floor No. 5&6, Shri Mohini Complex  
345, KINGSWAY, NAGPUR-440001

Dear Sir,

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

**Ref:** 1) NIT/Tender Specification No: **PW/NGP/PUR/2306038**,  
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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Notice Inviting Tender**

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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:**

GM /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:

Manager Purchase, Email: [ncsharma@bhel.in](mailto:ncsharma@bhel.in) ; 9911170053

DGM/Purchase, email: [kamleshbhel@bhel.in](mailto:kamleshbhel@bhel.in),

GM Purchase, Email: [rmalhotra@bhel.in](mailto:rmalhotra@bhel.in). Ph: +91 - 712 - 2858 - 633

- 1. Refer the abridged version of extant 'Guidelines for suspension of business dealings with suppliers/ contractors' which is available at [www.bhel.com](http://www.bhel.com) on "supplier registration page" at the following link: [https://www.bhel.com/sites/default/files/suspension\\_guidelines\\_abridged.pdf](https://www.bhel.com/sites/default/files/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. BHEL Fraud Prevention Policy: "The Bidder along with its associate/ collaborators/ sub-contractors/ sub-vendors/ consultants/ service providers shall strictly adhere to BHEL Fraud Prevention Policy displayed on BHEL website <http://www.bhel.com> and shall immediately bring to the notice of BHEL Management about any fraud or suspected fraud as soon as it comes to their notice."**
- 5. "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 tradesman possesses requisite skill and amount of compensation in case of default shall be final and binding".

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6. **Security deposit shall be as per cl. No. 1.10 of Vol-IC General Conditions of Contract. 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."

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

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

**Clause No. 1.10.3 (iii) 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.

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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.~~
- ~~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. Clause no. 2.24 of GCC PERFORMANCE GUARANTEE FOR WORKMANSHIP: The guarantee period shall commence from the date of Completion of contract as certified by BHEL Engineer.~~
11. Overrun Compensation (ORC) (Clause no. 2.12 of GCC) shall not be applicable.
12. Following clauses of GCC shall not be applicable for this package:
  - i. Cl. No. 2.9 of GCC-Execution Plan, Progress Monitoring, Monthly Review and Performance Evaluation
  - ii. Cl. No. 2.22 of GCC: Retention Amount
  - iii. Cl. No. 2.24 of GCC: Performance Guarantee for Workmanship
13. The following paragraph has been added in clause 2.7.1 under clause 2.7 “Rights of BHEL” of General Conditions of Contract (Volume-IC GCC)

In case of inadequate manpower deployed by contractor, BHEL reserves the right to deploy additional manpower through any other agency for expediting activities in the interest of the project. Supplied manpower shall be put on job by the contractor and payments and other statutory compliances related to manpower shall be the contractor’s responsibly. In case of contractor’s failure to fulfil his obligations in respect of such manpower, BHEL reserves the right to take necessary action as per contract conditions

\* **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.

**14. IMPORTANT NOTE:**

Balance Civil and Architecture Works for TG Island Unit-3 Package, Balance Civil and Architecture Works for Township Package, Balance Civil and Architecture Works for CHP Package including Track Hopper **(RMC)** at 3X800 MW PVUNL PATRATU, JHARKHAND **is under execution by other agency.** *Balance Civil and Architecture Works for TG Island Unit-3 Package, Balance Civil and Architecture Works for Township Package, Balance Civil and Architecture Works for CHP Package including Track Hopper **(RMC)** AT 3X800 MW PVUNL PATRATU, JHARKHAND is being withdrawn from existing agency on “as is where is” basis.*

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**However, bidder should visit the site for actual assessment of work & understand the actual physical situation before bidding.**

Previous contractor\*\* (*Who was executing Balance Civil and Architecture Works for TG Island Unit-3 Package, Balance Civil and Architecture Works for Township Package, Balance Civil and Architecture Works for CHP Package including Track Hopper (RMC) AT 3X800 MW PVUNL PATRATU, JHARKHAND, which included the tendered works*) 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.
- 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.

**15. Conflict of Interest among Bidders/ Agents:** A bidder shall not have conflict of interest with other bidders. Such conflict of interest can lead to anti-competitive practices to the detriment of Procuring Entity's interests. The bidder found to have a conflict of interest shall be disqualified. A bidder may be considered to have a conflict of interest with one or more parties in this bidding process, if:

- a) they have controlling partner (s) in common; **or**
  - b) they receive or have received any direct or indirect subsidy/ financial stake from any of them;
- or**
- c) they have the same legal representative/agent for purposes of this bid; **or**
  - d) they have relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another Bidder **or**
  - e) Bidder participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all bids in which the parties are involved. However, this does not limit the inclusion of the components/ sub-assembly/ Assemblies from one bidding manufacturer in more than one bid; **or**
  - f) In cases of agents quoting in offshore procurements, on behalf of their principal manufacturers, one agent cannot represent two manufacturers or quote on their behalf in a particular tender enquiry. One manufacturer can also authorize only one agent/dealer. There can be only one bid from the following:
    - i) The principal manufacturer directly or through one Indian agent on his behalf; **and**
    - ii) Indian/foreign agent on behalf of only one principal;
- or**
- g) A Bidder or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the contract that is the subject of the Bid; **or**

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h) In case of a holding company having more than one independently manufacturing units, or more than one unit having common business ownership/management, only one unit should quote. Similar restrictions would apply to closely related sister companies. Bidders must proactively declare such sister/ common business/ management units in same/ similar line of business.

2306038

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter - I: Project Information

### 1.0 Project Information:

3X800 MW PVUNL PATRATU TPP PHASE-1 is being set up by PVUNL (Patratu Vidyut Utpadan Nigam Limited, a subsidiary of PVUNL Ltd in Joint venture with Jharkhand Bijli Vitran Nigam Limited).

Sl. No.	Description	Details
1.1	Location	PATRATU
1.2	Nearest Railway Station	Patratu (04Kms)
1.3	Nearest Airport	RANCHI (45Kms)
1.4	Access By Road	Patratu (04Kms)
1.5	Major Towns/Cities	Ranchi (45Kms)
1.6	Source of Water	Patratu Reservoir.
1.7	Maximum Temperature	48 degree Centigrade
1.8	Minimum Temperature	0.6 degree Centigrade

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

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### 2.0 SCOPE OF WORK:

Hiring of RMC Agency for Installation of Batching Plant, Production of Required Grade of Concrete, including Aggregate, Sand, Admixture, etc. excluding Cement (Issued by BHEL free of cost) as per Scope of Work.

This specification covers all the requirements, described hereinafter for general use of Plain and Reinforced Cement Concrete work in Structures and locations, cast-in-situ or precast, and shall include all incidental items of work not shown or specified but reasonably implied or necessary for the completion of the work.

IS: 4926 and IS: 456 shall form a part of this specification and shall be complied with unless permitted otherwise. For any particular aspect not covered by this Code, appropriate IS Code, specifications and/or replacement by any International Code of practice as may be specified by the Engineer shall be followed. All codes and Standards shall conform to its latest revisions. A list of IS codes and Standards is enclosed hereinafter for reference. However, should the list be not exhaustive and does not cover any aspect of the work, then relevant Indian and, in its absence, relevant International code shall apply.

### 2.1 The scope of work includes the followings:

1. Supply, storage of approved quality aggregates, Cement, admixtures etc. for ready mix concrete of various grades as per details given in BOQ or elsewhere in the contract document. Cement shall be issued free of cost by BHEL.
2. Establishment of Design mix of various grades as per IS-456 and IS-10262 or equivalent Standard.
3. Production of ready mix concrete in computerized automatic batching plant of required capacity as per quality norms and as per Field Quality Plan (FQP) approved by Customer. Production of cement slurry required if any shall be in the scope of vendor and the cost shall be considered included in respective BOQ Item Rates.
4. Conducting various tests in established ready mix concrete testing Laboratory at site as per FQP.
5. Concrete testing Cube shall be taken at both Pouring and Batching Point by agency as per frequency mentioned in IS 456 and FQP.
6. Supervision of concrete laying by Quality engineer of Agency.
7. Responsibility of Concrete Quality and soundness lies with Agency.
8. Mix design (M 20, M 25, M 30, M 35 or as required grade) for all concreting shall be carried out from a reputed & approved laboratory of BHEL / NTPC. contractor may add admixture for minimizing of cement content in line with relevant IS code as advised by BHEL time to time without any additional cost.
9. Batching plant area along with 6m wide & approx. 250 m long approach road shall have to be properly hard surfaced with interlocking pavers or brick bats etc. with

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

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adequate drainage system. There should be separate area for parking of bulker and transit miller.

10. Minimum Four-month stock of raw material including admixture are to be maintained all time at batching plant considering on an average concrete of 3000 cum. Initially minimum monthly requirement would be 1000 cum of concrete. Separate shed for storage of cement and admixture is to be made.
11. The Contractor shall furnish and maintain sanitary facilities for the use of all personnel engaged in the Work under this Contract. These facilities shall be subject to the approval by the Employer.
12. The scope shall also include testing of material & ready mix concrete in laboratory with necessary equipment for conducting relevant tests as required. Instruments used in Lab shall have valid calibration certificate from authorized agency.
13. All quality standards & other technical requirements shall be strictly adhered to. The Bidder shall fully apprise himself regarding prevailing conditions at the site, climatic conditions including monsoon pattern, soil conditions, local conditions and site specific parameters and shall include for all such conditions and contingent measures in the bid, including those which may not have been specifically mentioned in the specifications.
14. Requirement of RMC shall be frozen on Monthly, Weekly and Daily basis beforehand with BHEL Engineer-in-Charge / User and production of concrete shall be planned accordingly.

### 2.2 General Scope:

1. Furnishing all labour, materials, supervision, equipment, supplies, transport to and fro the site, fuel, electricity, compressed air, water, transit and storage insurance and all other incidental items and temporary works not shown on specified but reasonably implied or necessary for the proper completion, maintenance and handling over the works, except in accordance with the stipulations laid down in the contract documents and additional stipulations as may be provide by the engineer during the course of works.
2. Services including facilities as may be required under statutory labour regulations, materials, forms, templates, supports, scaffolds, approaches, aids, tools and plants, etc. required for the work.
3. Submit for approval detailed schemes of all operations required for executing the work, e.g. Material handling, Concrete mixing, etc.
4. Design and submit for approval concrete mix designs required to be adopted on the job.
5. Furnish samples and submit for approval results of tests of various properties of the following:
  - a) The various ingredients of concrete

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

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- b) Concrete
6. Furnishing test reports for the products used or intended to be used, if called for the specifications or if so desired by the engineer.
  7. Provide all incidental items not shown or specified in particular but reasonably implied or necessary for successful completion of the work in accordance with the specifications.
  8. For supply of certain materials normally manufactured by specialist firms, the Contractor may have to produce, if directed by the Engineer, a guarantee in approved pro-forma for satisfactory performance for a reasonable period as may be specified, binding both the manufacturers and the Contractor, jointly and severally.
  9. 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.
  10. Arranging manufacturer's supervision for items of work done as per manufacturer's specifications when so specified.
  11. Contractor shall set up suitable storage facilities for Cement, sand, aggregate, etc. and all are stored properly as per IS recommendation/technical specifications/manufacturer recommendation. Wastage due to lapse of storing will be because of contractor.
  12. **Setting Up of Laboratory Works:** The contractor shall set up laboratory in the very close vicinity of the work site as required field QA & QC laboratory set up and as the directions of engineer-in-charge. The laboratory shall be equipped with latest testing equipment in sufficient number to carry out all the tests as required under a contract. The contractor should ensure that the equipment is available well in advance of starting of the work to avoid stoppage of work on this account. All the tests shall be carried out by the contractor in the presence of the Engineer's representative and a joint record of all observations and results thereof shall be maintained, and available with the Engineer. **Bidder can tie up with approved third party Lab for testing.**
  13. In certain cases, Crushed Stone Sand/M-Sand may be added to Natural sand in order to achieve the required grading with prior approval of the Customer/Consultant and subsequent design mix report from reputed institute like IITs/NITs/Any Other Government Institutes. Crushed Stone Sand/M-sand alone may be used only with the prior approval of the BHEL Engineer/Customer/Consultant for filling and Concreting works.
  14. The bidder shall quote his price considering only River Sand usage. If crushed stone sand/M-sand (arranged by contractor) is used in place of river sand, suitable rebate (rate shall be mutually decided based on market rate with applicable BHEL overhead) of M-Sand consumed shall be applicable for all items/ works where M-Sand is used in place of River sand.

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## Chapter – II: Scope of Work and Technical Specifications

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In case, BHEL at its discretion and subject to availability, may issue the crushed stone sand/M-sand free of cost for usage in place of river sand, suitable rebate (rate shall be mutually decided based on market rate with applicable BHEL overhead) of crushed stone sand/M-Sand consumed shall be applicable for all items/ works where M-Sand is used in place of River sand.

Measurement for the rebate shall be calculated based on quantity of M-Sand consumed in the particular item, not on the quantity of the particular item.

15. In case ambient temperature is greater than 32 Degree Celsius, Placement temperature should be controlled with necessary temperature correction of concrete by introducing Chiller Plant along with Batching Plant.
16. Royalty challan and statutory documents shall be submitted along with RA Bills for processing of Bills.

### **2.3 Preamble for the schedule of quantities/BOQ:**

1. Details of the items in this Schedule shall be read in conjunction with the Corresponding Consultants/ NTPC specifications, drawings and other documents and shall have precedence over any contrary statement mentioned anywhere in this document.
2. Items of work provided in this schedule but not covered in the specifications shall be executed strictly as per instructions of the Engineer.
3. Unless specifically mentioned otherwise in the contract, the bidder shall quote his rates for the finished items and shall provide for the complete cost towards fuel, tools, tackle, equipment, constructional plant, temporary works, labour materials, levies, taxes, transport, layout, repairs, rectification, maintenance till handing over, supervision, shops, establishments, services, temporary roads, revenue expenses, contingencies, overheads, profits and all incidental items not specifically mentioned but reasonably implied and necessary to complete the works according to the contract.
4. The rate quoted shall be inclusive of cleaning the site of any vegetation, dressing and levelling etc., required for commencement of site activities. The rates shall also be inclusive of final micro grading before handing over. No separate payment will be made towards the same.
5. The quantities given in the contract are tentative and may change to any extent (both in plus side and minus side). No compensation becomes payable in case the variation of the final executed contract value is within the limits of Minus (-) 20% of awarded contract value. Also, no compensation becomes payable in case the contract gets partially executed/ short closed/ terminated/ work withdrawn under Rights of BHEL mentioned in Clause 2.7 of GCC. In case of work terminated / short closed under clause 2.7.4 of GCC, compensation may be considered only if BHEL receives compensation from customer.

Compensation due to variation of final executed contract value in excess of the limits defined in clause above, shall be as follows:

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

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- i) In case the finally executed contract value reduces below the lower limit of awarded Contract Value due to quantity variation specified above, the Contractor will be eligible for compensation @ 20% of the difference between the lower limit of the awarded contract value and the actual executed contract value.
  - ii) In case the finally executed contract value increases above the awarded Contract Value due to quantity variation, the Contractor is not eligible for any compensation
6. Engineer 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.
  7. 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.

### 2.4 Hierarchy:

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

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

### 2.5 Information to be submitted by the Tenderer

#### 1. With Tender:

The following technical information are required with the tender:

- a) Source and arrangement of processing of aggregates proposed to be adopted.
- b) Type of plant and equipment proposed to be used.

#### 2. After Award:

The contractor shall be provided following information and data including samples where necessary, progressively during the execution of the contract.

- a) Program for Installation & Commissioning of the RMC plant:

Within 15 days of the award of contract, the contractor shall submit a Master Program for Installation & Commissioning of the RMC plant.

- b) Samples:

Samples of the following materials and any other materials proposed to be used shall be submitted as directed by the Engineer, in sufficient quantities for

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

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approval. Approved samples will be preserved by the Engineer for future reference. The approval of the Engineer shall not, in any way, relieve the Contractor of his responsibility of supplying materials of specified qualities:

- i) Coarse and fine aggregates
  - ii) Admixtures
  - iii) Bottom Ash and Fly Ash
- c) Design Mix Concrete:
- Design mix concrete for this specification giving proportions of the ingredients, sources of aggregates, sand, bottom ash and fly ash along with accompanying test results of trial mixes as per relevant I.S., is to be submitted to the Engineer for his approval before it can be used on the works.
- d) Test Reports for admixtures.
- e) Inspection Reports
- Inspection Reports in respect of any item of work as may be desired by the Engineer in accordance with Relevant Clause of this specification.
- f) Test Reports:
- Reports of tests of various materials and concrete as required under Clause 2.16: SAMPLING & TESTING of this specification.
- g) Any other data which may be required as per this specification.

### 2.6 Conformity with Concrete Mix Design:

One of the mix designs developed by the Contractor as per the I.S. Specifications and established to the satisfaction of the Engineer by trial mixes shall be permitted to be used by the Engineer, the choice being dictated by the requirements of designs and workability. The methods of mixing, conveyance as per requirement, making test samples, curing, protection and testing of concrete will be as approved or directed by the Engineer.

NOTE:

1. Admixtures with AURAMIX-500 (High grade PCE)
2. Workability requirement of the structural concrete is 150 mm to 200 mm.
3. Workability requirement of lean concrete is 150 mm to 175 mm.
4. The coarse and fine aggregate shall be tested for ASR by petrographic analysis & also required 14-days accelerated mortar bar test as per ASTM C1260.

### 2.7 Materials to be used:

All materials whether to be incorporated in the work or used temporarily for the construction shall conform to the relevant IS Specifications unless stated otherwise and be of best approved quality.

#### 1. Aggregates:

##### a) Coarse Aggregate:

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Coarse aggregate for concrete shall be crushed stones chemically inert, hard, strong, durable against weathering of limited porosity and free from deleterious materials. It shall be properly graded. It shall meet the requirements of IS: 383.

**b) Fine Aggregate:**

Fine aggregate shall be hard, durable, clean and free from adherent coatings of organic matter and clay balls or pellets. Fine aggregate in concrete shall conform to IS: 383. For plaster, it shall conform to IS: 1542 and for masonry work to IS: 2116.

c) Petrographic examination of aggregate shall be carried out by the contractor at National Council for Cement and Building Materials (NCB), Ballabgarh or any other approved laboratory to ascertain the structure and rock type including presence of strained quartz and other reactive minerals. In case, the coarse aggregate sample is of composite nature, the proportions (by weight) of different rock types in the composite sample and petrographic evaluation of each rock should also be ascertained. While determining the rock type, special emphasis should be given on identification of known reactive rocks like chalcedony, opal etc. The procedure laid down in IS 2430 for sampling of aggregates may be followed.

d) The laboratory shall determine potential reactivity of the aggregate, which may lead to reaction of silica in aggregate with the alkalis of cement and / or potential of some aggregates like limestone to cause residual expansion due to repeated temperature cycle. If the same is established, the contractor shall further carry out alkali aggregates reactivity test as per IS 2386 (Pt.VII) and / or repeated temperature cycle test to establish the suitability of the aggregates for the concrete work. The test results, with the final recommendations of the laboratory, as to a suitability of the aggregate, for use in the concrete work for various structures and suggested measures, in case of results are not satisfactory, shall be submitted to the Engineer for his review, in a report form. In case in the report, it is established, that the aggregates contain reactive silica, which would react with alkalis of the cement, the contractor shall change the source of supply of the aggregate or use low alkali cement as per recommendation or take measures as recommended in the report as instructed by Engineer. In case aggregates indicate residual expansion, under repeated temperature cycle test (from 10 Degree Celsius to 65 Degree Celsius and for 60 temperature cycles) the material shall not be used for concreting of Lime stone crusher decks, Mills, Fans and other equipment foundations which are likely to be subjected to repeated temperature cycle. The contractor shall use aggregates free from residual expansion under repeated temperatures cycle test.

**2. Water:**

Water for use in Concrete shall be clear and free from injurious oils, acids, alkalis, organic matter, soluble silts or other deleterious substances which may cause corrosion, discoloration, efflorescence etc. Normally potable water is found to be suitable. Generally, IS: 3550 will be followed for routine tests. Acceptance test for water shall be as per IS: 3025, and Table-1 of IS: 456. In case of doubt regarding development of strength, the suitability of water for making concrete shall be ascertained by compressive strength and initial setting time tests as per method of tests in accordance with the requirements of IS-516 & IS- 4031 respectively. The pH value of water shall generally be not less than 6.

**3. Admixture:**

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## Chapter – II: Scope of Work and Technical Specifications

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- i) The design mix of structural concrete M-20 and above should be design with high performance PCE-based water reducing admixture having minimum water reduction capability of 30%.
- ii) The type of Super-plasticizer should be of Type-G category as per ASTM C-494.
- iii) The performance compliance of the Super-plasticizer should be ensured based on the following test.
  - Marsh cone test for optimum dosage of admixture with specific brand of cement.
  - Slump retention test of concrete.
  - Water reduction capability test by doing trial mix.
  - Rheological properties of fresh concrete on trial mix.

### 2.8 Storage of Materials:

All materials shall be as stored as to prevent deterioration or intrusion of foreign matter and to ensure the preservation of their quality and fitness for the work. Any material, which has deteriorated or has been damaged or is otherwise considered defective by the Engineer, shall not be used for concrete and shall be removed from site immediately, failing which, the Engineer shall be at liberty to get the materials removed and Storage of materials shall conform to IS: 4082.

#### 1. Cement:

Sufficient space for storage, with open passages between stacks, shall be arranged by the Contractor to the satisfaction of the Engineer.

Cement shall be stored above the ground in perfectly dry, leak proof (watertight), well-ventilated ware-houses at the works in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter.

Cement shall be stored in easily countable stacks with consignment identification marks. The bags shall be stacked in a manner so as to facilitate removal or first in first out basis. Sub-standard or partly set cement shall not be used and shall be removed from the site, with the knowledge of the Engineer, as soon as it is detected.

Different types of cement shall be clearly marked with the Type and different types of cement shall not be intermixed.

#### 2. Aggregates:

Aggregates shall be stored on brick soling or an equivalent platform so that they do not come in contact with dirt, clay, grass or any other injurious substances at any stage. Each size shall be kept separated with wooden or steel or concrete or masonry bulk-heads or in separate stacks and sufficient care shall be taken to prevent the material at the edges of the stock piles from getting intermixed. Stacks of fine and coarse aggregates shall be kept sufficiently apart with proper

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arrangement of drainage. The aggregates shall be stored in easily measurable stacks of suitable depths as may be directed by the Engineer.

### 3. **Admixtures:**

Admixtures shall be stored in strong moisture proof packing / as per recommendations of manufacturer.

## 2.9 **Quality Control:**

Contractor shall establish and maintain quality control for different items of work and materials as may be directed by the Engineer to assure compliance with contract requirements and maintain and submit to the Engineer records of the same.

The quality control operation shall include but not be limited to the following items of work:

1. **Admixture:** Type, quantity, physical and chemical properties that affects strength, workability and durability of concrete. For air entraining admixtures, dosage to be adjusted to maintain air contents within desirable limits.
2. **Aggregate:** Physical, chemical and mineralogical qualities. Grading, moisture content and impurities.
3. **Water:** Impurities tests.
4. **Cement:** Tests to satisfy relevant IS Specifications (only association with Owner's tests, if the supply is made by Owner).
5. **Grades of Concrete:** Usage and mix design, testing of all properties.
6. **Batching & Mixing:** Types and capacity of plant, concrete mixers and transportation equipment.

## 2.10 **Installation:**

All installation requirements shall be in accordance with IS 4926 & IS:456 and as supplemented or modified herein or by other best possible standards where the specific requirements mentioned in this section of the specification do not cover all the aspects to the full satisfaction of the Engineer.

## 2.11 **Washing and Screening of Aggregates**

Washing and Screening of coarse aggregate shall be carried out to remove fines, dirt or other deleterious materials. Washing of fine aggregate shall not be allowed, Fine aggregates shall be screened only to remove dirt or other deleterious materials. However, all washing & screening of aggregates shall be carried out by approved means to ensure compliance with the aggregate specification.

## 2.12 **Mixing of Concrete:**

Concrete shall always be mixed in mechanical mixer unless specifically approved by the Engineer for concrete to be used in unimportant out of the way locations in small quantities. Water shall not normally be charged into the drum of the mixer until all

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the cement and aggregates constituting the batch are already in the drum and mixed for at least one minute. Mixing of each batch shall be continued until there is a uniform distribution of the materials and the mass is uniform in colour and consistency, but in no case shall mixing be done for less than 2 (two) minutes and at least 40 (forty) revolutions after all the materials and water are in the drum. When absorbent aggregates are used or when the mix is very dry, the mixing time shall be extended as may be directed by the Engineer. Mixers shall not be loaded above their rated capacity as this prevents thorough mixing.

The entire contents of the drum shall be discharged before the ingredients for the next batch are fed into the drum. No partly set or remixed or excessively wet concrete shall be used. Such concrete shall be immediately removed from site. Each time the work stops, the mixer shall be thoroughly cleaned & when the next mixing commences, the first batch shall have 10% additional cement to allow for loss in the drum.

Regular checks on mixer efficiency shall be carried out as directed by the Engineer as per IS: 4634 on all mixers employed at site. Only those mixers whose efficiencies are within the tolerances specified in IS: 1791 will be allowed to be employed.

Ingredients for design mix concrete shall be measured by weight. For small jobs portable swing weigh Batcher conforming to IS: 2722 may be used.

Batching plant conforming to IS: 4925 shall be used for large jobs. The accuracy of the measuring equipment shall be within + 2% of the quantity of Cement, water or total aggregates being measured and within + 5% of the quantity of any admixture being used. The batching equipment shall be fitted with an accurate mechanism for weighing separately the cement, fine aggregate and coarse aggregate. Water may be measured by volume or by weight. All measuring equipment should be maintained in a clean serviceable condition, and their accuracy shall be checked periodically.

Mechanical / electrical control shall be provided on the mixing equipment to ensure the batch cannot be discharged until approved mixing time has elapsed and the entire batch shall be discharged before the mixer is recharged.

Where admixtures are employed, separate containers & measuring devices shall be used.

For minor concreting works, batching by volume according to specific weight may be permitted by the Engineer. In that case the whole bags of cement shall be used and gauge boxes used for measuring aggregates.

When hand mixing is permitted by the Engineer, it shall be carried out on a water-tight platform and care shall be taken to ensure that mixing is continued until the mass is uniform in colour and consistency. In case of hand-mixing, 10% extra cement shall be added to each batch.

### **2.13 Cold Weather Concreting:**

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When conditions are such that any operation of concreting may be expected to be done at 5°C atmospheric temperature or below the work shall conform to the requirement of Clause 14 of IS:456 and IS:7861 (Part - II).

### **2.14 Hot Weather Concreting:**

When depositing concrete in very hot weather, the Contractor shall take all precautions as per IS:7861 (Part-I) and stagger the work to the cooler parts of the day to ensure that the temperature of wet concrete used in massive structures does not exceed 40°C while placing. Positive temperature control by pre cooling, post cooling or any other method, if required, will be specified.

### **2.15 Concreting Under Water:**

When it is necessary to deposit concrete under water it shall be done in accordance with the requirements of clause 14 of IS: 456.

### **2.16 Sampling and Testing of Materials:**

#### **1. General:**

- 1.1. The method of sampling for testing of construction materials and work / job samples shall be as per the relevant IS / standards / codes and in line with the requirements of the technical specifications / quality plans. All samples shall be jointly drawn, signed and sealed wherever required, by the Contractor and the engineer or his authorized representative.
- 1.2. The Contractor shall carry out testing in accordance with the relevant IS / standards/codes and in line with the requirements of the technical specifications/quality plans. Where no specific testing procedure is mentioned, the tests shall be carried out as per the best prevalent engineering practices and to the directions of the Engineer. All testing shall be done in the presence of the engineer or his authorized representative.
- 1.3. Before execution of any civil work the Contractor shall conduct full scale suitability tests on various construction and building material such as fine and coarse aggregates, cement, admixtures, supplementary cementations materials and construction water to ascertain their suitability for use and the concrete mix designs conducted from all IITs, NCB, CSMRS, reputed government / autonomous laboratories / organizations, NITs and other reputed testing laboratories. On approval of NTPC. The test samples for such full scale testing shall be jointly sampled and sealed by the engineer and Contractor, thereafter these shall be sent to the concerned laboratory through the covering letter signed by field quality assurance (FQA) representative of the engineer.
- 1.4. The Contractor shall timely initiate the action with regard to the evaluation of aggregates and other building material including concrete mix design, so as to ensure completion of these tests before start of civil works at site, thereby not affecting any project work. The test reports and recommendations for suitability of the materials including concrete mix design shall be promptly submitted by the Contractor to the engineer.

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### 2. **Aggregates**

Evaluation of aggregate for potential alkali-aggregate reactivity shall be carried out as per following scope of work.

#### A. Evaluation of Aggregates for Mechanical / Physical Properties:

- a) To carry out different tests on coarse aggregate sample i.e. specific gravity, water absorption, sieve analysis, deleterious material; soundness, crushing value, impact value, abrasion value, elongation index and flakiness index, as per IS: 2386.
- b) To carry out different tests on fine aggregate sample i.e. specific gravity, water absorption, sieve analysis, deleterious material, soundness, silt content, clay content and organic impurities as per IS: 2386.
- c) To prepare evaluation report based on test results of a) and b) above and to advise regarding suitability of fine and coarse aggregates.

#### B. Evaluation of Aggregates for Potential Alkali-Aggregate Reactivity:

- a) To carry out petrographic analysis and accelerated Mortar bar Test on aggregate samples (1N NaOH at 80 deg. Centigrade for 14 days as per ASTM 1260, or the method established/ developed by CSMRS for 22days test).
- b) To prepare a report based on test results of a) above and to advise regarding suitability of aggregates to be used and further testing required if any.

### 3. **Cement**

Representative samples will be taken from each consignment of cement received from the manufacturer/supplier for carrying out the tests for fineness (by hand sieving), setting time and compressive strengths. Soundness Tests may also be required to be carried out if required by the Engineer.

The tests shall be carried out free of charge by Contractor as per the terms and conditions of the Contract the tests shall be carried out by him.

### 4. **Water**

Sampling and Testing of water being used for concrete works as per IS: 3550 will be carried out by the Contractor at regular intervals and whenever directed by the Engineer. The final acceptance criteria in case of doubt will be as per IS: 3025 & IS: 456.

### 5. **Admixture**

#### A. **Air Entraining Agents (A.E.A)**

Initially, before starting to use A.E.A., relationship between the percentage of air entrained and the cube crushing strength vis-à-vis quantity of A.E.A. used for all types of concrete will be established by the Contractor by carrying out

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sufficiently large number of tests. After then, at regular intervals and whenever directed by the Engineer, the Contractor will check up the actual percentages of air entrained and corresponding crushing strengths to correlate with the earlier test results.

### **B. Other Admixtures**

Tests for establishing the various properties of any other admixtures which may be required to be added shall be carried out by the Contractor.

### **6. Concrete**

The sampling of concrete, making the test specimens, curing and testing procedure etc. shall be in accordance with IS:516 and IS:1199 the size of specimen being 15 cm cubes. Normally, only compression tests shall be performed but under special circumstances the Engineer may require other tests to be performed in accordance with IS: 516.

Sampling procedure, frequency of sampling and test specimen shall conform to Clause 14 of IS: 456.

To control the consistency of concrete from every mixing plant, slump tests and/or compacting factor tests in accordance with IS: 1199 and as mentioned in Clause 3.6 of this Specification shall be carried out by the Contractor every two hours or as directed by the Engineer. Slumps corresponding to the test specimens shall be recorded for reference.

The acceptance criteria of concrete shall be in accordance with Clause 15 of IS: 456.

Concrete work found unsuitable for acceptance shall have to be dismantled and replacement is to be done as per specification by the Contractor. No payment for the dismantled concrete, the relevant formwork and reinforcement, embedded fixtures, etc. wasted in the dismantled portion shall be made. In the course of dismantling, if any damage is done to the embedded items or adjacent structures, the same shall be made good to the satisfaction of the Engineer.

### **2.17 Acceptance Criteria:**

#### **1. Standard Deviation**

Standard deviation shall be based on test results and determination of Standard deviation shall conform to clause 16 of IS: 456.

#### **2. Acceptance Criteria**

The strength requirements and acceptance criteria shall conform to Clause 16 of IS: 456.

#### **3. Inspection and Core Tests**

Inspection of concrete work immediately after stripping the formwork and core test of structures shall conform to Clause 17 of IS: 456.

### **2.18 Laboratory and Field Testing:**

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1. The field laboratory for QA and QC activities shall be constructed and setup by the Contractor in line with the indicative field QA&QC laboratory set-up enclosed at Annexure-I. The Laboratory building shall be constructed and installed with the adequate facilities to meet the requirement of envisaged test setup. Temperature and humidity controls shall be available wherever necessary during testing of samples. The quality plan shall identify the testing equipment / instrument, which the Contractor shall deploy and equip the field quality laboratory for meeting the field quality plan requirements. The Contractor shall furnish a comprehensive list of testing equipment / instrument required to meet the planned/scheduled tests for the execution of works for OWNER acceptance/ approval. The Contractor shall mobilize the requisite laboratory equipment and QA&QC manpower at least 15 days prior to the planned test activity as per the schedule of tests.
2. All equipment and instruments in the field shall be calibrated before the commencement of tests and then at regular intervals, as per the manufacturer's recommendation and as directed by the OWNER. The calibration certificates shall specify the fitness of the equipment and instruments within the limit of tolerance for use. Contractor shall arrange for calibration of equipment and instruments by an NABL / NPL accredited agency and the calibration report shall be submitted to OWNER.
3. The tests which cannot be carried out in the field laboratory shall be done at a laboratory of repute. This includes all IITs, NCB, CSMRS, reputed government / autonomous laboratories / organizations, NITs and other reputed testing laboratories. The test samples for such test shall be jointly selected and sealed by the engineer and thereafter these shall be sent to the concerned laboratory through the covering letter signed by OWNER engineer.  

The test report along with the recommendations shall be obtained from the laboratories without delay and submitted to OWNER.
4. Based on the schedule of work agreed with the engineer-in-charge and the approved FQP, the Contractor shall prepare a schedule of tests and submit them to the engineer-in-charge and organize to carry out the tests as scheduled /agreed.

### Annexure-I

#### LIST OF RMC FIELD QUALITY ASSURANCE LABORATORY APPARATUS

SL NO	DESCRIPTION	QUANTITY
1	Cube moulds - 150 mm (ISI marked)	50
2	Cube moulds - 70.6 mm	9
3	Cube testing machine with two dial gauge and brick plate attachment	1 sets of 2000 kN capacity each
4	Digital thermometer - 200°C	3
5	Electrical oven	1

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6	IS sieve set along with sieve shaker – 75 $\mu$ , 150 $\mu$ , 300 $\mu$ , 600 $\mu$ , 1.18 mm, 2.36 mm, 4.75 mm, 6.3 mm, 10 mm, 12.5 mm, 16 mm, 20 mm, 22.4 mm, 25 mm, 31.5 mm, 40 mm, 50 mm, 53 mm, 63 mm, 80 mm, 90 mm, 120 mm, 125 mm, pan	1 Set for Sand & 1 set for coarse aggregate
7	Measuring cylinder (glass) 50 ml, 200 ml, 500 ml	2 each
8	Physical balance Digital 10 kg capacity L.C. – 1 gm	1
9	Platform balance – Digital: 200 kg capacity	1
10	Pycnometer	2
11	Slump cone with tamping rod	4
12	Specific gravity bottle – 50 ml	2
13	Air entrainment meter capacity – 0.005 cum	2
14	English type trowel	4
15	Impact testing machine	1
16	Le-Chatelier apparatus with water bath	2
17	Measuring cylinder (plastic) 50 ml, 100 ml, 200 ml, 500 ml	1
18	pH meter	1
19	Screw gauge	2
20	Spatula	4
21	Standard sand grade 1, 2, 3 500 kg	each
22	Stop watch - Digital	1
23	Thermometer ordinary 50°C	5
24	Vernier calipers - Digital	1
25	Vicat apparatus	2
26	Weigh Boxes	4
27	Cylindrical measures: - capacity 0.01 cum, Dia (I) – 250 mm, Height – 280 mm, (I) with tamping rod as per IS 1199.	1
28	Rapid Curing Water Tank (IS: 1199)	1
29	Flow Table for self compacting Concrete	1

### Annexure-II

#### INDICATIVE LIST OF BOUGHT OUT ITEMS FOR READY MIX CONCRETE WORKS

Sl. No	Bought out Item	Proposed Make	Proposed list of Manufacturers
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1	Cement		
2	Construction Chemicals admixtures, waterproofing, accelerators,		
3	Any other specific high value and critical bought out Item required, meeting the specification requirements		

Note: The Bidders are required to indicate the list of proposed manufacturers/subvendors for each of the BOI in their Bid proposal, which shall be discussed for finalization at post bid stage.

### 2.19 List of IS Codes and Standards for Reference:

**2.20** All work under this specification shall, unless specified otherwise, conform to the latest revisions and/or replacements of the following or any other Indian Standard Specifications and Codes of Practice. In case any particular aspect of work is not specifically covered by Indian Standard Specifications, any other standard practice, as may be specified by the Engineer, shall be followed: -

- IS: 269 - Indian Standard Specification for Ordinary Portland Cement
- IS: 383 - Indian Standard Specification for Coarse and Fine Aggregates from Natural Sources for Concrete
- IS: 455 - Indian Standard Specification for Portland Slag Cement
- IS: 456 - Indian Standard Code of Practice for Plain and Reinforced Concrete
- IS: 516 - Indian Standard Specification for Methods of Test for Strength of Concrete
- IS: 1200 - Indian Standard Specification for Method of (Part-II) Measurement Cement Concrete Works.
- IS: 1489 - Indian Standard Specification for Portland - Pozzolona Cement - Part 1 & 2
- IS: 1791 - Indian Standard Specification for Batch Type Concrete Mixers
- IS: 2386 - Indian Standard Specification for Methods of Test for Aggregates for Concrete - Part-I to VIII
- IS: 2430 - Indian standard specification for method of sampling of Aggregate for concrete.
- IS: 2514 - Indian Standard Specification for Concrete Vibrating Tables

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- IS: 2645 - Integral Cement water proofing compound
- IS: 2722 - Indian Standard Specification for Portable Swing Weigh Batcher for Concrete (Single and Double Bucket type)
- IS: 2770 - Indian Standard Specification for Method of Testing Bond in Reinforced Concrete. Part - 1: Pull out Test
- IS: 3025 - Indian Standard Specification for Methods of Sampling and Test (Physical and Chemical) for Water & waste water - Part - 1 to 37
- IS: 3550 - Indian Standard Specification for Method of Test for Routine Control for Water used in Industry
- IS: 3812 - Indian Standard Specification for Fly Ash for Use as Pozzolana & Admixture
- IS: 4031 - Indian Standard Specification for Method of Tests for Hydraulic Cement - Part - 1 to 14
- IS: 4082 - Indian Standard Specification for Recommendation on Stacking and Storage of Construction Materials at site
- IS: 4634 - Indian Standard Specification for Method of Testing Performance of Batch-type Concrete Mixers
- IS: 4925 - Indian Standard Specification for Concrete Batching and Mixing Plant
- IS: 4926 - Indian Standard Specification for Ready Mixed Concrete
- IS: 5512 - Indian Standard Specification for Flow Table for use in Tests of Hydraulic Cement and Pozzolanic Materials
- IS: 5513 - Indian Standard Specification for Vicat Apparatus
- IS: 5515 - Indian Standard Specification for Compaction Factor Apparatus
- IS: 5816 - Indian Standard Specification for Method of Test for Splitting Tensile Strength of Concrete Cylinders
- IS: 5891 - Indian Standard Specification for Hand Operated Concrete Mixers
- IS: 6452 - Indian Standard Specification for High Alumina Cement for Structural Use
- IS: 6909 - Indian Standard Specification for Super sulphated Cement
- IS: 6925 - Indian Standard Specification for Method of Test for Determination of Water Soluble Chloride in Concrete Admixtures
- IS: 7320 - Indian Standard Specification for Concrete Slump Test Apparatus
- IS: 7861 - Indian Standard Specification for (Part-I Recommended Practice for hot and

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cold & II) Weather Concreting

IS: 7969 - Safety Code for Storage and Handling of Building Materials

IS: 8041 - Indian Standard Specification for Rapid Hardening Portland cement

IS: 8112 - Indian Standard Specification for 43 grade Ordinary Portland Cement

IS: 8142 - Indian Standard Specification for Determining Setting time of Concrete by Penetration Resistance

IS: 9103 - Indian Standard Specification for Admixtures for Concrete.

IS: 10262 - Recommended Guideline for concrete Mix Design

IS: 12330 - Indian standard specification for sulphate resting Portland cement

IS: 12600 - Indian standard specification for low heat Portland cement.

### **2.21 Construction Power(Chargeable):**

1. Construction Power shall be made available to the Contractor at 415 V feeders of LT substation located at Single point 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.
2. 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.
3. 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. Capacitor Bank is to be arranged by vendor for power factor improvement of the system as per I. E. Rule.
4. 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.
5. 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.
6. 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

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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.

7. 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.
8. 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.
9. 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.
10. The charges for the actual energy consumed by contractor shall be recovered on relevant rate of Discom and as specified in specification.

### **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.

### **2.22 Construction water (Chargeable):**

Construction Water shall be provided by BHEL at a single location on chargeable basis, agency may also arrange construction water at their own.

**Note:** Due to any constraint at site if BHEL fails to provide construction water, contractor may have to arrange for construction water on its own. Any cost implication of the same shall be to the account of contractor and no extra payment shall be made for any such arrangements made by contractor (if required).

### **2.23 Cement (Issued by BHEL free of Cost):**

1. Cement as received from the manufacturer/ stockiest will be issued free of cost to the contractor. Cement shall be issued normally through bulkers and emptied in cement silos of batching plant. Necessary assistance shall be provided by contractor.

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2. Contractor to note that batching plant of capacity 30 Cum per Hour / 60 Cum per Hour being established at site shall have minimum three cement silos of 100 MT/ 150 MT capacities each respectively (01 for PPC and 02 for OPC). The number of silos shall be increased based on the site requirement.
3. The contractor shall submit to the engineer, a statement indicating estimated quantity of cement required during a quarter, at least two months in advance of the quarter. In addition, the contractor shall also furnish the estimated requirement of cement during a month by the third week of the previous month indicating his requirement.
4. The theoretical weight of each bag of cement for issued purposes will be considered as 50kg, 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.
5. 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.
6. The contractor shall satisfy himself of the quality and quantity of supplied cement 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.
7. Contractor will be responsible for unloading the cement as soon as the arrival of cement in the weather proof cement storage sheds having dense impervious bituminous or concrete floors which shall be kept swept clean at all times. The storage arrangements shall be fully completed and approved by the owner before any cement is delivered to site. The construction of cement storage sheds as per the requirement of BHEL, unloading of cement bags, stacking properly in the storage sheds, removal of the sheds after the completion of the work are in the scope of bidder. Though the cement is unloaded directly at the contractor storage shed, it will be deemed to be considered that the cement was issued from BHEL stores. Necessary documents are to be submitted by the contractor to the BHEL stores for having received cement.
8. Contractor will be responsible for sampling and testing of cement as per Indian Standard / Specification / approved quality plan in the testing laboratory established by the contractor.
9. One month shall be limit for the maximum quantity of BHEL issued cement 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).

### **2.24 Return of Cement issued by BHEL free of cost:**

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

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from assessment) if BHEL/ engineer is satisfied of the physical condition of the cement. Return of such cement to the project stores / place as identified within the project area by engineer/ BHEL will not be entitled to handling and incidental charges. Surplus sealed and good conditioned cement bags will be taken back on weighment basis.

Cement that has been unloaded in silo will not be taken back by BHEL. Sweep cement will not be taken back by BHEL.

### 2.25 Consumption and wastage of cement issued by BHEL free of cost:

#### 1. Cement Consumption:

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

- (a) For design mix concrete as per approved design mix.
- (b) For nominal mix concrete work, as per minimum cement as specified or as approved by engineer-in-charge.
- (c) For item of works, where volume mix is permitted in writing by the BHEL, for masonry works, plaster other miscellaneous items, the cement consumption shall be governed by the "Statement of cement consumption" attached to the Delhi Schedule of Rates CPWD DSR Latest Revision unless otherwise specified in the specifications or the drawing of contract or mutually agreed by engineer-in-charge and the contractor.
- (d) Actual consumption = Issue – Surplus/ unused quantity of cement returned in good condition by the contractor to store.

#### 2. Cement Wastage:

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

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

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3	Actual consumption beyond one and half percent (+1.5%) of Sl. No. (1) above.	Penal rate
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### 2.26 Reconciliation of cement issued by BHEL free of cost:

1. The contractor shall submit a reconciliation statement of cement issued to the contractor with each RA Bill.
2. At the time of submission of bills, the contractor shall properly account for the material issued to him as specified herein to the satisfaction of BHEL certifying that the balance material is available in the contractor custody at site.
3. At the time of submission of bills, if it is noticed by BHEL that the wastage is high and calls recovery at the penal rate then, BHEL will proceed for recovery for the excess wastage as per penal recovery rates as specified.

### 2.27 General Notes:

1. 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.
2. The contractor shall in no case be entitled for any compensation on account of any delay in supply or non-supply thereof for all or any such materials. However, in case of non-availability of any specific section(s) which delays the completion of work, such cases shall be recorded separately in monthly planning format (F14) and shall be considered for time extension of contract.
3. Contractor will have to make his own arrangement at his own cost for procurement of any other materials except as mentioned above, as required for the works and of such quality as acceptable to BHEL.
4. 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 (diameter/section wise or as required) shall be done at least once in three months (03) or before submission of final bill which comes earlier.
5. 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.
6. The contractor shall solely be responsible for the safety & security of material after it is handed over and issued to contractor by the BHEL.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – II: Scope of Work and Technical Specifications

7. 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.
8. In case of non-finalization of delay analysis, BHEL at its discretion may provide provisional time extension with withholding 10% of running bills.

### 2.28 Recovery of Cement (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 (excluding GST):

Sl. No.	Materials	Penal rate (Rs)
1	Cement	6,500/- per MT

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

Material required for the entire job (other than issued by BHEL as explained above) like sand, aggregates, windows, doors, ventilators, rolling shutter, sanitary fixtures, painting & finishing material, electrical fittings and wiring material and all other material required for the completion of entire scope, have to be arranged by the contractor, except those specifically indicated as BHEL scope of supply. BHEL reserves the right to reject any material not found satisfactory. 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.

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

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

Sh S. K. Parida BHEL Site Office 3x800 MW PVUNL Patratu STPS Email: skparida@bhel.in Ph no: +91-9687690998	Sh Anand Kumar PSWR Nagpur Email: <a href="mailto:aanand@bhel.in">aanand@bhel.in</a> Ph. No: +91-7387356299
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**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter – III: Facilities in the scope of Contractor/BHEL (Scope Matrix)**

Sl. No	Description <b>PART I</b>	Scope		Remarks
		BHEL	Bidder	
<b>3.1</b>	<b>Establishment:</b>			
<b>3.1.1</b>	<b>For Construction Purpose:</b>			
a	Open space for office (as per availability)	Yes		BHEL may provide free of charge limited open space for office and store as and where made available by its customer. Also refer clause no. 3.9.2
b	Open space for storage (as per availability)	Yes		
c	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	
d	Bidder's all office equipments, office / store / canteen consumables		Yes	
e	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	
f	Fire fighting equipments like buckets, extinguishers etc		Yes	
g	Fencing of storage area, office, canteen etc of the bidder		Yes	
<b>3.1.2</b>	<b>For living purpose of the bidder:</b>			
a	Open space for labour colony (as per availability)		Yes	Contractor has to make his own arrangements shelter and transportation of labours as per their requirement.
b	Labour Colony with internal roads, sanitation, complying with statutory requirements		Yes	Construction Plan shall be approved by BHEL

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

Sl. No	Description  PART I	Scope		Remarks
		BHEL	Bidder	
3.2	<b>Electricity:</b>			
3.2.1	<b>Electricity for construction purposes 3 Phase 415/440 V</b>			
a	Single point source	Yes		<b>Chargeable.</b> Bidder to make it own arrangement of distribution of electricity at its own cost.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.2	<b>Electricity for office, stores, canteen etc. of the bidder.( Chargeable )</b>			
a	Single point source	Yes		Single point as above for construction purpose, no separate point shall be given.
b	Further distribution including all materials, Energy Meter, Protection devices and its service		Yes	
c	Duties and deposits including statutory clearances if applicable		Yes	
3.2.3	<b>Electricity for living accommodation of the bidder's staff, engineers, supervisors etc. ( Chargeable )</b>			
a	Single point source		Yes	Single point as above for construction purpose, no separate point shall be given.

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

Sl. No	Description  PART I	Scope		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	
<b>3.3</b>	<b>Water Supply:</b>			
<b>3.3.1</b>	<b>For construction purposes: (free)</b>			
a	Making the water available at single point	Yes		Chargeable. Please refer clause 2.3
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	
<b>3.3.2</b>	<b>Water supply for bidder's office, stores, canteen etc. ( Chargeable)</b>			
a	Making the water available at single point		Yes	Single point as above for construction purpose, no separate point shall be given
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	Contractor has to make his own arrangements for distribution.
<b>3.3.3</b>	<b>Water supply for Living Purpose( Chargeable)</b>			
a	Making the water available at single point		Yes	Single point as above for construction purpose, no separate point shall be given
b	Further distribution as per the requirement of work including supply of materials and execution		Yes	Contractor has to make his own arrangements for distribution.

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

Sl. No	Description <b>PART I</b>	Scope		Remarks
		BHEL	Bidder	
<b>3.4</b>	<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	
<b>3.5</b>	<b>Communication facilities for site operations of the bidder</b>			
a	Téléphone, fax, internet, intranet, e-mail etc		Yes	
<b>3.6</b>	<b>Compressed air wherever required for the work</b>		Yes	
<b>3.7</b>	<b>Demobilization of all the above facilities</b>		Yes	
<b>3.8</b>	<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	

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

<b>3.9</b>	<b>Erection Facilities</b>			
3.9.1	Engineering works for construction:			
a	Providing the erection/constructions drawings for all the equipments covered under this scope	Yes		
b	Drawings for construction methods		Yes	In consultation with BHEL
c	As-built drawings where ever deviations observed and executed and also based on the decisions taken at site		Yes	Changes are to be marked in drawing & handover to BHEL on completion of work.
d	Shipping lists etc for reference and planning the activities			Not Applicable
e	Preparation of site erection schedules and other input requirements	Yes	Yes	In consultation with BHEL
f	Review of performance and revision of site erection schedules in order to achieve the end dates and other commitments	Yes	Yes	In consultation with BHEL
g	Weekly erection schedules based on SI No. e		Yes	In consultation with BHEL
h	Daily erection / work plan based on SI No. g		Yes	In consultation with BHEL
i	Periodic visit of the senior official of the bidder to site to review the progress so that works is 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		Yes	
k	Laying of racks for gantry crane if provided by BHEL or brought by the contractor /bidder himself		Yes	

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – III: Facilities in the scope of Contractor/BHEL (Scope Matrix)

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BHEL may provide free of charge limited open space, for office & storage shed, as and where made available by Customer (PVUN). It is the responsibility of the contractor to construct sheds, provide all utilities and dismantle and clear the site after completion of work or as and when required, as a part of his scope of work.

**Note:** Due to space constraint at site, contractor may have to arrange for open space for Batching Plant, Storage Area etc. outside the plant premises. Any cost implication of the same shall be to the account of contractor and no extra payment shall be made for any such arrangements made by contractor (if required).

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – IV: T&Ps and MMEs to be deployed by Contractor

### 4.0 Tools and Plants:

All the tools and plants required for execution of the above work are in contractor's scope.

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

Sl. No.	Description of T&P	Quantity
1	Automatic Batching Plant of capacity 30 Cum/Hr. with minimum four (02) silos of 100 MT capacities each for storing of Cement with printing facility to be commissioned at Site.	01 No Additional 01 No. as per requirement.
3	Chiller Plant connected with Batching Plant	As per requirement
4	Loader of suitable capacity	02 Nos.
5	DG Set of 125 KVA Capacity	01 No.
6	Ready mix concrete Testing Lab AC Lab 4.50 m x 4.50 m and Non-AC Lab 4.50 m x 6.00 m with required Equipment & Instrument as per Annexure - A	01 No.
7	Mould for Concrete compressive strength testing	50 Nos.
8	Drinking water tank – 500 lit.	01 No.
9	Self-priming water pump 5HP (diesel / electric)	02 Nos.
10	Dumper	02 Nos.
11	Welding rectifier	As per requirement
12	Water Tanker with sprinkler attachment	01 No.
13	All equipments for area Lightning like LED/Halogen bulbs and Portable light Towers etc.	As per requirement
14	Computer with printing/photocopy & CD writing facility	As per Requirement
15	Portable fire extinguishers as below: Soda acid – 2 sets. Dry chemical powder – 2 sets CO2 – 2 sets. Water & sand bucket (4 buckets in one stand) – 2 sets. Fire hose with nozzle (50 M length) – 2 sets	Within 60 days

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – IV: T&Ps and MMEs to be deployed by Contractor

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### Note:

1. T&Ps shown in the above mentioned list is suggestive requirement considering parallel working in project area. However, mobilization schedule as mutually agreed at site for major T&Ps, have to be adhered to. Numbers/time of requirement will be reviewed from time to time at site and contractor will provide required T&Ps/equipment to ensure completion of entire work within schedule/target date of completion without any additional financial implication to BHEL. Vendor will give advance intimation & certification regarding capacity etc. prior to dispatch of heavy equipment. Also on completion of the respective activity, demobilization of T&Ps in total or in part can be done with the due approval of engineer in charge. Retaining of the T&Ps during the contract period will be mutually agreed in line with construction requirement. In the event of non-mobilization of any T&P by the successful bidder and as a result progress of work suffered, BHEL reserves the right to deduct suitable amount from the dues of the bidder, with assigning reasons thereof.
2. 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.
3. All distribution boards, connecting cables/welding cables, wire ropes, hoses etc., including temporary air/water/electrical connectors etc. shall have to be arranged by the contractor at his own cost.
4. The contractor shall engage trained and experienced operators for the operation of T&P's and machinery. BHEL engineer will check their skill and performance before they are allowed to operate the same. However, checking of skills by BHEL does not absolve the contractor of his responsibilities for proper and safe handling of equipment, consistent good performance of operators and regular performance evaluation of operators.
5. The day to day and routine maintenance of T&Ps and machinery should be carried out by contractor and these shall be maintained in good working condition during the entire period of use T&Ps in defective/damaged condition shall be rectified promptly to the full satisfaction of BHEL engineer. Contractor shall maintain records for maintenance of major T&Ps which shall be made available for inspection whenever required. In case of any lapses on the part of the contractor, BHEL at its own discretion get the servicing/repair of equipment done at the risk and cost of the contractor with BHEL overheads as applicable time to time.
6. The contractor shall arrange all spares needed for upkeep of all T&Ps and machinery. For cranes, contractor shall arrange spares for repair/replacement of filter, batteries, self, dynamo, gaskets, hoses, oil seals and rubber parts.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – IV: T&Ps and MMEs to be deployed by Contractor

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7. The contractor shall permanently deploy with them minimum number of mechanics and skilled workers for undertaking the regular maintenance of tools and plants and machinery and for increasing / shortening of the crane boom as required. The contractor shall also arrange required tools, supports, consumables, illumination etc. for the above purpose.
8. The contractor shall arrange for consolidation of ground and arrangement of sleeper's/sand bag filling etc. for safe operation / movement of equipment including cranes/trailers etc. at his cost.
9. In the event of BHEL arranging T&P's and Machineries at the cost and risk of contractor, any loss / damage to any part of T&Ps and machineries provided by BHEL shall be to the contractor's account and any expenditure on these accounts by BHEL will be recovered from the contractor's bill in case the contractor fails to make good the loss.
10. Contractor shall ensure deployment of serviced and healthy T&Ps including cranes, lifting tackles, wire ropes, manila ropes, winches and slings etc. History card and maintenance records for major T&Ps will be maintained by the contractor and will be made available to BHEL engineer for inspection as and when required. Identification for such T&Ps will be done as per BHEL Engineer's advice.
11. Contractor shall ensure deployment of reliable and calibrated IMTEs (Inspection Measuring and Test Equipment). The IMTEs shall have test/calibration certificates from authorized / Govt. approved / accredited agencies traceable to National/ International standards. Each IMTE shall have a label indicating calibration status Le., date of calibration, calibration agency and due date for calibration. A list of such instruments deployed by contractor at site with its calibration status is to be submitted to BHEL engineer for control.
12. Re-testing / re-calibration shall also be arranged at regular intervals during the period of use as advised by BHEL Engineer within the contract price. The contractor will also have alternate arrangements for such IMTE so that work does not suffer when the particular instrument is sent for calibration. Also if any IMTEs not found fit for use, BHEL shall have the right to stop the use of such item and instruct the contractor to deploy proper item and recall i.e., repeat the readings taken by that instrument, failing which BHEL may deploy IMTEs and retake the readings at contractor's 'cost.
13. BHEL shall have lien on all T&P, IMTEs and other equipment of the contractor brought to the site for the purpose of erection, testing and commissioning. BHEL shall continue to hold the lien on all such items throughout the period of contract. No material brought to the site shall be removed from the site by the contractor and/or his subcontractors without the prior written approval of the engineer.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

### Chapter – IV: T&Ps and MMEs to be deployed by Contractor

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14. The contractor shall submit month wise T&P deployment plan. It is only to assess the capability as well as understanding of the contractor to execute the work. However, it shall be the contractor's responsibility to deploy the required T&Ps, for timely and successful completion of the job, to any extent over and above those indicated in the above deployment plan (including those which are not covered in the plan submitted) without any compensation on this account.
15. Heavy equipment will be tracked with real-time position location for fleet management. Deployment vs planned reports shall be generated. Equipment Condition monitoring data like Service Meter Reading, Operation maps, Loading, fuel levels, operating information, idle time etc. shall be captured. This data shall be captured through Integrated Online Project Monitoring system. All T&P equipment deployed by contractor will be covered/monitored through this system. Minimum 5 signals per equipment should be made available to provide the input to Integrated Online Project Monitoring system. Necessary software/ hardware for aforesaid system shall be provided by BHEL.
16. All manpower hired/deployed by Contractor for this project shall be monitored through Integrated Online Project Monitoring system by BLE beacons & LoRa backhaul. Every personnel entering in to NTPC site premises for carry out any work shall be tracked. [Separate tagging for visitors]. Geo-fencing /BLE beacon based zoning of the erection area shall be done to track workforce deployment and safety purposes. Work force monitoring Dash board (planned vs actual deployment) shall be made available. BLE beacons & LoRa backhaul shall be provided by BHEL on chargeable basis to contractor. BHEL will provide Tags free of cost for maximum 300 workers, additional tags as required shall be provided by BHEL on chargeable basis @ Rs. 1000/- per tag. In case of damage or missing of issued worker tag, Rs. 1000/- per tag will be charged for issuing new worker tag.
17. Medical/First aid center/medicine purchased for emergency/Doctor purpose along with ambulance services with fuel and operator (round the clock) shall be arranged by BHEL for handling medical emergencies. Cost against these facilities shall be distributed / shared among the vendors working in Patraru Project site proportionately based on contract value.

#### **4.1 Measuring and Monitoring Device (MMD):**

To be finalized as per site requirement.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – V: T&Ps and MMEs to be Provided by BHEL

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### 4. LIST OF T&P TO BE PROVIDED BY BHEL FREE OF HIRE CHARGES ON SHARING BASIS:

BHEL shall not provide any T&Ps for this scope of work.

All T&Ps required for handling of items / materials to be arranged by bidder.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VI: Time Schedule

### 6.0 Time Schedule and Mobilization:

#### 6.1 Initial Mobilization and Time Schedule:

After issue of LOI (through Fax/courier/email) the contractor shall report to the Construction Manager/Site In-Charge of BHEL at site within seven (07) days from date of LOI and submit detailed mobilization plan to start work within 15 days from date of LOI; unless instructed by BHEL to differ start of work in writing.

The contractor has to subsequently augment his resources in such a manner that the entire works are completed within the contract period of **15 (Fifteen) Months** from the date of start of work in a manner required by BHEL to match with the project schedule.

**Date of start (DOS) of works shall be reckoned as 15 Days after 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 Completion:

Entire work shall be carried out in accordance with the broad supply schedule given below, within the stipulated period. Within 30 days of LOI, the contractor shall discuss with BHEL site engineer & furnish detail construction schedule (L-3/L-4) indicating all major activities and get it approved from BHEL engineer. This schedule will undergo review and based on progress vis-à-vis project requirement, contractor shall have to submit revised schedule for approval of BHEL.

Sl. No.	Activity	Schedule of completion from start of work
1	Completion of Installation of Batching Plant.	30 days
2	Earliest Start of production of Ready mix concrete	40 days

6.2.1 The above schedule is only tentative. The above schedule shall be advanced, if there are requirements to advance the project schedule and the civil works in the scope of the contractor is to be advanced to meet the project requirement. No extra payment whatsoever shall be paid on this account.

6.2.2 In order to meet the above schedule in general, and any other intermediate targets set, to meet customer/ project schedule requirements, Contractor shall arrange & augment all necessary resources from time to time on the instructions of BHEL Engineer.

# 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. 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 Recoveries on account of electricity, water, statutory deductions etc. shall be made as per terms of contract.
- 7.1.4 The payment for running bills will normally be released within around 30 days of submission of running bill with measurement sheets. Contractor shall make his own arrangement for making payment of impending labour wages and other dues in the meanwhile.
  - **BHEL** will release payment through **Electronic Fund Transfer (EFT)/RTGS**.
  - Final bill shall be submitted after completion of works and upon material reconciliation along with all prescribed formats.

#### 7.2 Extra/Supplementary items of work:

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

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VIII: Taxes and Duties

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### 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.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VIII: Taxes and Duties

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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 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)

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VIII: Taxes and Duties

- 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 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**

<b>Sl. No</b>	<b>Projects under state</b>	<b>GSTIN</b>
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

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VIII: Taxes and Duties

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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.

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.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## Chapter – VIII: Taxes and Duties

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- (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 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 –DRAWINGS**

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**9.0 Following technical Specifications and Drawings shall be integral part of this tender:**

<b>SL. NO.</b>	<b>Document</b>
1.	Detailed Technical NTPC Specification- C
2.	Section-D (General Specification of BHEL)

Above documents have been uploaded as Vol IE- Technical Specification.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER X –APPENDIX

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### Tentative Manpower Requirement

1. Project manager – with 15 Years' experience in Industrial Foundation, Building & Power Plant Civil & Architectural Works.
2. Experienced Civil Engineers – 02 heads
3. Experienced Foreman / Supervisors – 02 heads
4. Planning & Billing Engineer – 01 head
5. Stores, Gate Pass – 01 heads
6. Accounts & Administration – 01 heads
7. Quality Control Engineer/Chemist – 04 head
8. Safety Engineer – 01 head
9. ~~Surveyor – 04 head capable to handle total station~~
10. Operator, Licensed Electrician, Mechanic - As per requirement
11. ~~Experienced Carpenters & Helpers – lot for similar nature of work~~
12. ~~Experienced Bar Benders & Helpers – lot for similar nature of work~~
13. Security Guards (Round The Clock) – As per requirement.

**Note: Above manpower requirement is tentative only. Contractor shall augment manpower to meet the project schedule/ milestones.**

- 10.1 Deputation of above man-power shall be jointly decided at site in line with construction Schedule.
- 10.2 Engineer/ supervisor for other functions like store & purchase, material management, planning, finance, administration etc. are to be provided as per site requirement and not considered in above list.
- 10.3 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.
- 10.4 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.
- 10.5 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,

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CHAPTER X –APPENDIX

guidance etc. to contractor's own team during the complete execution period of contract.

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

### **ANNEXURE- A**

#### **LIST OF EQUIPMENTS FOR CIVIL SITE LABORATORY**

SL NO.	NAME OF TEST	NAME OF EQUIPMENT	SIZE OF EQUIPMENT	IS REF.
1	Initial & final setting time, Consistency of cement	Vicat Apparatus with desk pot	Standard	IS 5513
2	Abrasion value test	Los Angles Abrasion testing machine	Standard	IS 2386
3	Aggregate Impact value test	Aggregate Impact value testing machine.	Standard	IS 9377
4	Aggregate crushing value test	Crushing value apparatus	Standard	IS 2386
5	Flakiness index	Thickness gauge for measuring flakiness index.	Standard	IS 2386
6	Elongation Index	Elongation gauge	Standard	IS 2386
7	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5,10 & 15 liters cylinders	
8	Ready mix concrete Compressive test	Digital Compressive Testing Machine.	2000KN capacity	IS 2505
9	Cement cube casting	Cube mould	70.6 x 70.6 x 70.6 mm, 09 Nos. minimum	IS 10086
10	Ready mix concrete Cube Testing	Ready mix concrete Cube Mould	150x150x150mm, minimum 120 Nos.	IS 10086
11	Workability of ready mix concrete	Slump cone	Standard, at least 04 nos	IS 456
12	Specific gravity of aggregates	Pycnometer	Standard, at least 02 nos	IS 383
13	Cement mortar vibration	Motorised vibration machine for cement cube casting	Standard	IS 4031
14	Course aggregate Sieve analysis (Ready mix concrete & Road Works)	Sieve set	450mm dia GI Frames Size: 125 mm, 90 mm, 75 mm, 63 mm, 53 mm, 40 mm, 20 mm, 16 mm, 12.5 mm, 10 mm, 4.75 mm, Pan and cover (2 Sets)	IS 383
15	Fine aggregate sieve	Sieve set	200 mm dia Brass sieves;	IS 383

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	analysis		Size 4.75 mm, 2.36 mm, 1.18 mm 600 micron, 300 micron, 150 micron, 75 micron, 75 micron, Pan and cover (2 Sets)	
16	Seive Shaker	Motorised Sieve shaker	Mfg. Catalogue	
17	Silt content check	Sand silt content beaker	Standard	

<b>Process Control Accessories</b>				
Sl	Description of Equipment	Specification	Size / No.	
1	Hot air oven	Temperature range 50° C to 300° C	600 x 600 x 600 mm (min. size)	
2	Electronic balance	600g x 0.01g, 10Kg and 50 kg	3 nos.	
3	Physical balance	5 kg capacity	Loose weights up to 5 kg	
4	Thermometer	Temperature 0°C to 50°C	1 No. Digital & 2 Analogue.	
5				
6	Measuring jars	100ml, 200ml, 500ml & 1000 ml	2 nos. set of each size	
7	Gauging trowel	100mm & 200 mm with wooden handle	4 nos.	
8	Spatula	100mm & 200 mm with long blade wooden handle	2 nos. each size	
9	Stainless steel scoop	2 kg and 5 kg	2 nos. each	
10				
11	Digital pH meter	0.1 least count	02 nos.	
12				
13				
14	GI tray	600 x 450 x 50 mm, 450 x 300 x 40 mm, 300 x 250 x 40 mm	02 nos. each	
15	Electric mortar mixer	0.25 CUM capacity.	01 no	
16	Rebound hammer test	Digital Rebound hammer	01 no	IS 13311
17	Ultrasonic pulse velocity test	UPV apparatus for ready mix concrete	01 no	

**TECHNICAL CONDITIONS OF CONTRACT (TCC)**  
**Chapter-XI WEIGHTAGES & FACTORS PERTAINING TO SCHEDULE OF**  
**QUANTITIES**

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**This Chapter consists of Part A & Part B of Volume II “Price bid”:**

<b>CONTENTS</b>	
Description	Remarks
<b>PART A:</b> Instructions to the Bidders	Instructions
<b>PART B:</b> % weightage for amount of individual items of Schedule of quantity	Refer Latest Chapter-XI of Vol-IA TCC (BILL OF QUANTITIES AND % WEIGHTAGE OF INDIVIDUAL ITEMS)
<b>PART C:</b> Total Lump Sum Price for entire scope of Work	This part is implanted in the E-Procurement portal entitled as “ <b>Part-C of Vol-II Price Bid</b> ”.

**Part A: Instructions to the Bidders**

- Bidders shall quote Total Lump-sum Price for the entire scope of work at the place implanted in the E-Procurement Portal titled as “Part-C of Vol-II Price Bid”.** Price mentioned elsewhere in the offer of the bidder shall be treated as Null and Void.
- BHEL has fixed the % weightages as in “Part-B” for the amount of individual items of Schedule of Quantity w.r.t. the total price of Price Bid Vol-II.
- Based on the pre-fixed % weightages, amount of individual items shall be derived by BHEL. This amount shall not be rounded off.
- Based on the quantities of individual item and the amount arrived in Sl. No 3 above, item rate of individual items shall be derived by BHEL. This item rate shall be rounded off up to two decimal places and shall be used to calculate the total amount of an item.
- For the convenience of bidders, BHEL has issued an excel sheet with all requisite formulae as detailed above. **However, this excel sheet shall not form part of contract document. Further, this sheet should not be uploaded at the e-Portal.**
- 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 serial no 4 above.

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

**Note:** This Chapter-XI is uploaded separately as file titled ‘**Chapter XI-BOQ and Percentage Weightage’-2306038**