

# **TENDER SPECIFICATION BHEL PSSR SCT 1885**

**For**

**Civil and Architectural Works of Coal Handling Plant (CHP) area of all units (i.e. Unit 1 to 5) at 5 x 800 MW  
Yadadri TPS, Veerlapalem Village, Dameracherla  
Mandal, Nalgonda District, Telangana State**

## **VOLUME-I BOOK-I**

**TECHNOCOMMERCIAL BID - Consists of Book- I & Book- II**

**Book- I Consists of**

- Notice Inviting Tender
- Volume-IA: Technical Conditions of Contract

**Book-II consists of**

- Volume-IB : Special conditions of Contract,  
Rev 01 dated 1st June 2012  
Amendment 01 dated 1<sup>st</sup> October, 2015
- Volume-IC : General conditions of Contract  
Rev 01 dated 1st June 2012,  
Amendment 03 dated 1<sup>st</sup> October, 2015
- Volume-ID : Forms & Procedures  
Rev 01 dated 1st June 2012  
Amendment 01 dated 1<sup>st</sup> October, 2015



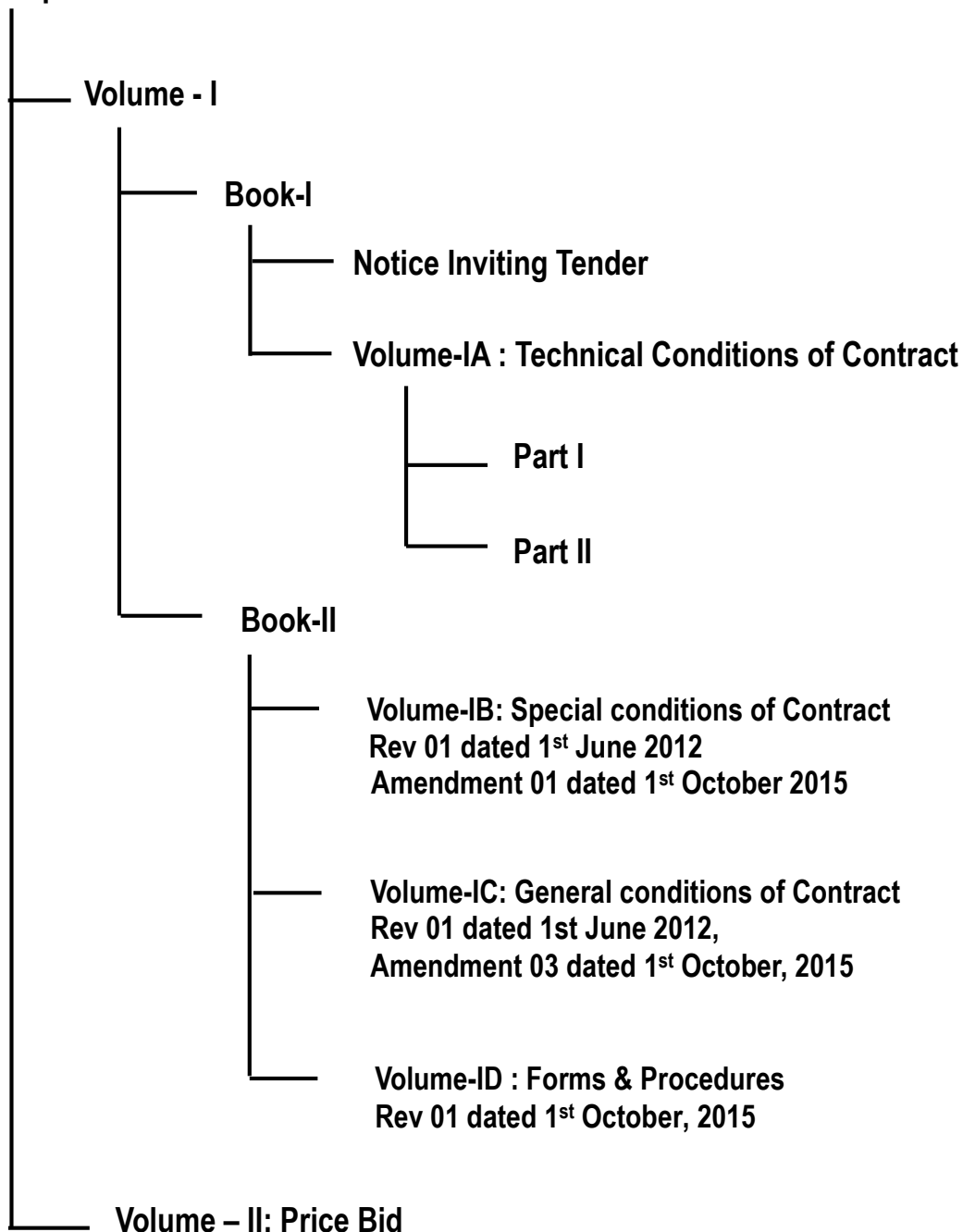
**BHARAT HEAVY ELECTRICALS LIMITED**  
(A Government of India Undertaking)  
Power Sector – Southern Region  
690, Anna Salai, Nandanam, Chennai – 600 035.

# NOTICE INVITING TENDER

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## TENDER SPECIFICATION CONSISTS OF

### Tender Specification





# NOTICE INVITING TENDER

Bharat Heavy Electricals Limited



# NOTICE INVITING TENDER

Ref: BHEL: PSSR: SCT: 1885

Date: February 10, 2020

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

**Submission only through E-Procurement Portal**

**<https://bhel.abcprocure.com>**

**Note: Bidder may download Tender Documents from web sites**

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To

Dear Sir / Madam

**Sub: NOTICE INVITING TENDER**

This Tender shall be under category of National Competitive Bidding (NCB)

Online Sealed offers in two part bid system are invited from reputed & experienced bidders (meeting PRE QUALIFICATION CRITERIA as mentioned in Annexure-I) **through E-Procurement Portal <https://bhel.abcprocure.com> only**, 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**

Sl. No.	ISSUE	DESCRIPTION
i)	<b>Tender Number</b>	<b>BHEL: PSSR: SCT: 1885</b>
ii)	<b>Broad Scope of job</b>	<b>Civil and Architectural Works of Coal Handling Plant (CHP) area of all units (i.e. Unit 1 to 5) at 5 x 800 MW Yadadri TPS, Veerlapalem Village, Dameracherla Mandal, Nalgonda District, Telangana State</b>
iii)	<b>DETAILS OF TENDER DOCUMENT</b>	
A	Volume-IA	Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc
B	Volume-IB	Special conditions of Contract, Rev 01 dated 1st June 2012, Amendment 01 dated October 01, 2015
C	Volume-IC	General conditions of Contract Rev 01 dated 1st June 2012, Amendment 03 dated October 01, 2015
D	Volume-ID	Forms & Procedures Rev 01 dated 1st June 2012 Amendment 01 dated October 01, 2015
E	Volume-II	Price Schedule (Absolute value)

**Tender Specification No.: BHEL: PSSR: SCT: 1885**

## NOTICE INVITING TENDER

iv)	Issue of Tender Documents	<p><b>1. This is an E-tender floated online through our E-Procurement Portal</b>  <a href="https://bhel.abcprocure.com">https://bhel.abcprocure.com</a></p> <p><b>2. Sale:</b>  <b>Start: February 11, 2020</b>  <b>Close:</b> Tender documents can be downloaded till Closing time for offer submission.</p> <p><b>3. From BHEL website</b> (<a href="http://www.bhel.com">http://www.bhel.com</a> ---&gt; Tender Notifications) Tender documents for bidder's reference can be downloaded till due date of submission.</p>	Applicable
v)	Due Date & Time of Offer Submission	<p><b>Date : February 25, 2020, Time :15.00 Hrs</b></p> <p><b>Place: The bidder should submit their offer online in e-Procurement portal at</b>  <a href="https://bhel.abcprocure.com">https://bhel.abcprocure.com</a> only.</p> <p><b>Offers are invited in two-parts only.</b></p> <p><b>Bidders are requested to upload their offer well in advance in order to avoid last minute congestion at this website.</b></p> <p><b>Hard copy bids or bids through E-mail / fax shall not be accepted.</b></p>	Applicable
vi)	Opening of Tender	<p><b>Date: February 25, 2020, Time :15.30 Hrs</b></p> <p>Notes:</p> <p>1) In case the due date of opening of tender becomes a non-working day, tenders shall be opened on next working day at the same time.</p> <p>2) Bidder may record their presence online, during tender opening. However this being an e-tender it shall be opened online.</p>	Applicable
vii)	EMD Amount	<p><b>Rs. 2,75,30,000 /-</b> (Rupees Two Crore Seventy Five Lakhs Thirty Thousand only).</p> <ul style="list-style-type: none"> <li>- Refer Volume-I A Part-II Chapter-1 of Technical Conditions of Contract (Volume-I, Book-I) for mode of payment of Earnest Money Deposit (EMD)</li> <li>- Exemption from EMD for MSEs is not applicable for this tender.</li> <li>- One time EMD not applicable for this tender.</li> </ul>	Applicable

## NOTICE INVITING TENDER

viii)	Cost of Tender	<b>Rs. 2,000/-</b> (Rupees Two Thousand Only) - Cost of tender shall be remitted through, Electronic Fund Transfer credited in BHEL account or Banker's cheque or Pay order or Demand draft, in favour of BHEL. - Exemption of Cost of Tender for MSEs is not applicable for this tender.	Applicable
ix)	Last Date for Seeking Clarification	Bidders may submit their queries in <a href="https://bhel.abcpocure.com">https://bhel.abcpocure.com</a> at least 7 days before the due date of offer submission or two days before the scheduled date of pre-bid meeting whichever is earlier along with soft version also, addressing to undersigned & to others as per contact address given above.	Applicable
x)	Schedule of Pre Bid Discussion (PBD)	<b>Date: February 17, 2020, Time: 12.00 PM</b> at BHEL:PSSR:Chennai - 600035	Applicable
xi)	Integrity Pact & Details of Independent External Monitor (IEM)	a. Integrity Pact (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 panel of Independent External Monitors (IEMs) have been appointed by BHEL with the approval of CVC to oversee implementation of IP in BHEL. 1) Shri. Arun Chandra Verma, IPS (Retd.) Flat No. C-1204, C Tower, Amrapali, Platinum Complex, Sector 119, Noida (U. P) Email: acverma1@gmail.com 2) Shri. Virendra Bahadur Singh, IPS (Retd.) H. No. B-5/ 64, Vineet Khand, Gomti Nagar, Lucknow- 226010 Email: vbsinghips@gmail.com b. The IP as per format given at Volume IA Part II of this tender is to be submitted (duly signed and stamped by the authorized signatory) along with Techno Commercial Bid (Part-1, 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.	Applicable

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		<p>c. Please refer section- 8 of the IP (refer the format given at Volume 1A Part II of this tender) for Role and Responsibilities of IEMs. In case of any complaint arising out of the tendering process, the matter may be referred to the IEM mentioned in the tender.</p> <p><b>Note:</b> No routine correspondence shall be addressed to the IEM (Phone / Post / E mail) regarding the clarifications, time extensions or any other administrative queries, etc. on the tender issued. All such clarification / issued shall be addressed directly to the tender issuing (Procurement) department.</p> <p>For all clarifications/ issues related to the Tender, please contact:</p> <p>1) Name: Vinod Jaseja Dept.: Subcontracts Phone: 044-28286734 Email: <a href="mailto:jaseja@bhel.in">jaseja@bhel.in</a></p> <p>2) Name: Sandipan Biswas Dept.: Subcontracts Phone: 044-28286757 Email: <a href="mailto:bsandipan@bhel.in">bsandipan@bhel.in</a></p>	
xii)	Latest updates	<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">http://www.bhel.com</a> → Tender Notifications) &amp; portal <a href="https://bhel.abcpurchase.com">https://bhel.abcpurchase.com</a>. Bidders to keep themselves updated with all such information. This also form part of tender hence the same shall be enclosed with their offer.</p>	

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

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- 3.0 Bidder shall remit cost of tender through Electronic Fund Transfer credited in BHEL account or Banker's cheque or Pay order or Demand draft, in favour of BHEL.
- 4.0 Unless specifically stated otherwise, bidder shall deposit **Earnest Money Deposit (EMD) as mentioned in Volume IA, Part-II, Chapter-1** of Technical Conditions of Contract (Volume-I Book-I) under the heading 'Mode of Payment of EMD'. Please note that 'One Time EMD' shall not be considered. **It is to be noted that proof of remittance for EMD shall be made available at BHEL PSSR Office prior to tender opening. One time EMD is not applicable.**
- 5.0 **Procedure for Submission of Tenders:** This is an E-tender floated online through our E-Procurement portal <https://bhel.abcprocure.com>. The bidder should respond by submitting their offer online only in our e-Procurement portal at <https://bhel.abcprocure.com>. Hard copy bid or bids through email/ fax shall not be accepted.

## **I. Pre-requisite for Offer Submission: -**

**Digital Certificate:** To participate in an e-Tender, you need to have a Class-II/III Digital Signature Certificate (DSC) for Signing & Encryption (Required both digital signature certificate: Signing & Encryption) of bids issued by any of the valid Certifying Authorities (approved by Controller of Certifying Authorities) in India. Valid Digital Signature Certificate (DSC) must be installed in a computer system from where you want to access the website.

### **MINIMUM REQUIREMENT: (Mandatory)**

- Computer with good Internet Connection (Minimum 256 kbps).
- Operating System should be Windows Vista / Windows 7 and above.
- Web Browsers: Internet Explorer 9.0 (32-bit Browser only) & above.
- System Access with Administrator Rights.

**At first time login, to verify and approve your login profile & DSC, you are requested to contact e-Procurement Service Provider.**

**Also please Refer "Bidder Manual for BHEL Bidders" and "Minimum System Requirements and Settings Document for BHEL user & Bidders" available at <https://bhel.abcprocure.com>.**

## **II. Digital Signing of e-Tender**

Tenders shall be uploaded with all relevant documents in PDF/zip format. The relevant tender documents should be uploaded by an authorized person having Class-II/III Digital Signature Certificate (DSC) for Signing & Encryption.

### **i) The Requirement:**

- a. A PC with Internet connectivity &
- b. DSC (Digital Signature Certificate) Class-II/III Digital Signature Certificate (DSC) for Signing & Encryption)

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## III. E-procurement service Provider:-

### Address:

e-Procurement Technologies Limited (abcProcure),  
Head Office: B-704/705, Wall Street - II, Opp. Orient Club,  
Nr. Gujarat College, Ellis Bridge, Ahmedabad - 380 006, Gujarat (India)

### Timing:

Refer webpage: <https://bhel.abcprocure.com/EPROC/contactus>

Contact details of the service provider are given below:

Phone: +91-79-68136819/ 809/ 862/ 867/ 823/ 872/ 842/861/871

E-Mail: [bhel.support@abcprocure.com](mailto:bhel.support@abcprocure.com)

Further contact details can be obtained by visiting the following webpage:

<https://bhel.abcprocure.com/EPROC/contactus>

## IV. Documents Comprising the e-Tender

The tender shall be submitted online - only except Tender Cost & EMD (in physical form) as mentioned below:

### i) Technical Tender (Un priced Tender)

Bidders shall furnish the following information along with technical tender (preferably in pdf format):

- i). Tender Cost and Earnest Money Deposit (EMD) furnished in accordance with **NIT Clause 3.0 & 4.0**.
- ii). All Technical details (eg. Eligibility Criteria requested, Technical Conditions of Contract) should be attached in e-tendering module (**As detailed in Clause 6.0 below**), failing which the tender stands invalid & may be REJECTED.

### ii) Price Bid:

- a. Prices are to be quoted as per the Price Bid format attached online on e-tender portal.
- b. The price should be quoted for the accounting unit indicated in the e-tender document.
- c. The item description, Quantity and Unit of measurement, as mentioned in Price bid uploaded by BHEL and subsequent revisions issued by BHEL, shall be binding on the bidder.

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**Note:**

- i). 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.
- ii). 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.
- iii). 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.
- iv). In case offer is sent through hard copy / fax / telex / cable / electronically in place of e-tender, same shall not be considered.
- v). **Vendors are also requested to go through Bidder manual available on <https://bhel.abcprocure.com>**

**V. DO NOT'S (Don'ts)**

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.

**6.0 DOCUMENTS TO BE UPLOADED & MODALITY OF UPLOADING in E-PROCUREMENT PORTAL <https://bhel.abcprocure.com> SHALL BE AS DETAILED BELOW:**

SI No.	Description	Remarks
	<b>Techno-Commercial Bid CONTAINING THE FOLLOWING:-</b>	
i.	Covering letter / Offer forwarding letter of Tenderer.	To be uploaded under the form Techno-commercial Bid.
ii.	Duly filled-in 'No Deviation Certificate' as per prescribed format to be placed after document under SI No (i) above.  <b>Note:</b> 1. In case of any deviation, the same should be submitted separately for technical &	To be uploaded under the form Techno-commercial Bid.

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	<p>commercial parts, indicating respective clauses of tender against which deviation is taken by bidder. The list of such deviation shall be attached along with document under sl no (i) above. It shall be specifically noted that deviation recorded elsewhere shall not be entertained.</p> <p>2. BHEL reserves the right to accept / reject the deviations without assigning any reasons, and BHEL decision is final and binding.</p> <p>(i) In case of acceptance of the deviations, appropriate loading shall be done by BHEL</p> <p>(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. (Technical &amp; Financial)</p> <p>As detailed in Clause No. 25 of NIT, 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 Phone no, FAX no, etc.</p>	To be uploaded under the form Techno-commercial Bid.
iv.	All Amendments / Correspondences / Corrigenda / Clarifications / Changes / Errata etc. pertinent to this NIT.	To be uploaded under the form Techno-commercial Bid.
v.	Integrity Pact Agreement (Duly signed by the authorized signatory) (As applicable)	To be uploaded under the form Techno-commercial Bid.
vi.	Duly filled-in annexures, formats etc. as required under this Tender Specification/ NIT	To be uploaded under the form Techno-commercial Bid.
vii.	Notice inviting Tender (NIT)	To be uploaded under the form Techno-commercial Bid.
viii.	Volume – I A : Technical Conditions of Contract (TCC) consisting of Scope of work, Technical Specification, Drawings, Procedures, Bill of Quantities, Terms of payment, etc	To be uploaded under the form Techno-commercial Bid.

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ix.	Volume – I B : Special Conditions of Contract (SCC)	To be uploaded under the form Techno-commercial Bid.
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	To be uploaded under the form Techno-commercial Bid.
xiii.	Any other details preferred by bidder with proper indexing.	To be uploaded under the form Techno-commercial Bid.
<b>Caution to Bidders: -</b> The duly signed & stamped copies of Volume – I Book I & Volume I Book-II are to be attached under the form Techno-commercial Bid. For any further queries, Refer "Bidder Manual for BHEL Bidders" available at <a href="https://bhel.abcprocure.com">https://bhel.abcprocure.com</a> .		

SI No	Description	Remarks
	<b>PRICE BID</b> shall be as mentioned below	
I	Price/ Total Amount corresponding to the total works as specified in "Part C: Bill of Quantities" available in "Volume II – PRICE BID (latest Revision) shall be quoted in the Price Bid Form available in e-Procurement portal.  Bidders to note that documents uploaded under the Price Bid Form shall be considered for commercial evaluation of offer.	To be uploaded under the form Price Bid. Refer "Bidder Manual for BHEL Bidders" available at <a href="https://bhel.abcprocure.com">https://bhel.abcprocure.com</a>

### **SPECIAL NOTE:**

- i. All documents / annexures submitted with the offer shall be properly attached / entered / uploaded in the respective sections. BHEL shall not be responsible for any missing documents.
  - ii. Your offer & documents submitted along with offer shall be signed & stamped in each page by your authorized representative. No overwriting/ correction in tender documents by bidders shall be allowed. However, if correction is unavoidable, the same may be signed by authorized signatory.
- 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.

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

### 9.0 ASSESSMENT OF CAPACITY OF BIDDERS:

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

**I. LOAD:** Load takes into consideration ALL the contracts of the Bidder under execution with BHEL Regions, irrespective of whether they are similar to the tendered scope or not. The cut off month for reckoning 'Load' shall be the third month preceding the month corresponding to the 'latest date of bid submission', in the following manner –

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

Total number of Packages in hand = Load (P)

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

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

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

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

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

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- a)  $P_1, P_2, P_3, P_4, P_5, \dots, P_N$  etc. be the packages (under execution / executed during the 'Period of Assessment' in all Regions of BHEL) **SIMILAR** to the packages covered under the tendered scope, excepting packages not commenced. Total number of similar packages for all Regions =  $P_T$  (i.e.  $P_T = P_1 + P_2 + P_3 + P_4 + \dots + P_N$ )
- b) Number of Months ' $T_1$ ' for which 'Monthly Performance Evaluation' as per relevant formats, should have been done in the 'Period of Assessment' for the corresponding similar package  $P_1$ . Similarly  $T_2$  for package  $P_2$ ,  $T_3$  for package  $P_3$ , etc. for the tendered scope. Now calculate cumulative total months ' $T_T$ ' for total similar Packages ' $P_T$ ' for all Regions (i.e.  $T_T = T_1 + T_2 + T_3 + T_4 + \dots + T_N$ )
- c) Sum ' $S_1$ ' of 'Monthly Performance Evaluation' Scores ( $S_{1-1}, S_{1-2}, S_{1-3}, S_{1-4}, S_{1-5}, \dots, S_{1-T_1}$ ) for similar package  $P_1$ , for the 'period of assessment' ' $T_1$ ' (i.e.  $S_1 = S_{1-1} + S_{1-2} + S_{1-3} + S_{1-4} + S_{1-5} + \dots + S_{1-T_1}$ ). Similarly,  $S_2$  for package  $P_2$  for period  $T_2$ ,  $S_3$  for package  $P_3$  for period  $T_3$  etc. for the tendered scope for all Regions. Now calculate cumulative sum ' $S_T$ ' of 'Monthly Performance Evaluation' Scores for total similar Packages ' $P_T$ ' for all Regions (i.e. ' $S_T = S_1 + S_2 + S_3 + S_4 + S_5 + \dots + S_N$ ')
- d) **Overall Performance Rating ' $R_{BHEL}$ ' for the Similar Package / Packages** (under execution / executed during the 'Period of Assessment') in all the Power Sector Regions of BHEL

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

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Aggregate of months for each of the similar packages for which performance should have been evaluated in all the Regions.

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

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

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Sl.No.	Item Description	Details for all Regions							Total
(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
1	Similar Packages for all Regions → (under execution/ executed during period of assessment)	P <sub>1</sub>	P <sub>2</sub>	P <sub>3</sub>	P <sub>4</sub>	P <sub>5</sub>	...	P <sub>N</sub>	Total No of similar packages for all Regions = P <sub>T</sub> ie Sum (Σ) of columns (iii) to (ix)
2	Number of Months for which 'Monthly Performance Evaluation' as per relevant formats should have been done in the 'period of assessment for corresponding similar Package (as in row 1)	T <sub>1</sub>	T <sub>2</sub>	T <sub>3</sub>	T <sub>4</sub>	T <sub>5</sub>	...	T <sub>N</sub>	Sum (Σ) of columns (iii) to (ix)  = T <sub>T</sub>
3	Monthly performance scores for the corresponding period (as in Row 2)	S <sub>1-1</sub> , S <sub>1-2</sub> , S <sub>1-3</sub> , S <sub>1-4</sub> , ... S <sub>1-T1</sub>	S <sub>2-1</sub> , S <sub>2-2</sub> , S <sub>2-3</sub> , S <sub>2-4</sub> ,... S <sub>2-T2</sub>	S <sub>3-1</sub> , S <sub>3-2</sub> , S <sub>3-3</sub> , S <sub>3-4</sub> , ... S <sub>3-T3</sub>	S <sub>4-1</sub> , S <sub>4-2</sub> , S <sub>4-3</sub> , S <sub>4-4</sub> , ... S <sub>4-T4</sub>	S <sub>5-1</sub> , S <sub>5-2</sub> , S <sub>5-3</sub> , S <sub>5-4</sub> , ... S <sub>5-T5</sub>	.. ... ... ... ...	S <sub>N-1</sub> , S <sub>N-2</sub> , S <sub>N-3</sub> , S <sub>N-4</sub> , ... S <sub>N-TN</sub>	-----
4	Sum of Monthly Performance scores of the corresponding Package for the corresponding period (as in row-3)	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>	S <sub>5</sub>	...	S <sub>N</sub>	Sum (Σ) of columns (iii) to (ix)  = S <sub>T</sub>

- ii.) Calculation of Overall 'Performance Rating' (R<sub>BHEL</sub>) in case at least six evaluation scores for 'similar Package / Packages' for the tendered scope ARE NOT AVAILABLE during the 'Period of Assessment'.

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

- a) 'Period of Assessment' i.e. six months preceding and including the cut-

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off month

- b) 12 months preceding and including the cut-off month
- c) 24 months preceding and including the cut-off month

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

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

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

### **III. Assessment of Capacity of Bidder':**

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

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

#### **Note:**

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

The Bidder shall be considered 'Qualified' as per 'Assessment of Capacity of Bidder' for the subject Tender if  $P \leq P_{Max}$

(Where P is calculated as per clause 'i' above.)

Note: For the transition period of 1 year (i.e. for all the NITs floated between 11th May 2019 to 10th May 2020), in addition to above, 'Assessment of Capacity of Bidder' shall also be calculated considering 'performance scores' till 36 months as per Sl. no II ii).

Higher of the results obtained out of both shall be considered for 'Assessment of Capacity of Bidder'.

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## **IV. Explanatory note:**

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

ii). Identified Packages (Unit wise)

**Table-1**

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

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

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

## NOTICE INVITING TENDER

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

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

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

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

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

Note:- In case, the number of bidders qualified against Technical and Financial Qualification criteria itself is less than four, then all bidders (a)- having Overall Performance Rating ('RBHEL')  $\geq 60$ , (b)- "First timer" bidders having average of available performance scores  $\geq 60$  upto and including the Cut Off month, (c)- "First timer" bidders for whom no performance score is available in the system upto and including the Cut Off month, shall be

## NOTICE INVITING TENDER

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considered qualified against criteria of 'Assessment of Capacity of Bidders' for further processing of tender.

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

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

- vi). Contractor shall provide the latest contact details i.e. mail-ID and Correspondence Address to SCT Department, so that same can be entered in the Contractor Performance Evaluation System, and in case of any change / discrepancy same shall be informed immediately. Login Details for viewing scores in Contractor Performance Evaluation System shall be provided to the Contractor by SCT Department.
- vii). Performance Evaluation for Activity Month shall be completed in Evaluation Month (i.e. month next to Activity Month) or in rare cases in Post Evaluation Month (i.e. month next to Evaluation Month) after approval from Competent Authority. In case scores are not acceptable, Contractor can submit Review Request to GM Site / GM Project latest by 25<sup>th</sup> of Evaluation Month or 3 days after approval of score, whichever is later. However, acceptance / rejection of 'Review Request' solely depends on the discretion of GM Site / GM Project. After acceptance of Review Request, evaluation score shall be reviewed at site and the score after completion of review process shall be acceptable and binding on the contractor.
- viii). Project on Hold due to reasons not attributable to bidder -
  - a. **Short hold:** Evaluation shall not be applicable for this period, however loading will be considered.
  - b. **Long hold:** Short hold for continuous six months and beyond or hold on account of Force Majeure shall be considered as Long Hold. Evaluation as well as Loading shall not be considered for this period.

10.0 Performance evaluation in Clause 9 above is applicable to Prime bidder and consortium partner (or Technical tie up partner) for their respective scope of work.

11.0 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

## NOTICE INVITING TENDER

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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.

- 12.0 For any clarification on the tender document, the bidder may seek the same in clarification provision available in e-procurement portal <https://bhel.abcpocure.com> or writing or through e-mail, as per specified format, within the scheduled date for seeking clarification, from the office of the undersigned. BHEL shall not be responsible for receipt of queries after due date of seeking clarification due to postal delay or any other delays. Any clarification / query received after last date for seeking clarification may not be normally entertained by BHEL and no time extension will be given.
- 13.0 BHEL may decide holding 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.
- 14.0 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.
- 15.0 Unless specifically mentioned otherwise, bidder's quoted price shall deemed to be in compliance with tender including PBD.
- 16.0 Bidders shall submit Integrity Pact Agreement (Duly signed by authorized signatory who signs in the offer), **if applicable**, along with techno-commercial bid. This pact shall be considered as a preliminary qualification for further participation. The Integrity Pact is to be submitted by Prime Bidder & Consortium/ Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder. **The names and other details of Independent External Monitor (IEM) for the subject tender is as given at point (1) above.**
- 17.0 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-1(as applicable) past performance etc., and date of opening of price bids shall be intimated to only such bidders. BHEL reserves the right NOT to consider offers of parties under HOLD.

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- 18.0 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.
- 19.0 Validity of the offer shall be for **six months** from the latest due date of offer submission (including extension, if any) unless specified otherwise.
- 20.0 Void
- 21.0 On submission of offer, further consideration will be subject to compliance to tender & qualifying requirement and customer's acceptance, as applicable.
- 22.0 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.
- 23.0 Void
- 24.0 The bidders shall not enter into any undisclosed M.O.U. or any understanding amongst themselves with respect to tender.
- 25.0 The bidder shall submit documents in support of possession of 'Qualifying Requirements' duly self-certified and stamped by the authorized signatory, indexed and properly linked in the format for PQR. In case BHEL requires any other documents / proofs, these shall be submitted immediately.
- 26.0 The bidder may have to produce original document for verification if so decided by BHEL.
- 27.0 The offers of the bidders who are under suspension as also the offer of the bidders, who engage the services of the banned firms, shall be rejected. The list of banned firms is available on BHEL web site "<http://www.bhel.com> → tender notification".
- 28.0 It may be noted that guidelines / rules in respect of 'Suspension of Business dealings' available on BHEL web site "<http://www.bhel.com> → Supplier Registration", 'Vendor evaluation format', Quality, Safety & HSE guidelines', etc. may undergo change from time to time and the latest one shall be followed.
- 29.0 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.
- 30.0 Integrity commitment, performance of the contract and punitive action thereof:
- 30.1 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.
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## 30.2 Commitment by Bidder / Supplier / Contractor:

- 30.2.1 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.
- 30.2.2 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.
- 30.2.3 The bidder / supplier / 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.
- 30.3 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 price 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 extant guidelines of the company available on <http://www.bhel.com> and / or under applicable legal provisions.

31.0 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.

32.0 For this procurement, Public Procurement (Preference to Make in India), Order 2017 dated 15.06.2017, 28.05.2018 & 29.05.2019 and subsequent Orders issued by the respective Nodal Ministry shall be applicable even if issued after issue of this NIT but before finalization of contract/ PO/ WO against this NIT.

In the event of any Nodal Ministry prescribing higher or lower percentage of purchase preference and/ or local content in respect of this procurement, same shall be applicable.

## 33.0 Order of Precedence:

**In the event of any ambiguity or conflict between the Tender Documents, the order of precedence shall be in the order below:**

- a. Amendments / Clarifications / Corrigenda / Errata etc. issued in respect of the tender documents by BHEL
- b. Notice Inviting Tender (NIT)
- c. Price Bid

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- d. Technical Conditions of Contract (TCC)—Volume-1A
- e. Special Conditions of Contract (SCC) —Volume-1B  
Rev. 01 Dt. 01 Jun 2012; Amendment: 01 Dt. 1st October 2015
- f. General Conditions of Contract (GCC) —Volume-1C  
Rev. 01 Dt. 01 Jun 2012; Amendment: 03 Dt. 1st October 2015
- g. Forms and Procedures —Volume-1D  
Rev. 01 Dt. 01 Jun 2012; Amendment: 01 Dt. 1st October 2015

For and on behalf of BHARAT HEAVY ELECTRICALS LTD

Additional General Manager / SCT

## **Enclosure**

1. Annexure-1: Pre Qualifying criteria.
2. Annexure-2: Check List.
3. Annexure-3 Technical Pre Qualification Criteria.
4. Annexure-4 Annexure to Pre-Qualifying Criteria.
5. Annexure-5 Tender Schedule.
6. Annexure-6 Void.
7. Other documents as per this NIT.

# NOTICE INVITING TENDER

## ANNEXURE - 1

### PRE QUALIFYING CRITERIA

<b>JOB</b>	<b>Civil and Architectural Works of Coal Handling Plant (CHP) area of all units (i.e. Unit 1 to 5) at 5 x 800 MW Yadadri TPS, Veerlapalem Village, Dameracherla Mandal, Nalgonda District, Telangana State</b>
<b>Tender No.</b>	<b>BHEL PSSR SCT 1885</b>

Sl. No.	PRE QUALIFICATION CRITERIA	Bidders claim in respect of fulfilling the PQR Criteria	
		Name and Description of qualifying criteria	Page no of supporting document. Bidder must fill up this column as per applicability
A	<b>Submission of Integrity Pact duly signed (if applicable)</b> ( <b>Note:</b> To be submitted by Prime Bidder & Consortium / Technical Tie up partner jointly in case Consortium bidding is permitted, otherwise by the sole bidder)	Applicable	
B	<b><u>Technical</u></b> <b>Refer Annexure 3</b>	Applicable	To be filled in Annexure-4
C: C-1	<b><u>FINANCIAL</u></b> <b>Turnover</b> Bidders must have achieved an average annual financial turnover (Audited) of <b>Rs.79,58,00,000 /- (Rs. Seventy Nine Crore Fifty Eight Lakhs only)</b> or more over last three Financial Years (FY) i.e 2016-17, 2017-18 and 2018-19	Applicable	To be filled in Annexure-4
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	Applicable	To be filled in Annexure-4
C-3	<b>Profit</b> Bidder must have earned profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1' above based on latest Audited Accounts.	Applicable	To be filled in Annexure-4

## NOTICE INVITING TENDER

C-4	Bidder must not be under Bankruptcy Code Proceedings (IBC) by NCLT or under liquidation / BIFR, which will render him illegible for participation in this tender, and shall submit undertaking to this effect.	Applicable	Undertaking to be enclosed with the offer
D	Assessment of Capacity of Bidder to execute the work as per Sl. No 9 of NIT (if applicable)	Applicable	By BHEL
E	<b>Approval of Customer (if applicable)</b> <b>Note:</b> Names of bidders (including consortium / Technical Tie up partners in case consortium bidding is permitted) who stand qualified after compliance of criteria A to D shall be forwarded to customer for their approval.	Applicable	By BHEL
F	<b>Price Bid Opening</b> <b>Note:</b> Price Bids of only those bidders shall be opened who stand qualified after compliance of criteria A to E	Applicable	By BHEL
G	<b>Consortium criteria (if applicable)</b>	Applicable	
<b><u>Explanatory Notes for the PQR (unless otherwise specified in the PQR):</u></b> <ol style="list-style-type: none"> <li>Bidder to submit Audited Balance Sheet and Profit and Loss Account for the respective years as indicated against C-1 above along with all annexures.</li> <li>In case audited financial statements have not been submitted for all the three years as indicated against C-1 above, then the applicable audited statements submitted by the bidders against the requisite three years, will be averaged for three years i.e. total divided by three.</li> <li>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.</li> <li>C-2:-NETWORTH: Shall be calculated based on the latest Audited Accounts as furnished for C-1 above. Net worth = Paid up share capital* + Reserves. (Net worth is required to be evaluated in case of companies) Note:- (*:Share Capital OR Partnership Capital OR Proprietor Capital as the case may be).</li> <li>C-3:- PROFIT : shall be PBT earned during any one of the three financial years as in C-1 above.</li> <li>For evaluation of PQR, the credentials of the Bidder alone, and not that of the Group Company shall be considered.</li> </ol>			

## NOTICE INVITING TENDER

	<ol style="list-style-type: none"><li>7. Completion date for achievement of the technical criteria specified in the 'Technical' criteria of PQR (as in '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.</li><li>8. Boiler means HRSG or WHRB or any other types of Steam Generator.</li><li>9. Power Cycle piping means Main Steam, Hot Reheat, Cold Reheat, HP Bypass.</li><li>10. For the purpose of evaluation of the PQR, one MW shall be considered equivalent to 3.5TPH where ever rating of HRSG / BOILER is mentioned in MW. Similarly, where ever rating of Gas Turbine is mentioned in terms of Frame size, ISO rating in terms of MW shall be considered for evaluation.</li><li>11. Scope for capital overhaul of STG shall cover Bearing Inspection work and overhauling of all cylinders of the Turbine unless otherwise specifically indicated in the PQR.</li><li>12. In case the Experience/PO/WO certificate enclosed by bidders do not have separate break up of prices for the E&amp;C portion for Electrical and C&amp;I works (i.e. the certificates enclosed are for composite order for supply and erection of Electrical and C&amp;I and other works if any), then value of Erection &amp; Commissioning for the Electrical and C&amp;I portion shall be considered as 15% of the price for supply &amp; erection of Electrical and C&amp;I.</li><li>13. In case the tendered scope is not a Pulverized Fuel Boiler, experience of Oil/ Gas Fired Boilers also can be considered unless otherwise specifically indicated in the PQR.</li></ol>
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**Note:**

**BIDDER SHALL SUBMIT PRE-QUALIFICATION CRITERIA FORMAT (Refer Annexure-4), 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.**

Authenticity of Credentials submitted by the Bidder against 'Pre-Qualifying Criteria' shall be verified from the Issuing Authority, by BHEL. In case, any credential(s) is / are found to be unauthentic, offer of the bidder is liable to be rejected. BHEL reserves the Right to Initiate any further action as per the "Guidelines for Suspension of Business Dealings with Suppliers / Contractors" (Published in <http://www.bhel.com/index.php/vender>) and "Fraud Prevention Policy" (Published in <http://www.bhel.com/home.php>) as applicable.

# NOTICE INVITING TENDER

## ANNEXURE - 2

### CHECK LIST

**NOTE: - Tenderers are required to either fill in or submit separately the following details. No column should be left blank.**

1	Name and Address of the Tenderer					
2	Details about type of the Firm / Company					
3a	Details of Contact person for this Tender: Name : Mr. / Ms. Designation: Telephone No: Mobile No: Fax No: E-mail ID:					
3b	Details of alternate Contact person for this Tender: Name : Mr. / Ms. Designation: Telephone No: Mobile No: Fax No: E-mail ID:					
4	EMD DETAILS (Remittance of EMD should be in line with Mode of Deposit as detailed in Volume-1A, Part-2, Chapter-1 of Technical Conditions of Contract (Volume-I Book-I)	Sl. No	Ref No.	Detail	Amount	Remarks
5	Validity of Offer	To be valid for six months from due date				
					<b>Applicability (By BHEL)</b>	<b>Bidder Reply</b>
6	Whether the format for compliance with <b>PRE QUALIFICATION CRITERIA (ANNEXURE-I &amp; ANNEXURE-IV)</b> is understood and filled with proper supporting documents referenced in the specified format				Applicable	Yes / No
7	Submission of Copy of Balance sheet and Audited profit and Loss Account for the last three years				Applicable	Yes / No
8	Submission of Copy of PAN Card				Applicable	Yes / No
9	Whether all pages of the offer documents are signed by the person authorized to sign this offer				Applicable	Yes / No

## NOTICE INVITING TENDER

10	Whether all pages of the Tender documents including annexures, appendices etc., are read understood and signed	Applicable	Yes / No
11	Submission of Integrity Pact	Applicable	Yes / No
12	Submission of Declaration by Authorized Signatory	Applicable	Yes / No
13	Submission of No Deviation Certificate	Applicable	Yes / No
14	Submission of Declaration confirming knowledge about Site Conditions	Applicable	Yes / No
15	Submission of Declaration for relation in BHEL	Applicable	Yes / No
16	Submission of Non-Disclosure Certificate	Applicable	Yes / No
17	Submission of Copy Bank Account Details for E-Payment	Applicable	Yes / No
18	Submission of Capacity Evaluation of Bidder for current Tender	Applicable	Yes / No
19	Submission of Tie Ups / Consortium Agreement are submitted as per format	Applicable	Yes / No
20	Submission of Power of Attorney for Submission of Tender / Signing Contract Agreement	Applicable	Yes / No
21	Submission of Analysis of Unit rates	Applicable	Yes / No
22	Submission of Unquoted price bid	Applicable	Yes / No
23	Tabular column showing Category- wise, month wise, man power deployment sub package wise planned for the execution of the scope of works.	Applicable	Yes / No
24	Declaration by bidder for price opening through reverse auction (Refer Annexure-6 of Notice Inviting Tender)	Not Applicable	Yes / No
25	Copy of Organization Chart	Applicable	Yes / No
26	Copy of Registration/ Incorporation certificate, Partnership Deed (Certified by Notary Public) as applicable for firm	Applicable	Yes / No

**NOTE:**

1. STRIKE OFF 'YES' OR 'NO', AS APPLICABLE.
2. TENDER NOT ACCOMPANIED BY THE PRESCRIBED ABOVE APPLICABLE DOCUMENTS ARE LIABLE TO BE SUMMARILY REJECTED.
3. For Sl. No.11 to 21 above, the applicable formats are available in "Volume ID of Volume I Book-II – Forms and Procedures" and Part-II Volume IA of Volume I Book I of this tender specification.

DATE:

AUTHORISED SIGNATORY  
(With Name, Designation and Company seal)

# NOTICE INVITING TENDER

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## Annexure 3

### PRE QUALIFICATION CRITERIA – Technical

#### B. Technical PQR

**Bidder should have executed the following (B.1 and B.2) in the last seven years from the latest date of bid submission:**

**B.1** Bidder should have executed similar work for any one of the following (clause B.1.1 or B.1.2 or B.1.3) in the last seven years from latest date of bid submission.

**B.1.1** One (1) work of value not less than **Rs. 212.20 crore.**

(OR)

**B.1.2** Two (2) works each of value not less than **Rs. 132.63 crore.**

(OR)

**B.1.3** Three (3) works each of value not less than **Rs. 106.10 crore.**

Note for B.1.1 to B.1.3

- “Similar works” Means ‘Piling’ or ‘civil’ or ‘structure’ or ‘civil & structural works’ or ‘RCC chimney’ or ‘RCC cooling tower’ or ‘RCC silo’ or ‘Mill bunker’ or ‘any combination of these’.
- The value may be inclusive of Supply of Material. If the bidder had executed Supply separately & Services separately in two or more different work orders, but for the same work in the same project, then supply and services shall be combined and considered as “one” work for the purpose of evaluation.
- The 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.

$$P = R + \{0.425 \times R \times (XN - X_0) / X_0\} + \{0.425 \times R \times (YN - Y_0) / Y_0\}$$

Where P= Updated value of work

R= Value of executed work

XN= All India Avg. Consumer Price index for industrial workers for the month, three months prior to the month of latest date of bid submission  
(eg. If latest bid submission date is 03-Apr-17, then bid submission

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month shall be reckoned as April '17 and index for Jan '17 shall be considered).

X0= All India Avg. Consumer Price index for industrial workers for last month of work execution.

YN= Monthly Whole Sale Price Index for All Commodities for the month, three months prior to the month of latest date of bid submission (eg. If latest bid submission date is 03-Apr-17, then bid submission month shall be reckoned as April '17 and index for Jan '17 shall be considered).

Y0= Monthly Whole Sale Price Index for All Commodities for last month of work execution.

### AND

**B.2** Bidder should have executed the following (clause B.2.1 and clause B.2.2) in the last seven years preceding the latest due date of bid submission.

#### **B.2.1** **RCC WORKS**

B.2.1.1 Executed at least **37,900 CUM** of RCC quantities, within a period of twelve consecutive months in one running/ completed contract.

(OR)

B.2.1.2 Executed at least **56,850 CUM** of RCC quantities, within a common period of twelve consecutive months in cumulative of two running/ completed contracts.

**B.2.2** Bidder should have executed at least one complete civil work of "Wagon Tippler" or "Underground Transfer House" or "Underground Reclaim Hopper" or "Underground Pump House" or "Track Hopper" or "Intake Pump House in sea/ river/ dam/ any other water body having minimum depth of 8m.

#### **Notes to Technical PQR**

1. The term "Executed" in PQR B.1 & B.2 above means the bidder should have achieved the criteria specified even if the contract has not been completed or closed.
2. The bidder who fulfils all the conditions stipulated above on their own without any consortium partner will be term as Standalone bidder.

In case the standalone bidder is a subsidiary but does not meet the requirement of Clause B.1 & B.2 above, then, the credentials of their parent / holding company shall be considered for satisfying the PQR subject to the following:

- i. The parent / holding company shall have a controlling stake of 50% or more in the bidder organization /company.

## NOTICE INVITING TENDER

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- ii. The parent / holding company provides an undertaking that they are jointly and severally responsible for successful performance of the contract.
3. Bidders not satisfying the Clause B.2.2 above can have consortium for this work as per following conditions:

### **CONSORTIUM CONDITIONS**

**Prime bidder:** The Prime Bidder shall be one, who qualifies against the conditions specified under Clause B.1 & B.2.1 on his own without any consortium Partners.

In case the Prime bidder is a subsidiary but does not meet the requirement of Clause B.1 & B.2.1 above, then, the credentials of their parent / holding company shall be considered for satisfying the PQR subject to the following:

- i. The parent / holding company shall have a controlling stake of 50% or more in the bidder organization /company.
- ii. The parent / holding company provides an undertaking that they are jointly and severally responsible for successful performance of the contract.

**Consortium partner:** Consortium partner is the one who qualifies against the conditions specified under Clause B.2.2.

Following conditions shall be complied with in case of consortium:

- a) Number of partners including prime Bidder shall not be more than 2 (two).
- b) The Prime Bidder and Consortium Partner(s) are required to enter in to a consortium agreement (as per Form F-22 Of Forms and Procedures Volume ID, Book II) with a validity period of six months initially. Thereafter, the Prime Bidder and Consortium Partner(s) shall certify to BHEL regarding existence and validity of their consortium agreement on six monthly basis.  
In case the Consortium is awarded the contract, then the Consortium agreement between the Prime Bidder and Consortium Partner shall be extended till contractual completion period including extension periods if any applicable.
- c) 'Standalone' bidder cannot become a 'Prime Bidder' or a 'Consortium bidder' in a Consortium bidding. Prime bidder shall neither be a consortium partner to other prime bidder nor take any other consortium partners. However, consortium partner may enter into consortium agreement with other prime bidders. In case of noncompliance, consortium bids of such Prime Bidders will be rejected.
- d) Prime Bidder and Consortium partners shall be approved by Customer for being considered for the tender.
- e) Prime Bidder alone shall necessarily comply with clause B.1 & B2.1.
- f) Prime bidder should satisfy the conditions stipulated in B.2.1 on his own and can have consortium partner for the Conditions stipulated under Clause

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- B.2.2 subject to a maximum of two agencies including the prime bidder in a consortium bid.
- g) Prime Bidder and Consortium Partner shall together comply with the 'Pre-Qualification Requirements' specified for the respective category of technical requirement as per clause B.2.1 and B.2.2.
  - h) Prime Bidder shall comply with all other Pre Qualifying criteria for the Tender unless otherwise specified.
  - i) In order to be qualified for the tender, Prime Bidder and Consortium Partner shall satisfy (i) the respective Technical 'Pre Qualifying Requirements(PQR)', (ii) "Assessment of Capacity of Bidder" as specified in clause 9.0 of NIT.
  - j) Prime Bidder shall be responsible for the overall execution of the Contract.
  - k) Performance shall be evaluated for Prime Bidder and the Consortium partner for their respective scope of work.
  - l) In case the Consortium partner backs out, their SD shall be encashed by BHEL. In such a case, 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. The new Consortium partner or partners shall submit fresh SD as applicable.
  - m) In case Prime Bidder withdraws, the whole contract shall be considered cancelled and short closed.
  - n) After execution of work, the work experience shall be assigned to the Prime Bidder and the Consortium Partner for their respective scope of work. After successful execution of one work with a consortium partner under direct orders of BHEL, the Prime Bidder shall be eligible for becoming 'standalone' bidder for works similar to that for which consortium partner was engaged, for subsequent tenders.
  - o) 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.

## NOTICE INVITING TENDER

ANNEXURE - 4

Additional Format to be submitted by Bidders separately as "Annexure to Pre-Qualifying Criteria".

Non submission of this additional format will make the bid liable for rejection

Name of the Bidder: M/s.....

Sl. No.	PQR Ref	PQR (Reproduced from Annexure – 1)	Qualifying Experience	Work order Ref with page no in Offer for supporting documents	Completion certificate ref for the referred Work with page no in Offer for supporting documents	Details of work with Project, Unit, Quantity / rating & Period	Remarks
1	<b>Technical B.1</b>	Bidder should have executed similar work for any one of the following (clause B.1.1 or B.1.2 or B.1.3) in the last seven years from latest date of bid submission. B.1.1 One (1) work of value not less than <b>Rs. 212.20 crore.</b> (OR) B.1.2 Two (2) works each of value not less than <b>Rs. 132.63 crore.</b> (OR)					

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		<p>B.1.3 Three (3) works each of value not less than <b>Rs. 106.10 crore</b></p> <p><b>Note:</b> Similar Works above means Piling or Civil or Structure or 'Civil and Structural works' or RCC Chimney or RCC Cooling Tower or RCC Silo or Mill Bunker or any combination of these.</p>					
	<p><b>Technical B.2</b></p> <p>B.2.1</p>	<p>Bidder should have executed the following (clause B.2.1 and clause B.2.2) in the last seven years from latest date of bid submission.</p> <p><u>RCC WORKS</u></p> <p>Executed at least <b>37,900 CUM</b> RCC quantities, completed within a period of twelve consecutive months in one running/completed contract.</p> <p style="text-align: center;">(OR)</p> <p>Executed at least <b>56,850 CUM</b> RCC quantities, completed within a period of twelve consecutive months in cumulative of two running/completed contracts.</p>					

## NOTICE INVITING TENDER

	B.2.2	Bidder should have executed atleast one complete civil work of "Wagon Tippler" or "Underground Transfer House" or "Underground Reclaim Hopper" or "Underground Pump House" or "Track Hopper" or "Intake Pump House in sea/ river/ dam/ any other water body having minimum depth of 8m.					
2	<b>Financial</b> <b>C-1</b>	<b>TURNOVER</b>  Bidders must have achieved an average annual financial turnover (Audited) of <b>Rs.79,58,00,000 /- (Rs. Seventy Nine Crore Fifty Eight Lakhs only)</b> or more over last three Financial Years (FY) i.e 2016-17, 2017-18 and 2018-19					
3	<b>Financial</b> <b>C-2</b>	<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					

## NOTICE INVITING TENDER

4	<b>Financial C-3</b>	<b>PROFIT</b> Bidder must have earned profit in any one of the three Financial Years as applicable in the last three Financial Years defined in 'C-1 above based on latest Audited Accounts.					
	<b>C-4</b>	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.					

Note:

- 1) BIDDER SHALL SUBMIT PRE-QUALIFICATION CRITERIA FORMAT (Refer Annexure-4), 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.

## **Tender Schedule**

<b>Description</b>	<b>Schedule</b>	<b>Remarks</b>
Technical Bid Opening	As mentioned in Notice Inviting Tender.	
Communication from BHEL for Clarifications, if any, required by BHEL	On or before fifth day of tender opening	
Last date for Bidders to submit the clarifications / documents required	On or before tenth day of tender opening	Bidders to note that their competent representative to be readily available in this week for offering clarifications / submitting the further documents, if any, required.
Price Bid Opening	Twenty first day day of tender opening	Exact date and time of price bid opening shall be informed to the bidders

**Note:**

1. Bidders to note that the above schedule should be adhered to and no further extension will be given. To adhere to the schedule indicated below, Bidders should ensure the adequacy of the documents submitted in their offer, with proper validation.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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**Annexure 6**

**VOID**

VOLUME – IA  
Part I & II

TECHNICAL  
CONDITIONS OF  
CONTRACT (TCC)

BHARAT HEAVY ELECTRICALS LIMITED



# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## CONTENTS

Sl.No.	DESCRIPTION	Chapter	No. of Pages
<b>Vol IA</b>	<b>Part-I: Contract specific details</b>		
1	Project Information	Chapter-I	2
2	Scope of works	Chapter-II	3
3	Facilities in Scope of Contractor / BHEL (Scope Matrix)	Chapter-III	8
4	T&Ps and MMEs to be deployed by Contractor	Chapter-IV	8
5	T&Ps and MMEs to be deployed by BHEL on sharing basis	Chapter-V	1
6	Time Schedule	Chapter-VI	5
7	Terms of Payment	Chapter-VII	3
8	Taxes and other Duties	Chapter-VIII	3
9	Bill of Quantity	Chapter-IX	1
10	General	Chapter-X	10
11	Progress of work	Chapter-XI	2
12	Material Handling	Chapter-XII	2
13	Accounting of materials issue	Chapter-XIII	8
<b>Vol IA</b>	<b>Part-II: Technical specifications</b>		
1	Corrections / Revisions in Special Conditions of Contract, General Conditions of Contract and Forms & Procedures	Chapter-1	19
2	Drawings	Chapter-2	04
3	Bore Log Data Sheet	Chapter-3	45
4	Technical Specifications	Chapter-4	1063
5	Technical Specification and drawings for Labour Colony	Chapter-5	10
6	T&P Hire Charges	Chapter-6	14
7	“HSE Plan for Site Operations by Subcontractor” (Document No. HSEP: 14 Rev01)	Chapter-7	82
8	Format for Form no.: F-14 (Rev 01); Monthly Plan and Review with Contractors	Chapter-8	05
9	Format for Form no.: F-15 (Rev 02); Monthly Performance Evaluation of contractor	Chapter-9	06
10	Proforma for Bank Guarantee (in lieu of Earnest Money)	Chapter-10	03
11	Pro forma for Bank Guarantee (in lieu of Security Deposit)	Chapter-11	03
12	Procedure 2.3-Procedure For Conduct Of Conciliation Proceedings	Chapter-12	11
13	Integrity Pact		5
14	No Deviation Certificate		1

## **VOLUME-IA PART-I CHAPTER-I** **PROJECT INFORMATION**

5 x 800 MW Yadadri Thermal power station is being set up by **TELANGANA STATE GENERATION CORPORATION** at a site in Veerlapalem village, Dameracherla Mandal, NALGONDA DISTRICT, TELANGANA STATE, India. The Bidder shall acquaint himself by a visit to the site, if felt necessary, with the conditions prevailing at site before submission of the bid. The information given here in under is for general guidance and shall not be contractually binding on BHEL/Owner. All relevant site data /information as may be necessary shall have to be obtained /collected by the Bidder.

### **A. PROJECT INFORMATION**

1	Name of the Project	YADADRI Thermal Power Station
2	Station Capacity	5X800 MW ( Coal based )
3	Owner	Telangana State Power Generation Corporation Limited ( TSGENCO )
4	Site Location	Site is located 7 km from the SH 2 Miryalaguda - Vadapalle Highway.
5	Latitude	16° 42'20.40 N
6	Longitude	79° 34'41.56 E
7	Nearest Town	30 Km Miryalaguda
8	Nearest Railway Station	6.5 Km Damercherla
9	Nearest Airport	130 Kms (Vijayawada)
10	Site Conditions	
	Ambient Temperature	
	Daily minimum ( average)	10°C
	Daily maximum ( average)	47°C
	Design Ambient Temperature	50°C
	Ambient temperature ( performance)	38°C
	Relative Humidity for design / efficiency	48-84 %

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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	Annual rainfall, mm	600 mm
	Plant Elevation above MSL	85 m above MSL
	Mean Wind Speed	8 km/h
	Wind Pressure	As per the latest revision of IS 875/1987
	Seismic co-efficient	Zone-II as per IS- 1893 (Part-IV)

## **VOLUME-IA PART-I CHAPTER-II**

### **SCOPE OF WORKS**

1.2.1 The scope of works covers Civil & Architectural works of coal handling plant areas of all units (i.e Unit 1 to 5) of 5 x 800MW Yadadri TPS as mentioned below, including supply of all materials (excluding free issue materials mentioned in clause 1.2.2), labour, tools and plants. The scope of work is indicative but not limited to the given below.

1.2.2 Free issue Materials by BHEL for incorporation in the permanent work are Cement, Reinforcement steel, MS round for Earthing, Structural steel for structural works (as specified in BOQ), structural steel for embedment / inserts from the scraps generated (if available) and foundation bolts & inserts / embedment supplied by manufacturing units of BHEL.

The list of structures and buildings are mentioned below.

#### **AREAS OF WORK**

1. Wagon tippler
2. Wagon tippler control room
3. Track hopper
4. Tunnel
5. Conveyor fdn
6. Tapping pipe conveyor (TPCs) foundations
7. Shuttle conveyor civil works
8. Transfer point (TPs) fdn and RCC floors
9. Stacker & Reclaimer fdn
10. Coal Stock piles
11. Stockyard retaining wall and Drain
12. Crusher House, crusher foundation & RCC floors
13. Bucket elevator foundation
14. ERH (Emergency reclaimer hopper)
15. UGTP (Underground transfer point)
16. Raw Coal ERH (Emergency reclaimer hopper)

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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17. CHP Electrical building
18. Control room
19. Dust suppression pump house (DSPH)
20. Drive House
21. Pent house
22. RTP (Raw coal transfer point)
23. RBCN (Raw coal conveyor)
24. Coal pile runoff pond
25. Cable rack
26. Below Ground earthing
27. Cable trench
28. Battery room
29. Roads and Drains as per BHEL's scope of work
30. Other miscellaneous works
31. Lighting mast
32. Paving (Part of respective areas as per scope and site in- charge directions)
33. Filling (Part of levelling and grading works in areas as per scope and site in-charge directions)

Note: The above provided list is indicative only for the bidder's guideline. **Any other building / structure / foundation not mentioned above, but required for completion of the package in total, deemed to have been included in the bidder's scope under this contract.** Such work will be executed under this contract by bidder as per the direction of Engineer in charge. If any item of work not available in the rate schedule of this contract, the rate will be fixed in line with clause 2.15.7 of GCC.

- 1.2.3 The works to be performed under this contract consist of providing all labour, supervision, material, scaffolding, construction equipment's, tools and plants, temporary works, supplies including POL (Petroleum, oil & lubricants), transportation and all incidental items not shown or specified but reasonably

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- implied or necessary for the proper completion of work in all respects. Testing of all materials, concrete, earthwork other allied works, preparation of bar bending schedules on the basis of construction drawings, etc. are included in the rates of items of work.
- 1.2.4 The area of work shall be cleared of all vegetation, rubbish and other objectionable matter and materials removed shall be burnt or otherwise disposed of as directed by the Engineer-in-Charge. No separate payment for these operations shall be made. The cost of all these operations shall be deemed to have been included in the unit rates rendered for the different items under bill of quantities.
- 1.2.5 All the works areas shall be adequately flood lighted to the satisfaction of the Engineer-in-Charge when the work is in progress during the night shifts.
- 1.2.6 The unit rates shall include all material equipment, fixtures, labour construction plant, temporary works and everything whether of permanent or temporary nature necessary for the completion of job in all respects.
- 1.2.7 The unit rates for various items of B.O.Q shall include all the stipulations mentioned in technical specifications and nothing extra over B.O.Q rates shall be payable.
- 1.2.8 Drawings showing enough details for the construction as per the specification shall be furnished to the contractor in a phased manner.
- 1.2.9 The bidder should fully apprise himself of the prevailing conditions at the proposed site, climatic conditions including monsoon pattern, local conditions, soil strata and site specific parameters and shall include for all such conditions and contingent measures in the bid, including those which may have not been specifically brought out in the specifications.

### **Note to Chapter-II**

**FOR FURTHER DETAILED SCOPE OF WORKS REFER RELEVANT CHAPTERS IN THIS BOOK.**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## VOLUME-IA PART-I CHAPTER-III

### FACILITIES & CONSUMABLES IN THE SCOPE OF CONTRACTOR / BHEL (SCOPE MATRIX)

Sl.No.	Description  PART I	Scope to be taken care by		Remarks
		BHEL	Bidder	
1.3.1				
<b>1.3.1.1.0</b>	<b>ESTABLISHMENT</b>			
1.3.1.1.1	FOR CONSTRUCTION PURPOSE:			
1.3.1.1.1.1	Open space for office	Yes		As provided by TSGENCO
1.3.1.1.1.2	Open space for storage	Yes		As provided by TSGENCO
1.3.1.1.1.3	Construction of bidder's office, canteen and storage building including supply of materials and other services		Yes	At bidder's own cost
1.3.1.1.1.4	Bidder's all office equipments, office / store / canteen consumables		Yes	At bidder's own cost
1.3.1.1.1.5	Canteen facilities for the bidder's staff, supervisors and engineers etc		Yes	At bidder's own cost
1.3.1.1.1.6	Firefighting equipments like buckets, extinguishers etc		Yes	At bidder's own cost
1.3.1.1.1.7	Fencing of storage area, office, canteen etc of the bidder		Yes	At bidder's own cost
1.3.1.1.2	FOR LIVING PURPOSES OF THE SUCCESSFUL BIDDER'S PERSONNEL			
1.3.1.1.2.1	Open space	Yes		Free of charges as provided by TSGENCO
1.3.1.1.2.2	Living accommodation		Yes	At bidder's own cost
<b>1.3.1.2.0</b>	<b>ELECTRICITY</b>			
1.3.1.2.1	Electricity for construction purposes	Yes		Free of charges as provided by TSGENCO

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	<b>PART I</b>			
1.3.1.2.1.1	Single point source (in general) For detail, refer clause no. 1.3.4.1	Yes		
1.3.1.2.1.2	Further distribution for the work to be done which include supply of materials and execution		Yes	At bidder's own cost
1.3.1.2.2	Electricity for the office, stores, canteen, labour colony, etc of the bidder which include:		Yes	At bidder's own cost
1.3.1.2.2.1	Distribution from single point including supply of materials and service		Yes	At bidder's own cost
1.3.1.2.2.2	Supply, installation and connection of material of energy meter including operation and maintenance		Yes	At bidder's own cost
1.3.1.2.2.3	Duties and deposits including statutory clearances for the above		Yes	At bidder's own cost
1.3.1.2.2.4	Demobilization of the facilities after completion of works		Yes	At bidder's own cost
1.3.1.2.3	Electricity for living accommodation of the bidder's staff, engineers, supervisors etc. on the above lines		Yes	At bidder's own cost
<b>1.3.1.3.0</b>	<b>WATER SUPPLY</b>			
1.3.1.3.1	For construction purposes:		Yes	Free of charges as provided by TSGENCO
1.3.1.3.1.1	Making the water available at single point		Yes	As provided by TSGENCO
1.3.1.3.1.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	At bidder's own cost
1.3.1.3.2	Water supply for bidder's office, stores, canteen, labour colony, etc.		Yes	At bidder's own cost
1.3.1.3.2.1	Making the water available at single point		Yes	At bidder's own cost

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	<b>PART I</b>			
1.3.1.3.2.2	Further distribution as per the requirement of work including supply of materials and execution		Yes	At bidder's own cost
<b>1.3.1.4.0</b>	<b>LIGHTING</b>			
1.3.1.4.1	For construction work (supply of all the necessary materials) - At office storage area - At the preassembly area - At the construction site /area		Yes	At bidder's own cost
1.3.1.4.2	For construction work (Execution of the lighting work / arrangements) - At office storage area - At the preassembly area - At the construction site /area - At the labour hutment		Yes	At bidder's own cost
<b>1.3.1.5.0</b>	<b>COMMUNICATION FACILITIES for site operations of the bidder</b>			
1.3.1.5.1	Telephone, Fax, internet, intranet, email etc.		Yes	At bidder's own cost

Sl.No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
	<b>PART II</b>			
	<b>CONSTRUCTION FACILITIES</b>			
<b>1.3.2.1.0</b>	<b>Engineering works for construction</b>			
1.3.2.1.1	Providing the construction drawings for all the equipment covered under this scope	Yes		Progressively
1.3.2.1.2	Detailing of drawings for construction		Yes	In consultation with BHEL
1.3.2.1.3	As-built drawings – wherever deviations observed and executed and also based on the decisions taken at site- example - routing of small bore pipes	Yes	Yes	-do-

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sl.No.	Description	Scope to be taken care by		Remarks
		BHEL	Bidder	
PART II				
1.3.2.1.4	Shipping lists etc for reference and planning the activities	Yes	Yes	-do-
1.3.2.1.5	Preparation of site construction schedules and other input requirements		Yes	In consultation with BHEL, as per requirement of BHEL targets
1.3.2.1.6	Review of performance (Form-14) and revision of site construction schedules in order to achieve the end dates and other commitments		Yes	
1.3.2.1.7	Weekly construction schedules based on Sl. No. 1.3.2.1.5		Yes	
1.3.2.1.8	Daily construction / work plan based on Sl. No. 1.3.2.1.7		Yes	For daily monitoring meeting at site
1.3.2.1.9	Periodic visit of the senior official of the bidder to site to review the progress so that works are completed as per schedule. It is suggested this review by the senior official of the bidder should be done once in every two months.		Yes	At bidder's own cost
1.3.2.1.10	Preparation of preassembly bay		Yes	At bidder's own cost
1.3.2.1.11	Laying of racks for gantry crane if provided by BHEL or brought by the contractor / bidder himself			Not applicable

### 1.3.3 OPEN SPACE

Open space, as provided by TSGENCO, will be provided to the bidder free of cost. Availability of land within plant boundary is very limited and the contractor has to plan and use the existing land considering the use of land by other Civil /mechanical/ electrical contractors and the storage of plant machineries and materials. The existing land shall be shared by all erection agencies. Land will be allocated with certain time frame and to the extent available/ considered necessary, and will be reviewed by BHEL depending upon the area availability. Area within plant premises for batching plant, office, storage area etc. for construction purpose shall be provided as per availability free of cost. The contractor will be responsible for handing back all lands, as handed over to him by BHEL.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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Land for labour colony shall be provided by BHEL approximately nearer to site (outside plant premises) free of cost as provided by TSGENCO. The contractor has to construct labour colony as per the technical specification No.PSSR/PMX/CVL/Labour colony/01, latest revision enclosed along with this tender at his own cost. The contractor shall provide adequate water arrangement for drinking/washing/bathing with required toilets, drainage system, and electrification etc. in labour colony at his own cost. Suitable paved area to be provided in the labour colony at the cost of contractor.

### 1.3.4 **ELECTRICITY**

- 1.3.4.1 In general, Construction power will be provided to the contractor free of cost at one single point within the plant area by BHEL as provided by TSGENCO. The contractor has to provide necessary meter for measuring the power consumption. The contractor shall make his own arrangement for further distribution with necessary isolator/LCB etc. However, based on request of Contractor and requirement of project, BHEL Site in charge, at his discretion, may provide construction power at multiple point (as close to work area as possible), free of cost, for smooth execution of the work at site. If, BHEL provides electricity at more than one point (as close to work area as possible), it will be responsibility of the contractor to provide all the support necessary for enabling BHEL for extending such provision to contractor. The contractor has to Provide necessary meter for measuring the power consumption. The contractor shall make his own arrangement for further distribution with necessary isolator/LCB etc.
- 1.3.4.2 Necessary "Capacitor Banks" to improve the Power factor to a minimum of 0.9 shall be provided by the contractor at his cost. Penalty if any levied by customer on this account will be recovered from contractor's bills.
- 1.3.4.3 Any duty, deposit involved in getting the Electricity shall be borne by the bidder. As regards contractor's office shed also all such expenditure shall be borne by the contractor.
- 1.3.4.4 Provision for distribution of electrical power from the given single central common point to the required places with proper distribution boards, approved cables and cable laying including supply of all materials like cables, switch boards, pipes etc., observing the safety rules laid down by electrical authority of the State / BHEL / their customer with appropriate statutory requirements shall be the responsibility of the tenderer / contractor.
- 1.3.4.5 BHEL is not responsible for any loss or damage to the contractor's equipment as a result of variations in voltage / frequency or interruptions in power supply.
- 1.3.4.6 Contractor has to make their own arrangements for electricity requirement for labour colony at his own cost.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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1.3.4.7 As there are bound to be interruptions in regular power supply, power cut/ load shedding in any construction sites, contractor should make his own arrangement for alternative source of power supply through deployment of adequate number of DG sets at their cost during the power breakdown / failure to get urgent and important work to go on without interruptions. No separate payment shall be made for this contingency.

### 1.3.5 WATER

1.3.5.1 Water (Raw water) required for construction purposes will be provided at one single point within the plant area free of cost as provided by TSGENCO. The required pumps & accessories, pipes for drawing water from the given point and further distribution will be arranged by the contractor at their cost to go on without interruptions.

1.3.5.2 In case of non-availability of water, the contractor shall make his own arrangements of **water suitable for construction purpose** to have uninterrupted work. No separate payment shall be made for any contingency arrangement made by contractor, due to delay / failure for providing water supply.

### 1.3.6 MATERIAL SUPPLY

Supply / providing aggregate, sand (river sand only) and all other materials required (excluding Free issue Materials by BHEL mentioned in clause 1.2.2) for the work are in the scope of the contractor. Embedments /inserts required for the works in general shall be supplied by the bidder and payment shall be made as per corresponding item in BOQ. If BHEL provides Structural Steel from scraps (if available), payment shall be made as per corresponding item in BOQ.

- Regarding supply of cement, the cement shall be provided normally in bulkers and shall be unloaded in the silos (2 Nos minimum 100MT each per 30 Cum/Hr batching plant) to be installed by the bidder nearer to their batching plants. This is only minimum requirement and the number of cement silos shall be increased based on the site requirement. Making arrangement for unloading of cement into the silo and provision of necessary manpower support is in the scope of successful bidder within the quoted price. On advance request of the bidder, the cement shall be supplied in Bags for other than RCC works like masonry, flooring works etc. Advance request for supply of cement in bags shall be minimum two months. Provision of necessary storage arrangement for cement received in bags is in the scope of successful bidder within the quoted price.
- The steel material will be issued from BHEL stores, within the plant premises. Collection and transporting to the place of work is in contractor's scope without any extra cost to BHEL. The steel will be issued to the agency in standard lengths. In some instances, for 8mm, 10mm & 12mm dia reinforcement steel will be supplied in coil form. No extra claims will be

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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entertained against issue of Non-standard lengths of steel and de coiling of 8mm, 10mm & 12mm dia. steel.

If any matching sections of steel are not available with BHEL, contractor may arrange these sections on certification of BHEL and the landing cost of sections to site will be reimbursed based on the prevailing rate at SAIL at the time of procurement at the nearest SAIL outlet with the freight charges against supporting document.

### 1.3.7 CONSUMABLES

All consumables, like gas, electrodes, chemicals, lubricants etc. required for the scope of work, shall be arranged by the contractor at his cost unless otherwise specifically mentioned in the contract.

In the event of failure of contractor to bring necessary and sufficient consumables, BHEL may arrange for the same at the risk and cost of the contractor. The entire cost towards this along with overhead shall be paid by the contractor or deducted from the contractor's bills.

### 1.3.8 LIGHTING FACILITY

Adequate lighting facilities such as flood lamps, hand lamps and area lighting shall be arranged by the contractor at the site of construction, and contractor's material storage area etc. at his cost.

### 1.3.9 BLASTING

Bidder should produce documentary evidence of valid blasting license for Telangana State (or) should produce documents for having tie-up with agency who is possessing valid blasting license for Telangana State within 30 days from issue of LOI.

For details on blasting refer enclosed Bill of Quantity (rate schedule) and Volume IA Part II Technical Specification.

### 1.3.10 DEWATERING

Contractor shall ensure at all times that his work area & approach / access roads are free from accumulation of water, so that the materials are safe and the erection/ progress schedule are not affected. No separate claim in this regard shall be admitted by BHEL. No separate payments for dewatering of subsoil, surface water or catchments water, if required, at any time during execution of the work including monsoon period shall be considered by BHEL.

### 1.3.11 CONTRACTOR'S OBLIGATION ON COMPLETION

On completion of work, all the temporary buildings, structures, pipe lines, cables etc. shall be dismantled and leveled and debris shall be removed as per instructions of BHEL by the contractor at his cost. In the event of his failure to do so, the

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.

### 1.3.12 **BID DRAWINGS**

Bid drawings enclosed is for information purpose and this may get revised during execution.

## VOLUME-IA PART-I CHAPTER-IV

### T&Ps TO BE DEPLOYED BY CONTRACTOR

- 1.4.1 All the tools and plants (T & Ps) required for satisfactory completion of the work have to be arranged by the contractor.
- 1.4.2 The contractor is required to arrange the following tentative major T&Ps per package and minimum other T&Ps for the satisfactory completion of the work.

Sr No	T&P items	Mobilizing time from the date of start of work
<b>A</b>	<b>Major T&amp;P items</b>	
A. 1	4 No. excavator equivalent to capacity of Poclain CK90 or higher to suit the requirement of work at site	1 no. within 20 days, 2nd within 45 days & balance as mutually accepted in site between contractor and BHEL engineer In-charge.
A. 2	3 no. automatic concrete batching plant with printing facility (minimum capacity of 30 CUM/Hr each) with DG backup. With minimum 2 Nos of silo per batching plant (100MT each)	1 no. to be commissioned within 45 days & balance as mutually accepted in site between contractor and BHEL engineer In-charge. Note: If contractor wishes to mobilise batching plant of higher capacity (e.g. one number 60 cum/hr capacity instead of 2 number 30 cum/ hr batching plant), shall be mutually decided at site between contractor and BHEL engineer in-charge suiting the site requirement
A. 3	2 Nos Truck mounted concrete mixer cum pump along with placing boom minimum 36 m high i.e. Concrete boom placer (36m)	1 No within 45 days and balance as per BHEL requirement at site Number of boom placer may be increased in the course of execution of work in site as mutually agreed between contractor and BHEL engineer In-charge. Schedule of such mobilization may be mutually agreed between contractor and BHEL engineer in-charge.
A. 4	1 nos. concrete pump (60 CUM/ hr min capacity & lift 90M)	As per BHEL requirement at site, Number of concrete pump may be increased in the course of execution of work in site as mutually agreed between contractor and BHEL engineer In-charge. Schedule of such mobilization

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sr No	T&P items	Mobilizing time from the date of start of work
		may be mutually agreed between contractor and BHEL engineer in-charge.
A. 5	8 nos. transit mixer (5/6 CUM capacity) including standby 2 nos.	3 no's within 45 days. Balance progressively as per BHEL requirement at site as mutually agreed between contractor and BHEL engineer In- charge.
<b>B</b>	<b>Other T&amp;P items</b>	
B. 1	4 No. back hoe loader like JCB	2 no. within 30 days and balance as per BHEL requirement at site.
B. 2	10 nos. dumper (Min 15CUM each)	2 nos. Within 20 days. Another 3 nos. within 45 days. Balance as per BHEL requirement at site.
B. 3	4 nos. diesel Mixer machine of 0.5CUM capacity	As per BHEL requirement at site.
B. 4	10 nos. self-priming dewatering pump 5 HP (diesel)	Within 20 days.
B. 5	10 nos. self-priming dewatering pump 5 HP (electric)	Within 30 days
B. 6	8 nos. curing pump – 1.5 /2 HP (pump for curing at heights)	Within 60 days.
B. 7	10 nos. reinforcement bending machine	3 nos. within 20 days, another 3 nos. within 45 days and balance as per BHEL requirement at site
B. 8	2 no. Vibromax (earth compactor)	As per BHEL requirement at site.
B. 9	10 nos. reinforcement cutting machine	3 nos. within 20 days, another 3 nos. within 45 days and balance as per BHEL requirement at site
B. 10	6 nos. PICK & CARRY cranes minimum 9MT capacity	As per BHEL requirement at site
B. 11	MS scaffolding pipe / ACROW PIPE	As per BHEL requirement at site
B. 12	4 nos. building hoist	As per BHEL requirement at site

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sr No	T&P items	Mobilizing time from the date of start of work
B. 13	2 nos. motorized external platforms (sky climber)	As per BHEL requirement at site
B. 14	2 no. power driven earth rammer (Roller Type 1/2 T)	As per BHEL requirement at site
B. 15	Civil laboratory equipment's as per list in clause 1.4.6 with temporary building one AC lab size 4.5mtrx6mtr and 1 non AC lab 4.5 mtrx4.5 mtr.	Within 55 days.
B. 16	2 nos. total station with adequate arrangement for Surveyors.	1 no. Within 15 days and balance as per BHEL requirement at site
B. 17	2 no theodolite 1 second accuracy	1 no. within 15 days. and balance as per BHEL requirement at site, theodolite can be replaced by total station based on requirement at site.
B. 18	10 or more nos. auto level & staff	2 nos. Within 15 days and balance as per BHEL requirement at site. No. of auto level shall be mutually agreed between contractor & Engineer In-charge.
B. 19	300 nos concrete cube moulds	150 nos. within 30 days and balance progressively as per BHEL requirement at site
B. 20	Adequate no. of small trucks 2T/5T for shifting of reinforcement/cement/shuttering etc. within site	As per BHEL requirement at site
B. 21	2 nos. truck mounted 125 KVA DG set	1 no. within 30 days and balance within 60 Days.
B. 22	Construction power cable	As per BHEL requirement at site
B. 23	Construction water Pipeline	As per BHEL requirement at site
B. 24	Concrete vibrator with adequate needle (Minimum 20 nos. diesel/electric)	6 nos. (at least 3 nos. diesel driven) within 45 Days. Balance as per BHEL requirement at site.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Sr No	T&P items	Mobilizing time from the date of start of work
B. 25	Portable fire extinguishers as below: Soda acid – 10 sets. Dry chemical powder – 10 sets CO2 – 10 sets. Water & sand bucket (4 buckets in one stand) – 10 sets. Fire hose with nozzle (50 M length) – 5 sets.	25% within 30 days and balance progressively within 90 days.
B. 26	1 no. compression testing machine (200 T capacity)	1 no. within 30 days If required, number of compression testing machine shall be increased with mutual consent between contractor and BHEL engineer in-charge
B. 27	4 nos. drinking water tank–5000 lit.	1 no. within 30 days. Balance as per BHEL requirement at site
B. 28	4 nos. mobile toilet blocks for labour use.	1 no. within 30 days balance within 75 days.

### Note :

- 1) T&P shown in the above mentioned list is tentative requirement considering parallel working in all areas mentioned in scope of work. However, mobilization schedule and quantity/ numbers of T&Ps and period of deployment as mutually 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.
- 2) All T&P and all IMTEs, which are required for successful and timely execution of the work covered within the scope of this tender, shall be arranged and provided by the contractor at his own cost in working condition.
- 3) In the event of non-mobilisation of Tools, Plants, Machinery, Equipment, Material or non-availability of the same owing to breakdown and as a result progress of work suffered, BHEL reserves the right to make alternative arrangement (available or higher capacity) in line with SCC clause no. 4.2.1. 7 and hire charges shall be applicable as under:

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- i) **BHEL provides its own Capital T&P:** If BHEL provides owned T&P then BHEL, hire charges (as per BHEL norms) will be recovered from the contractor as per the prevailing BHEL Corporate hire charges applicable (as enclosed in Volume I Book I TCC- Volume 1A Part II) as per following cases:
- In case the T&P is specifically listed in “T&Ps to be deployed by Contractor”, ‘Rates of hire charges applicable to outside agencies other than contractors working for BHEL’ will apply.
  - In case the T&P is not specifically listed in “T&Ps to be deployed by Contractor”, ‘Rates of hire charges applicable to contractors working for BHEL’ will apply.

The hire charges of Capital Tools & Plants are exclusive of operating expenses e.g., Operator, fuel & Consumables and the same shall be arranged by the contractor at his cost.

- ii) **BHEL provides hired T&P:** In all cases other than that specified in SI No. i above, actual expenses incurred by BHEL along with applicable overheads will be back-charged to the contractor.

- 4) In the event of need of change of type of any of major T&Ps, approval shall be taken from BHEL Engineer in-charge prior to mobilization. The decision of Number of T&P required due to replacing the enlisted T&P as per above table, shall be taken after analyzing the production capacity and suitability of both the T&Ps.
- 5) Mobilization of concrete boom placer in place of concrete pump will be allowed based on site requirement of BHEL.
- 1.4.3 In addition to the above, any other tools and plants required for execution of the above work are in contractor's scope.
- 1.4.4 The Bidder shall establish and maintain a field laboratory on the site and this laboratory shall be available at all time for testing. Successful bidder shall submit scheme for lab arrangement within 7 days from date of commencement of work at site for approval of BHEL engineer in-charge.
- 1.4.5 The laboratory must have qualified technicians to carry out all tests and must be adequately equipped to ensure that all necessary testing work can be carried out in compliance with the standards.
- 1.4.6 Field and laboratory testing procedures for materials follow Indian Standard Specifications with necessary equipment like as given in table below:

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

<b>Concrete Testing Equipment</b>				
<b>Sl. No</b>	<b>NAME OF TEST</b>	<b>NAME OF EQUIPMENT</b>	<b>SIZE OF EQUIPMENT</b>	<b>IS REF.</b>
1	Initial & final setting time, Consistency of cement	Vicat Apparatus with desk pot	Standard	IS 5513
2	Shrinkage of cement, Auto Clave Test	Le Chatelier's apparatus Auto Clave Equipment	Standard	IS 5514
3	Abrasion value test	Los Angeles Abrasion testing machine	Standard	IS 2386
4	Aggregate Impact value test	Aggregate Impact value testing machine with blow counter	Standard	IS 9377
5	Aggregate crushing value test	Crushing value apparatus	Standard	IS 2386
6	Flakiness index	Thickness gauge for measuring flakiness index	Standard	IS 2386
7	Elongation Index	Elongation gauge	Standard	IS 2386
8	Bulk density, voids and bulking apparatus	Measuring cylinders	3, 5, 10 & 15 liters cylinders	
9	Workability of concrete	Slump cone	Standard, at least 04 no's	IS 456
10	Specific gravity of aggregates	Pycnometer	Standard, at least 02 no's	IS 383
11	Cement mortar cube vibrating	Motorised vibration machine for cement testing	Standard	IS 4031
12	Coarse aggregate Sieve analysis (Concrete & Road Works)	Sieve set	450mm dia GI Frames Size: 125mm, 90mm, 75mm, 63mm, 53mm, 40mm, 20mm, 16mm, 12.5mm, 10mm, 4.75mm, Pan and cover	IS 383

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

13	Fine aggregate sieve analysis	Sieve set	200mm dia Brass sieves; Size 4.75mm, 2.36mm, 1.18mm, 600micron, 300micron, 150micron, 75micron, 75micron, Pan and cover	IS 383
14	Sieve Shaker	Motorised Sieve shaker	Mfg. Catalogue	
15	Silt content check	Sand silt content beaker	Standard	

Soil Testing Equipment				
Sl. No	NAME OF TEST	NAME OF EQUIPMENT	SIZE OF EQUIPMENT	IS REF.
1	Liquid limit test	Liquid limit apparatus	Standard	IS 2720
2	Core Cutter test	Core cutter apparatus	Rammer, 6 no's of std. core cutter mould, dolly	IS 2720
3	Proctor density test	Std proctor Compaction apparatus	Standard	IS 2720
4	Moisture Content	Rapid moisture meter	Standard, at least 04 no's	IS 2720

List of testing equipment mentioned in the table above is tentative and final requirement shall be as mutually agreed between successful bidder and BHEL Engineer In-Charge in compliance with requirement spelt in FQP (Field quality plan).

- 1.4.7 Contractor shall have at all times experienced operators and technicians for routine and breakdown maintenance of the equipment. Any delay in rectification of defects will warrant BHEL rectifying the defect and charging the cost to the contractor.
- 1.4.8 The area and infrastructure development of the work area are to be carried out by the customer. However, in construction projects of this magnitude it is possible that all the areas / approaches may not be ready. In such cases consolidation of ground and arrangement of sleepers / sand bag filling etc for safe operation / movement of equipment including cranes / trailers etc shall be the responsibility of the contractor at his cost. No compensation on this account shall be payable.
- 1.4.9 In general, any crane for the tendered scope will not be provided by BHEL. However, if requirement of crane of higher capacity arises for any unforeseen circumstance (i.e. more than 150MT), bidder may request BHEL to provide crane on chargeable basis but BHEL reserves right of provision of crane. If provided, in

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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that case, Crane operators deployed by the contractor shall be tested by BHEL before they are allowed to operate the cranes.

- 1.4.10 The age of the contractor deployed cranes upto 150 T should be within 15 years as on date of deployment. Contractor has to provide documentary proof for the age of the crane at the time of deployment to the BHEL Engineer.
- 1.4.11 In case, cement is issued through bulkers being supplied from manufacturer /stockiest, the same shall be emptied in cement silos of batching plant and necessary unloading arrangements shall be provided by contractor without any additional financial implication to BHEL. Contractor to note that batching plant being established at site shall have cement silos of 100 MT capacities (minimum 2 nos.) each as mentioned in clause 4.2 A- list of Tools & Plants to be deployed by the contractor.

**VOLUME-IA PART-I CHAPTER-V**

**T&Ps & MMEs TO BE DEPLOYED BY BHEL ON SHARING BASIS**

- 1.5.1 BHEL shall not provide any T & Ps. However, if in any unforeseen circumstances, requirement of any T&Ps (available with BHEL at site) arises, on request of bidder the same may be provided on chargeable basis but BHEL reserves the right of provision of such T&Ps. Charges shall be applied as per BHEL norms and guidelines and direction of engineer in-charge.

## **VOLUME-IA PART-I CHAPTER-VI**

### **TIME SCHEDULE**

#### **1.6.1 TIME SCHEDULE**

- 1.6.1.1 The entire work of Civil and Architectural works for the package as detailed in the Tender Specification shall be completed within **26 (Twenty Six) months** from the date of commencement of work.
- 1.6.1.2 The commencement of work at site shall be mutually agreed date between bidder and BHEL Engineer Incharge to start the work. The scope of work under this contract is deemed to be completed only when so certified by the site Engineer. The decision of BHEL in this regard shall be final and binding on the contractor.
- 1.6.1.3 During the total period of contract, the contractor has to carry out the activities in a phased manner as required by BHEL and the program of milestone events. The work fronts for construction will get released progressively during the course of execution at site. The required documents / drawings for construction will be progressively issued to the contractor during the course of execution at site.
- 1.6.1.4 The contractor is required to refer “Form 15: Monthly Performance Evaluation of Contractor” for all the instructions to be taken immediately after receipt of LOI. Please note that the Monthly Performance Evaluation of Contractor Form -15 in the Vol 1D - Forms and Procedures is revised and attached in Part-2, Chapter-9.

#### **1.6.2 COMMENCEMENT OF CONTRACT PERIOD**

The date of commencement of contract period shall be the date of commencement of work at site which shall be mutually agreed date between bidder and BHEL site in-charge. In case of discrepancy, the decision of BHEL Site Engineer is final.

#### **1.6.3 CONTRACT PERIOD**

The contract period for completion of entire work under scope shall be 24 (Twenty-Four) months from the “COMMENCEMENT OF CONTRACT PERIOD” as specified earlier

#### **1.6.4 MOBILISATION**

- 1.6.4.1 The Contractor has to augment his resources in such a manner to achieve the completion schedules.
- 1.6.4.2 In order to meet 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.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

## 1.6.5 CONSTRUCTION SCHEDULE

The tentative schedule for civil works is as given below. Overall completion period for the completion of works and submission of final bill is 26 months.

Area No.	Structures	Sl. No.	Description	Completion from the date of commencement of work
1	RCERH-1, RCERH-2, RBCN 1A/1B, RBCN 2A/2B, PH-3,	1.1	Entire work	18 months
2	RTP-1, BCN 2A/2B, TP-2, BCN 3A/3B, RTP-2, , BCN 4A/4B, TP-3, TP-4, TP-5, BCN 6A/6B, TP-9, BCN 9A/9B, , TP-10, TP-11, TP-12, TP-13, TP-14, TP-15, TP-29-TP-30, TP-31, TP-32, TP-33, TP-34, TP-35, TP-36, TP-37, BCN 30A/30B	2.1	Foundations	8 months
		2.2	Super structure - Steel structures- RTP-1, TP-2, TP-3, TP-4, TP-5, TP-9 (excluding Gallery)	10 Months
		2.3	Super structure - Steel structures	20 months
		2.4	Super structure - Civil	22 months
3	CH-1, CH-22	3.1	Foundations	5 months
		3.2	Super structure - Steel structures	20 months
		3.3	Crusher deck foundations	9 months
		3.4	Super structure - Civil	22 months
4	TH-1, TH-2, WT1, WT2, , BCN1A/1B, BCN21A/21B, MCC Buildings	4.1	Entire work	22 months
5	TP-1, TP-21, BCN22A/22B, TP-22, RTP-3, RBCN2A/2B, BCN23A/23B, RTP-4, DH, TPC-1A/1B, TPC-2A/2B, BCN24A/24B, TP-23, TP-24, TP-25, TP-6, BCN5, TP-26, TP-7, TP-27, BCN8A/8B, BCN29A/29B, TP-8, TP-28, BCN25, BCN26A	5.1	Foundations	8 months
		5.2	Super structure - Steel	16 months
		5.3	Super structure - Civil	22 months

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

Area No.	Structures	Sl. No.	Description	Completion from the date of commencement of work
6	ERH-1, ERH-2, BCN28, BCN7, PH-2, PH-22	6.1	Entire work	20 months
7	Stacker reclaimer-1 including related structures	7.1	Entire work	10 months
	Stacker reclaimer-2 including related structures	7.2	Entire work	11 months
	Stacker reclaimer-3 including related structures	7.3	Entire work	12 months
8	DSPH-1, 2,3	8.1	Entire work	16 months
9	Coal pile run off pond	9.1	Entire work	16 months
10	Finishing, attending, pending point final bill & reconciliation	10.1	Entire work	26 months

Note: Corresponding sketch showing the priority paths for the aforesaid construction schedule is enclosed at the end of this chapter.

- 1.6.5.1 Above schedule is the combined schedule for CHP : Civil & Structural works of major structures. The bidder may consider sl. No. 2.2, 2.3, 3.2 & 5.2 for reference purpose only, as these targets belong to structural work. Bidder may please refer the drawing no. IS-0-PL-699-100-M001 REV.00 (General plant layout of coal handling system) enclosed in Volume 1A Part 2, Chapter 2 for the purpose of identifying the nomenclatures mentioned in the above schedule.
- 1.6.5.2 The above schedule is tentative. In case the project is to be advanced, 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.
- 1.6.5.3 The above schedule is for entire completion and handing over the structure/ building to BHEL. The foundations, pedestals, floors, etc., required for the mechanical equipment erection / structural erection shall be handed over to BHEL progressively within the scheduled period given in the above table, as per the BHEL site requirement.
- 1.6.5.4 The left out minor finishing works shall also be completed and handed over to BHEL within the contract period.
- 1.6.5.5 The above time allowed for completion of work including Sundays and Holidays is from the date of commencement of work. Detailed program to be prepared by the bidder taking in to consideration of the COMPLETION SCHEDULES / site decision on drawings flow (latest) and submitted for BHEL's approval.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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### 1.6.5.6 Intermediate Milestones:

M1 and M2 shall be the intermediate milestones for this work:

S No	Description	Completion month from the date of start of the work at site	Intermediate Milestone
1	Foundations of RTP-1, BCN 2A/2B, TP-2, BCN 3A/3B, RTP-2, , BCN 4A/4B, TP-3, TP-4, TP-5, BCN 6A/6B, TP-9, BCN 9A/9B, , TP-10, TP-11, TP-12,TP-13,TP-14,TP-15, TP-29-TP-30, TP-31,TP-32,TP-33,TP-34,TP-35, TP-36,TP-37, BCN 30A/30B	8 <sup>th</sup> month	M1
2	Completion of ERH-1, ERH-2, BCN28, BCN7, PH-2, PH-22	20 <sup>th</sup> Month	M2

**Note:** Please refer SI No. 7 Part II Chapter-1 of Technical Conditions of Contract (Volume 1A of Volume I Book I) for Penalty for Intermediate Milestones

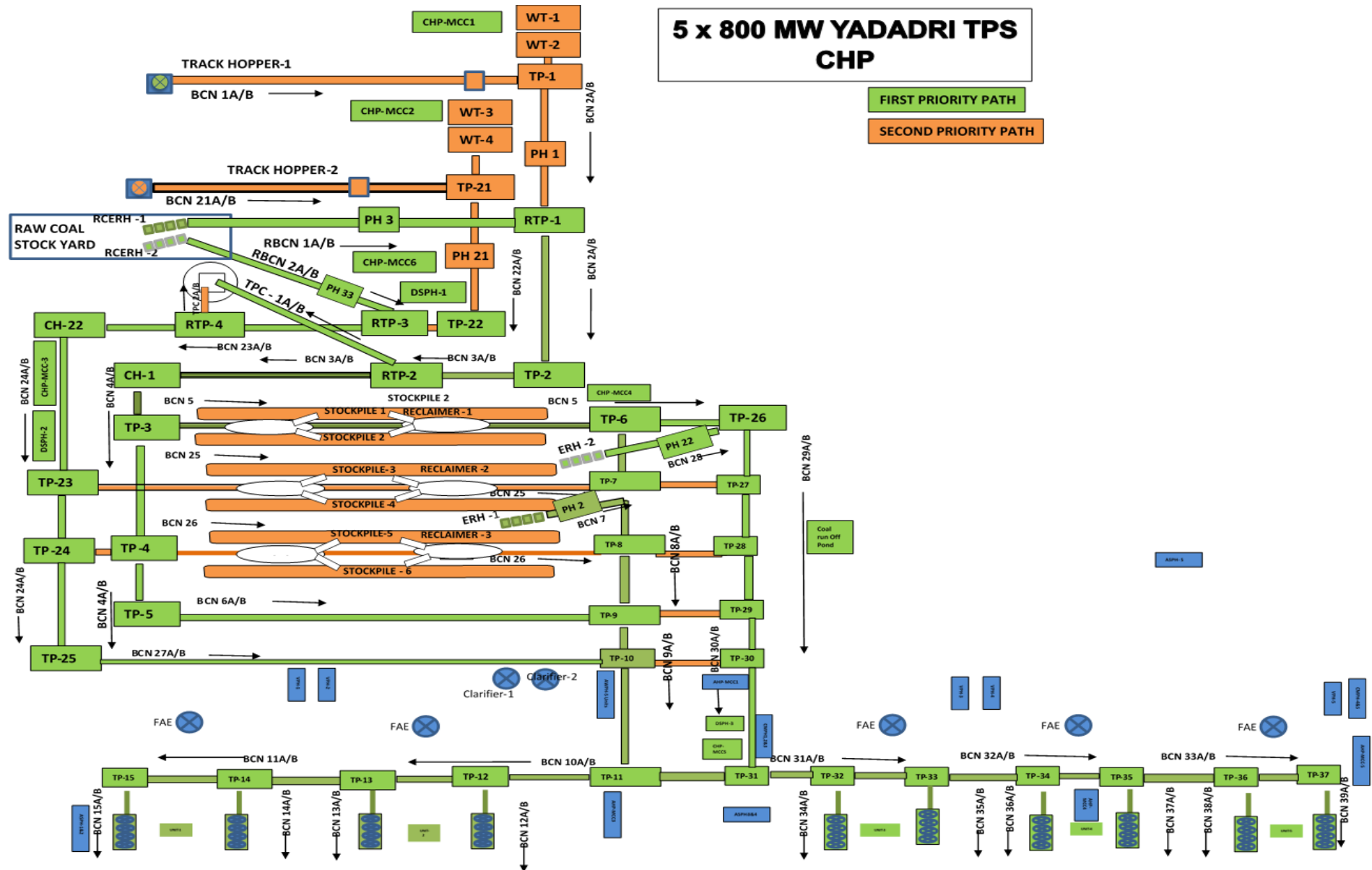
### 1.6.6 SUBMISSION OF L3 SCHEDULE

The contractor shall submit and a detailed area/structure wise L3 schedule within 15 days from date of issue of LOI, in consultation with BHEL based on the tentative schedule provided as per the clause 1.6.3. The detailed L3 schedule shall be approved by BHEL and same shall be implemented. Contractor shall submit L3 schedule in MS Projects (or any suitable format as agreed between contractor and BHEL Engineer in charge) to meet the agreed project schedule covering various mile stone activities and their split up details such as construction, procurement of materials, fabrication & erection activities. This schedule shall also clearly indicate the interface facilities/inputs to be provided by BHEL/Customer and the dates by which such facilities/inputs are required. The schedule shall be acceptable to BHEL for meeting their mile stone targets/schedule.

### 1.6.7 GUARANTEE PERIOD

Guarantee period of 12 months shall commence from the date of completion of the whole work certified by the BHEL Engineer.

# TECHNICAL CONDITIONS OF CONTRACT (TCC)



Tender Specification No.: BHEL: PSSR: SCT: 1885

## VOLUME-IA PART-I CHAPTER-VII

### TERMS OF PAYMENT

#### 1.7.0 TERMS OF PAYMENT

##### 1.7.1 Secured Advance

Not Applicable

##### 1.7.2 Advance for Mobilization

1.7.2.1 Interest bearing advance for Mobilization, limited to 5% of the contract value will be paid against submission of bank guarantee of at least 110% of the advance valid for the contract period, which will be recovered from the first running bill onwards. The advance for mobilization shall be paid as under:

1.7.2.2 2% of contract value after receipt of initial Security Deposit (SD), Additional Security Deposit as applicable if any, Consortium SD (if applicable) as per relevant clauses in the GCC/ TCC along with unqualified acceptance of Detailed Letter of Intent.

1.7.2.3 1.5% of contract value on completion of site Mobilization of Machinery & T&P as given below and on certification by Site in-Charge for compliance, provided the clause 17.2.2 is also complied with.

- i) Back hoe loader like JCB – 2 No.
- ii) Excavator equivalent to capacity of Poclain CK90 or higher to suit the requirement of work at site – 2 No
- iii) Automatic concrete batching plant with printing facility (minimum capacity of 30 CUM/Hr each) with DG backup with minimum 2 Nos. of silo per batching plant (100MT each)-1 no.
- iv) Transit mixer (5/6 M<sup>3</sup> capacity)– 2 Nos.
- v) Concrete pump (60 CUM/ hr min capacity & lift 90M) – 1 No

Note: Concrete pump can be replaced by concrete boom placer with due approval of Engineer In- Charge

1.7.2.4 1.5% of contract value on completion of site Mobilization of Machinery & T&P as given below in addition to the above, and on certification by site in-charge for compliance.

- i) Back hoe loader like JCB – 2 No.
- ii) Excavator equivalent to capacity of Poclain CK90 or higher to suit the requirement of work at site – 2 No
- iii) Automatic concrete batching plant with printing facility (minimum capacity of 30 CUM/Hr each) with DG backup with minimum 2 Nos. of silo per batching plant (100MT each)-1 no

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- iv) Self-priming dewatering pump 5 HP (diesel/electric)- 10 nos.
- v) Dumper (Min 15 CUM each)– 5 nos.
- vi) Transit mixer (5/6 M3 capacity) – 4 Nos.
- vii) Truck mounted concrete mixer cum pump along with placing boom minimum 36 m high i.e. Concrete boom placer (36m) – 1 No.
- viii) Civil Laboratory – 1 No.

1.7.2.5 Payment of the advance as specified herein and recovery of the advance will be as per clause 2.13 of GCC and Sl. No. 9, Chapter-1, Part-II of Technical Conditions of Contract (Volume IA of Volume I Book I). Option of availing the interest bearing mobilization advance is left with the bidder.

### **1.7.3 Interim Payment**

1.7.3.1 Interim bills in the form of monthly running bills prepared by the contractor in soft as well as hard copies shall be based on the quantities executed and measured.

1.7.3.2 95% item rate shall be released after completion of works and certification by Engineer in charge

1.7.3.3 5% of item rate shall be released after submission of the quality check formats as per the quality plan for the quantum of work billed and duly certified by engineer.

1.7.4 Royalty/ seigniorage charges (if any) for excavation inside plant premises as applicable as per Govt of Telangana shall be reimbursable to the bidder by BHEL for the quantum of earth work done on submission of necessary proof of payments as required by M/s TSGENCO for reimbursement.

1.7.5 BHEL Site Engineer, at discretion, may operate the part rate of the items in line with GCC clause no. 2.23.1 (v). Payment for supply portion (subjected to approval of Engineer In-Charge) shall be made only after receipt of material at site.

### **1.7.6 Method of Measurement**

Mode of measurement shall be as per relevant IS 1200 in conjunction of IS code 3385. In case the same is also not available, the standard procedure adopted in CPWD shall be adopted. In case, the same is also not available in CPWD, the measurement of the work done will be based on the mutual agreement between BHEL and contractor. In all the above cases, the interpretation of BHEL will be final and binding to the contractor. Measurement guidelines as a ready reference is also available in the technical specification.

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**NO CLAIM WHAT SO EVER MAY BE, WILL BE ENTERTAINED UNDER THIS CONTRACT, AFTER DULY SIGNING THE FINAL BILL ALONG WITH MEASUREMENT BOOKS AND ACCEPTED BY BHEL.**

**Note:**

For PVC, ORC, RA Bill payment, compensation for Quantity variation, Retention amount and Performance Security Deposit, Please Refer Part-II, Chapter-1: Corrections / Revisions in Special Conditions of Contract, General Conditions of Contract and Forms & Procedures of Technical Conditions of Contract (Volume-I Book-I).

**VOLUME-IA PART – I CHAPTER-VIII**  
**TAXES AND OTHER DUTIES**

**1.8.1 Goods and service Tax (GST) & Cess**

- 1.8.1.1 The successful bidder shall furnish proof of GST registration with GSTN Portal in the State in which the Project is being executed, covering the services under this contract. Registration should also bear endorsement for the premises from where the billing shall be done by the successful bidder on BHEL for this project/ work.
- 1.8.1.2 Contractor's price/rates shall be exclusive of GST & Cess (if applicable) (herein after termed as GST). Contractor shall submit to BHEL the GST compliant tax invoice/debit note/revised tax invoice on the basis of which BHEL will claim the input tax credit in its return. Since this is a works contract, the applicable rate shall be @ 18% GST, as applicable presently.
- 1.8.1.3 Bidder shall note that the GST Tax Invoice complying with GST Invoice Rules wherein the 'Bill To' details will be as below:  
BHEL GSTN : 363AAACB4146P1ZG  
NAME : BHARAT HEAVY ELECTRICALS LIMITED  
ADDRESS : BHEL- PSSR SITE OFFICE,  
Yadadri Thermal Power Station, 5X800 MW (Coal based),  
Veerlapalem village, Dameracherla Mandal,  
Nalgonda District, Telangana State
- 1.8.1.4 GST charged in the tax invoice/debit note/revised tax invoice 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.
- 1.8.1.5 In case BHEL has to incur any liability (like interest / penalty etc.) due to denial/reversal / delay of input tax credit in respect of the invoice submitted by the contractor, for the reasons attributable to the contractor, the same shall be recovered from the contractor.
- 1.8.1.6 Further, in case BHEL is deprived of the Input tax credit due to any reason attributable to contractor, the same shall not be paid or Recovered if already paid to the contractor.

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- 1.8.1.7 Tax invoice/debit Note/revised tax invoice shall contain all such particulars as prescribed in GST law and comply to the timelines for issue of the same. Invoices shall be submitted on time to the concerned BHEL Engineer In Charge.
- 1.8.1.8 TDS under GST (if/ as & when applicable) shall be deducted at prevailing rates on gross invoice value from the running bills.
- 1.8.1.9 E-way bills / Transit passes / Road Permits, if required for materials / T&P etc., bought into the project site is to be arranged by the Contractor only.
- 1.8.1.10 BHEL shall not reimburse any amounts towards any interest / penalty etc., incurred by contractor. Any additional claim at a later date due to issues such as wrong rates / wrong classification by contractor shall not be paid by BHEL.
- 1.8.2 All taxes and duty other than GST & Cess  
The contractor shall pay all (except the specific exclusion viz GST & Cess) taxes, fees, license charges, deposits, duties, tools, royalty, commissions, Stamp Duties, or other charges / levies, which may be levied on the input goods & services consumed and output goods & services delivered in course of his operations in executing the contract and the same shall not be reimbursed by BHEL. In case BHEL is forced to pay any of such taxes, BHEL shall have the right to recover the same from his bills or otherwise as deemed fit.
- 1.8.3 Statutory Variations  
Statutory variations are applicable under the GST Acts, against production of proof. The changes implemented by the Central / State Government during the tenure of the contract viz. increase / decrease in the rate of taxes, applicability, etc. and its impact on upward revision / downward revision are to be suitably paid/ adjusted from the date of respective variation. The bidder shall give the benefit of downward revision in favour of BHEL. No other variations shall be allowed during the tenure of the contract.
- 1.8.4 New Taxes/Levies –  
In case Government imposes any new levy / tax after submission of bid during the tenure of the contract, BHEL shall reimburse the same at actual on submission of documentary proof of payment subject to the satisfaction of BHEL that such new levy / tax is applicable to this contract.
- 1.8.5 Direct Tax  
BHEL shall not be liable towards Income Tax of whatever nature including variations thereof arising out of this contract as well as tax liability of the bidder and their personnel. Deduction of tax at source at the prevailing rates shall be

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effected by BHEL before release of payment as a statutory obligation, unless exemption certificate is produced by the bidder. TDS certificate will be issued by BHEL as per the provisions of Income Tax Act.

**VOLUME-IA PART-I CHAPTER-IX**  
**BILL OF QUANTITY**

**1.9.1 Bill of Quantities**

As mentioned in the Volume II, Price Bid.

## **VOLUME-IA PART-I CHAPTER-X GENERAL**

**The scope of the work will comprise of but not limited to the following:**

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

- 1.10.1 Contractors are requested to furnish the following documents at PSSR-HQ, Chennai immediately after release of Letter of Intent (LOI).
- i) Security Deposit and additional Security Deposit.
  - ii) Unqualified Acceptance for Detailed LOI / Work Order.
  - iii) Rs.100/- Stamp Paper for preparation of Contract Agreement.
  - iv) Option (whether a or b of said clause) exercised towards Performance Security Deposit for the subject contract as per Sl. No. 16 of Volume IA Part II Chapter 1 of TCC.
- 1.10.2 Contractors are requested to furnish the proof of documents for the following at PSSR- Site
- i) Provident Fund Registration Number.
  - ii) Labour License Number.
  - iii) Workmen Insurance Policy Number.
- 1.10.3 **In addition to the clause 2.8 of General Conditions of Contract (Volume-1C of Book-II) the contractor shall comply with the following.**
- 1.10.3.1 **BOCW Act & BOCW Welfare Cess Act**
- 1.10.3.1.1 The Contractor should Register their Establishment under BOCW Act 1996 read with rules 1998 by submitting Form I (Application for Registration of Establishment) and Form IV (Notice Of Commencement / Completion of Building Other Construction Work) to the respective Labour Authorities i.e.,
- a) Assistant Labour Commissioner (Central) in respect of the project premises which is under the purview of Central Govt.–NTPC, NTPL etc.
  - b) Appropriate State authorities in respect of the project premises which is under the purview of State Govt.
- 1.10.3.1.2 The Contractor should comply with the provisions of BOCW Welfare Cess Act 1996 in respect of the work awarded to them by BHEL.
- 1.10.3.1.3 The contractor should ensure compliance regarding Registration of Building Workers as Beneficiaries, Hours of work, welfare measures and other conditions of service with particular reference to Safety and Health measures like Safety Officers, safety committee, issue of Personal protective

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equipments, canteen, rest room, drinking water, Toilets, ambulance, first aid centre etc.

1.10.3.1.4 The contractor irrespective of their nature of work and manpower (Civil, Mechanical, Electrical works etc) should register their establishment under BOCW Act 1996 and comply with BOCW Welfare Cess Act 1996.

1.10.3.1.5 Contractor shall make remittance of the BOCW cess as per the Act in consultation with BHEL as per the rates in force (presently 1%). BHEL shall reimburse the same upon production of documentary evidence. However, BHEL shall not reimburse the fee paid towards the registration of establishment, fees paid towards registration of Beneficiaries and contribution of Beneficiaries remitted.

1.10.3.1.6 Non-compliance to Provisions of the BOCW Act & BOCW Welfare Cess Act is not acceptable. In case of any non-compliance, BHEL reserves the right to withhold any sum as it deems fit. Only upon total compliance to the BOCW Act and also discharge of total payment of Cess under the BOCW Cess Act by the Contractor, BHEL shall consider refund of the Amounts

### 1.10.3.2 PROVIDENT FUND

1.10.3.2.1 The contractor is required to extent the benefit of Provident Fund to the labour employed by you in connection with this contract as per the Employees Provident Fund and Miscellaneous Provisions Act 1952. For due implementation of the same, you are hereby required to get yourself registered with the Provident Fund authorities for the purpose of reconciliation of PF dues and furnish to us the code number allotted to you by the Provident Fund authorities within one month from the date of issue of this letter of intent. In case you are exempted from such remittance an attested copy of authority for such exemption is to be furnished. Please note that in the event of your failure to comply with the provisions of said Act, if recoveries therefore are enforced from payments due to us by the customer or paid to statutory authorities by us, such amount will be recovered from payments due to you.

1.10.3.2.2 The final bill amount would be released only on production of clearance certificate from PF / ESI and labour authorities as applicable.

### 1.10.3.3 OTHER STATUTORY REQUIREMENTS

1.10.3.3.1 The Contractor shall submit a copy of Labour License obtained from the Licensing Officer (Form VI) u/r25 read with u/s 12 of Contract Labour (R&A) Act 1970 & rules and Valid WC Insurance copy or ESI Code (if applicable) and PF code no. along with the first running bill.

1.10.3.3.2 The contractor shall submit monthly running bills along with the copies of monthly wages (of the preceding month) u/r78(1)(a)(1) of Contract Labour Rules, copies of monthly return of PF contribution with remittance Challans

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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under Employees Provident Fund Act 1952 and copy of renewed WC Insurance policy or copies of monthly return of ESI contribution with Challans under ESI Act 1948 (if applicable) in respect of the workmen engaged by them.

- 1.10.3.3.3 The Contractor should ensure compliance of Sec 21 of Contract Labour (R&A) Act 1970 regarding responsibility for payment of Wages. In case of “Non-compliance of Sec 21 or non-payment of wages” to the workmen before the expiry of wage period by the contractor, BHEL will reserve its right to pay the workmen under the orders of Appropriate authority at the risk and cost of the Contractor.
- 1.10.3.3.4 The Contractor shall submit copies of Final Settlement statement of disbursement of retrenchment benefits on retrenchment of each workman under ID Act 1948, copies of Form 6-A (Annual Return of PF Contribution) along with copies of PF Contribution Card of each member under PF Act and copies of monthly return on ESI Contribution – Form 6 under ESI Act 1948 (if applicable) to BHEL along with the Final Bill.
- 1.10.3.3.5 In case of any dispute pending before the appropriate authority under ID Act 1948, WC Act 1923 or ESI Act 1948 and PF Act 1952, BHEL reserves the right to hold such amounts from the final bills of the Contractor which will be released on submission of proof of settlement of issues from the appropriate authority under the act.
- 1.10.3.3.6 In case of any dispute prolonged / pending before the authority for the reasons not attributable to the contractor, BHEL reserves the right to release the final bill of the contractor on submission of Indemnity bond by the contractor indemnifying BHEL against any claims that may arise at a later date without prejudice to the rights of BHEL.

### 1.10.3.4 **DEPLOYMENT OF SKILLED / SEMI-SKILLED TRADESMEN**

The following clause is applicable in case the contract value / contract price is Rs. Five crores and above.

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

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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.

### 1.10.3.5 **RECOVERY OF COMPENSATION PAID TO VICTIMS BY BHEL IN CASES OF DEATH/ PERMANENT INCAPACITATION OF PERSON DUE TO AN ACCIDENT DURING THE WORKS**

BHEL shall recover the amount of compensation paid to victim(s) by BHEL towards loss of life / permanent disability due to an accident which is attributable to the negligence of contractor, agency or firm or any of its employees as detailed below.

- a) **Victim:** Any person who suffers permanent disablement or dies in an accident as defined below.
- b) **Accident:** Any death or permanent disability resulting solely and directly from any unintended and unforeseen injurious occurrence caused during the manufacturing / operation and works incidental thereto at BHEL factories/ offices and precincts thereof, project execution, erection and commissioning, services, repairs and maintenance, trouble shooting, serving, overhaul, renovation and retrofitting, trial operation, performance guarantee testing undertaken by the company or during any works /during working at BHEL Units/ Offices/ townships and premises/ Project Sites.
- c) **Compensation in respect of each of the victims:**  
In the event of death or permanent disability resulting from Loss of both limbs: Rs. 10,00,000/- (Rs. Ten Lakh)  
In the event of other permanent disability: Rs. 7,00,000/- (Rs. Seven Lakh)
- d) **Permanent Disablement:** A disablement that is classified as a permanent total disablement under the proviso to Section 2 (I) of the Employee's Compensation Act, 1923."

### 1.10.4 **GENERAL**

#### 1.10.4.1 Site Visit by the Bidder

The bidder shall, prior to submitting his tender for the work, visit, examine and acquire full knowledge & information and necessary conditions prevailing at the site and its surroundings of the plant premises together with all statutory, obligatory, mandatory requirements of various authorities about the site of works at his own expense, and obtain and ascertain for himself on his own

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responsibility that may be for preparing his tender and entering into a contract, and take the same into account in the quoted contract price for the work.

1.10.4.2 The bidder shall satisfy themselves about the following factors:

- i). Site conditions including access to the site, existing and required roads and other means of transport/communication for use by him in connection with the work including diverting and re-routing of services.
- ii). Requirement and availability of land and other facilities of his enabling works, establishment of his nursery, office, stores etc.
- iii). Ground conditions including those bearing upon transportation, disposal, handling and storage of materials required for the work or obtained there-from.
- iv). Source and extent of availability of suitable materials, including water etc., and labour (skilled and unskilled) required for work, and laws and regulations governing their use and employment.
- v). Geological, meteorological, topographical and other general features of the site and its surroundings as are pertaining to and needed for the performance of the work.
- vi). The limit and extent of surface and subsurface water to be encountered during the performance of the work, and the requirement of drainage and pumping.
- vii). The type of equipment and facilities needed, for and in the performance of the work;
- viii). The extent of lead and lift required for the work in complete form over the entire duration of the contract, and
- ix). All other information pertaining to and needed for the work including information as to the risks, contingencies and other circumstances which may influence or affect the work or the cost thereof under this contract.

1.10.4.3 The bidder should note that information, if any, in regard to the local conditions, as contained in these tender documents, has been given to tenderer merely for guidance and is not warranted to be complete.

1.10.4.4 A bidder shall be deemed to have full knowledge of the site, whether he inspects it or not, and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

1.10.4.5 The bidder and any of his personnel or agents will be granted permission by the Site-In-Charge or his authorized nominee, on receipt of formal application in respect thereof a week in advance of the proposed date of inspection of site, to enter upon his premises and lands for purpose of such inspection, but only on the express condition that the tenderer (and his personnel and agents) will relieve and indemnify the Employer (and his personnel and agents) from and against all liability in respect thereof and will be responsible for personal injury

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(whether fatal or otherwise), loss of or damage to property and any other loss, damage, costs and expenses however caused which, but for the exercise of such permission, would not have arisen.

- 1.10.4.6 The work covered under this specification is of highly sophisticated nature, requiring the best quality workmanship, engineering and construction management. The contractor must have adequate quantity of tools, construction aids, equipments etc., in his possession. He must also have on his rolls adequate trained, qualified and experienced supervisory staff and skilled personnel.
- 1.10.4.7 It is not the intent to specify herein all details of all material. Any item related this work not covered by this but necessary to complete the system will be deemed to have been included in the scope of the work.
- 1.10.4.8 All the necessary certificates and licenses required to carry out this scope of work are to be arranged by the contractor then and there at no extra cost.
- 1.10.4.9 Site testing wherever required shall be carried out for all items / materials installed by the contractor to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations.
- 1.10.4.10 The contractor shall carry out additional tests, if any, which the Engineer feels necessary because of site conditions and also to meet system specification.
- 1.10.4.11 The work shall be executed under the usual conditions without affecting power plant construction / operation and in conjunction with other operations and contracting agencies at site. The contractor and his personnel shall co-operate with the personnel of other agencies, co-ordinate his work with others and proceed in a manner that shall not delay or hinder the progress of work as a whole.
- 1.10.4.12 All the work shall be carried out as per instructions of BHEL engineer. BHEL engineer's decision regarding the correctness of the work and method of working shall be final and binding on the contractor.
- 1.10.4.13 Wherever Construction sequences are furnished by BHEL, the contractor shall follow the same sequence. Contractor shall execute the supply and works as per sequence prescribed by BHEL at site engineer. No claims for extra payment from the contractor will be entertained on the grounds of deviation from the methods of execution of similar job in any other site or for any reasons whatsoever.
- 1.10.4.14 If required by BHEL, the contractor shall change the sequence of his operation so that work on priority sectors can be completed within the projects schedule. The contractor shall afford maximum assistance to BHEL in this connection without causing delay to agreed completion date.

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- 1.10.4.15 Contractor shall, transport all materials to site and unload at site / working area for inspection and checking. All material handling equipment required shall be arranged by the contractor.
- 1.10.4.16 Contractor shall retain all T&P / Testing instrument / Material handling equipment's etc. at site as per advice of BHEL engineer and same shall be taken out from site only after getting the clearances from engineer in charge.
- 1.10.4.17 The contractor at his cost shall arrange necessary security measures for adequate protection of his machinery, equipment, tools, materials etc. BHEL shall not be responsible for any loss or damage to the contractor's construction equipment and materials. The contractor may consult the Engineer-in-Charge on the arrangements made for general site security for protection of his machinery equipment tools etc.
- 1.10.4.18 The Contractor may have to execute work in such a place and condition where other agencies also will be under such circumstances. However, completion time for construction, agreed will be subject to the condition that contractor's work is not hampered by the agencies.
- 1.10.4.19 Contractor has to work in close co-ordination with other agency at site. BHEL engineer will co-ordinate area clearance. In a project of such magnitude, it is possible that the area clearance may be less / more at a particular given time. Activities and Construction program have to be planned in such a way that the milestones are achieved as per schedule/ plans. Contractor shall arrange & augment the resources accordingly.
- 1.10.4.20 The contractor must obtain the signature and permission of the security personnel of the customer / BHEL for bringing any of their materials inside the site premises. Without the Entry Gate Pass these materials will not be allowed to be taken outside. Surplus materials including steel item brought at site by the contractors with proper documentation and Gate pass, shall be allowed to taken out of the project premises after completion of relevant works, on certification by BHEL in charge.
- 1.10.4.21 Contractor shall remove all scrap materials periodically generated from his working area and collect the same at one place earmarked for the same. Load of scraps is to be shifted to a place earmarked by BHEL. Failure to collect the scrap is likely to lead to accidents and as such BHEL reserves the right to collect and remove the scrap at contractor's risk and cost if there is any failure on the part of contractor in this respect.
- 1.10.4.22 The contractor shall ensure that his premises are always kept clean and tidy to the extent possible. Any untidiness noted on the part of the contractor shall be brought to the attention of the contractor's site representative who shall take immediate action to clean the surroundings to the satisfaction of the Engineer-in-Charge.

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- 1.10.4.23 The contractor is strictly prohibited from using BHEL's regular components like angles, channels, beams, plates, pipe / tubes, and handrails etc. for any temporary supporting or scaffolding works. Contractor shall arrange himself all such materials. In case of such misuse of BHEL materials, a sum as determined by BHEL engineer will be recovered from the contractor's bill. The decision of BHEL engineer is final and binding on the contractor.
- 1.10.4.24 No member of the already erected structure / buildings, other component and auxiliaries should be removed / modified without specific approval of BHEL engineer.
- 1.10.4.25 Contractors shall ensure that all their Staff / Employees are exposed to periodical training programme conducted by qualified agencies/ personnel on latest ISO 9001 Standards.
- 1.10.4.26 Sometimes, it may be required to re-schedule the activities to enable other agencies to commence/ continue the work so as to keep the overall project schedule.
- 1.10.4.27 The terminal points decided by BHEL are final and binding on the contractor for deciding the scope of work and effecting the payment for the work done up to the terminals.
- 1.10.4.28 Crane operators deployed by the contractor shall be tested by BHEL before he is allowed to operate the cranes.
- 1.10.4.29 On Completion of work, all the temporary buildings, structures, pipe lines, cable etc. shall be dismantled and leveled and debris shall be removed as per instruction of BHEL by the contractor at his cost. In the event of his failure to do so, the expenditure towards clearance of the same will be recovered from the contractor. The decision of BHEL Engineer in this regard is final.
- 1.10.4.30 It is the responsibility of the contractor to do the checking, testing etc. if necessary, repeatedly to satisfy BHEL Engineer with all the necessary tools and tackles, manpower etc. without any extra cost. The testing will be completed only when jointly certified so, by the BHEL Engineer.
- 1.10.4.31 If any item not covered but requires being executed, same shall be carried out by the contractor. Equivalent or proportional unit rate shall be considered wherever possible from the BOQ. The rates quoted by the contractor shall be uniform as far as possible for similar items appearing in rate schedule.
- 1.10.4.32 The contractor's work shall not hinder other work, either underground or over ground, such as electrical, phone lines, water or sewage lines, etc. In areas of overlap, the contractor shall work in coordination with other related contractors. Any damage by the landscape contractor's team to such utilities will be penalized and contractor shall be responsible for cost for such damages.

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- 1.10.4.33 The contractor will be responsible for the safe custody and proper accounting of all materials in connection with the work. If the contractor has drawn materials in excess of design requirements, recoveries will be effected for such excess draws at the rate prescribed by manufacturing units.
- 1.10.4.34 Contractor has to clear the front, expeditiously and promptly as instructed by BHEL Engineer for other agencies, like Boiler, piping, Turbine, Generator erection, Cabling, instrumentation, insulation etc., to commence their work from / on the equipments coming under this scope.
- 1.10.4.35 For the purpose of planning, contractor shall furnish the estimated requirement of power (month wise) for execution of work in terms of maximum KW demand.
- 1.10.4.36 DOCUMENTATION
- 1.10.4.36.1 RECORDS TO BE MAINTAINED AT SITE:
- 1.10.4.36.1.1 Record of Quantity of FREE / Chargeable items issued by BHEL must be maintained during contract execution. Also reconciliation statement to be prepared at regular intervals.
- 1.10.4.36.1.2 The under mentioned Records/ Log-books/ Registers applicable to be maintained.
- a) Hindrance Register.
  - b) Site Order Book.
  - c) Test Check of measurements.
  - d) Supply and Consumption Daily Register for Cement and Steel
  - e) Records of Test reports of Field tests.
  - f) Records of manufacture's test certificates.
  - g) Records of disposal of scraps generated during and after the work completion.
  - h) List of T&Ps & MMEs.
- 1.10.4.36.2 Other documents / records as specified in chapter XI -Progress of work in PART- I of Technical conditions of Contract Volume IA (Volume I Book I).
- 1.10.4.36.3 L3 schedule as specified in chapter VI – TIME SCHEDULE in PART- I of Technical conditions of Contract Volume IA (Volume I Book I).
- 1.10.4.37 SITE INSPECTION
- 1.10.4.37.1 The Owner or his authorized agents may inspect various stages of work during the currency of the contract awarded to him. The contractor shall make necessary arrangements for such inspection and carry out the rectification pointed out by the Owner or his authorized agents without any extra cost to the Owner or his authorized agents. No cost whatsoever such duplication of inspection of work be entertained.
- 1.10.4.37.2 BHEL / Owner will have full power and authority to inspect the works at any time, either on the site or at the contractor's premises. The contractor shall arrange every facility and assistance to carry out such inspection. On no

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account will the contractor be allowed to proceed with work of any type unless such work has been inspected and entries are made in the site inspection register by Owner / BHEL.

1.10.4.37.3 The contractor shall maintain at site a joint protocol for recording actual measurement of work carried out at site, inspection and witnessing of various tests conducted by the contractor.

1.10.4.37.4 Field Quality Assurance (FQA) Formats:-

It is the responsibility of the contractor to collect and fill up the relevant FQA log sheets of BHEL and present the same to BHEL after carrying out the necessary checks as per the log sheets and obtaining the signature of BHEL and Owner as token of their acceptance. Payment to the contractor will be linked with the submission of these FQA log sheets.

1.10.4.37.5 Site testing wherever required shall be carried out for all items / materials installed by the contractor to ensure proper installation and functioning in accordance with drawings, specifications and manufacturer's recommendations.

1.10.4.37.6 Contractor shall, transport all materials to site and unload at site / working area for inspection and checking. All material handling equipment required shall be arranged by the contractor.

**VOLUME-IA PART – I CHAPTER – XI**  
**PROGRESS OF WORK**

**The scope of the work will comprise of following but not limited to the following:**

- 1.11.1 Refer forms F -14 and F-15 furnished in Volume 1A, Part II, Chapters 8 & 9 as well as to forms F-16, F-17, F-18 of volume I D (Forms & Procedure) of volume -I Book-II. Plan and review will be done as per the formats.
- 1.11.2 Contractor is required to draw mutually agreed monthly work programs in consultation with BHEL well in advance monthly as per the Form-14. Contractor shall ensure achievement of agreed program and shall also timely arrange additional resources considered necessary at no extra cost to BHEL.
- 1.11.3 Progress review meetings will be held at site during which actual progress during the week vis-a-vis scheduled program shall be discussed for actions to be taken for achieving targets. Contractor shall also present the program for subsequent week. The contractor shall constantly update / revise his work program to meet the overall requirement. All quality problems shall also be discussed during above review meetings. Necessary preventive and corrective action shall be discussed and decided upon in such review meetings and shall be implemented by the contractor in time bound manner so as to eliminate the cause of nonconformities.
- 1.11.4 The contractor shall submit daily, weekly and monthly progress reports, manpower reports, materials reports, consumables (gases / electrodes) report, T & Ps availability report and other reports as per Performa considered necessary by BHEL Engineer as per the BHEL formats. The periodicity of the reports will be decided by BHEL Engineer at site.
- 1.11.5 The contractor shall submit weekly / fortnightly / monthly statement report regarding consumption of all consumables for cost analysis purposes.
- 1.11.6 The monthly report ending on 24<sup>th</sup> of every month shall be submitted as a booklet and shall contain the following details:-
  - a. Colour progress photographs to accompany the report should be submitted.
  - b. Construction progress in terms of quantity, Cubic metre, testing etc., completed as relevant to the respective work areas against planned.
  - c. Site Organization chart of engineers & supervisors as on 24<sup>th</sup> of the month with further mobilization plan.
  - d. Category- wise man hours engaged during the previous month under the categories of bar benders, carpenters, mason, fitters, welders, riggers, khalasis, grinder-men, gas-cutters, electricians, crane operators and helpers. Data shall be split up under the work area.

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- e. Consumables report giving consumption of all types of gases and electrodes during the previous month.
  - f. Availability report of cranes / T & Ps / Equipments
  - g. Safety implementation report in the format.
  - h. Pending material and any other inputs required from BHEL for activities planned during the subsequent month.
- 1.11.7 The manpower reports shall clearly indicate the manpower deployed, category wise specifying also the activities in which they are engaged.
- 1.11.8 During the course of construction, if the progress is found unsatisfactory, or if the target dates fixed from time to time for every milestone are to be advanced, or in the opinion of BHEL, if it is found that the skilled workmen like fitters, operators, technicians etc employed are not sufficient BHEL will induct required additional workmen to improve the progress and recover all charges incurred on this account including all expenses together with BHEL overheads from contractor's bills.
- 1.11.9 It is the responsibility of the contractor to provide all relevant information on a regular basis regarding progress of work, labour availability, equipment deployment, testing, etc.
- 1.11.10 The progress reports shall indicate the progress achieved against plan, indicating reasons for delays, if any. The report shall also give remedial actions which the contractor intends to make good the slippage or lost time so that further works can proceed as per the original plan the slippages do not accumulate and affect the overall programme.
- 1.11.11 The contractor to reflect actual progress achieved during the month and will be submitted to BHEL, so that slippages can be observed and necessary action taken in order to ensure that the situation does not get out of control will update the construction schedule forming part of this contract each month.

## VOLUME-IA PART-I CHAPTER-XII

### MATERIAL HANDLING

**The scope of the work will comprise of but not limited to the following:**

(All the works mentioned hereunder shall be carried out within the accepted rate unless otherwise specified.)

- 1.12.1 Open land shall as available shall be provided by BHEL on free of cost basis as provided by TSGENCO. Contractor shall maintain one centralized fenced store cum bar bending yard. Hard surfacing of this yard and all round drain shall be carried out by the contractor at his own cost within the quoted rate. Batching plant area shall be provided near plant premises and contractor shall make use of the area for installation and operation of the Batching Plant at his own cost. The bidder shall make complete arrangement of necessary security personnel, to safeguard all such materials in his custody at his own cost. Materials issued will be used only for construction of permanent work. The contractor shall take care of material issued by BHEL and shall protect the same from theft, damage and weathering at his own cost.
- 1.12.2 The system for receipt, storage & issue of materials shall be available with vendors for easy traceability.
- 1.12.3 Periodic audit of system of purchasing, storing and issue, etc. will have to be carried out by the vendors. BHEL will also audit the same.
- 1.12.4 The contractor shall construct waterproof cement store (capacity 400 MT or as directed by engineer in-charge based on requirement at site) for initial period for storing and stacking of cement, CGI/ asbestos roofing (slope) with brick masonry wall, PCC flooring. Materials required for the same shall be provided by contractor at his own cost. Cement has to be kept over wooden raised platform. Stacking of cement is to be done as per IS codes with proper illumination and locking arrangements.
- 1.12.5 The contractor shall in no case be entitled for any compensation or damages on account of any delay in supply or non-supply thereof for all or any such material.
- 1.12.6 Clotting of cement and excessive rusting of steel must be avoided. In case, due to any cause attributable to the contractor, rusting of steel for BHEL issued steel occur rendering the same unusable, then such quantity of steel shall be recovered from the interim payment at the penal rate specified in the tender.
- 1.12.7 The contractor shall maintain proper store account for all the BHEL issued materials and material brought in by the bidder and shall give three copies of computerized reconciliation statement of such account to BHEL with each running bill.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- 1.12.8 All reinforcement steel shall be stacked over sleeper's diameter wise.
- 1.12.9 All TMT shall be stacked over sleeper's diameterwise.
- 1.12.10 Materials shall not under any circumstances taken out of the project site unless otherwise permitted by BHEL.

## VOLUME-IA PART –I CHAPTER –XIII

### ACCOUNTING OF MATERIALS ISSUE

#### 1.13 ACCOUNTING OF MATERIALS ISSUE

The materials issued to the contractor by BHEL will be accounted as follows:

##### 1.13.1 CEMENT

##### 1.13.1.1 ISSUE OF CEMENT

- 1.13.1.1.1 Cement as received from the manufacturer / stockiest will be issued **free of cost** to the contractor. The cement shall be provided normally in bulkers and shall be unloaded in the silos (2 nos. cement silo of capacity 100 MT per 30 CUM/hr batching plant) to be installed by the bidder nearer to their batching plants. This is only minimum requirement of silos and the number of cement silos shall be increased based on the site requirement. Unloading arrangements shall be provided by the bidder at his own cost including provision of necessary manpower support.
- 1.13.1.1.2 On advance request of the bidder, the cement shall be supplied in 50kg tamper proof sealed Bags for other than RCC works like masonry, flooring works etc. The theoretical weight of each bag of cement for issued purposes will be considered as 50 kg, the contractor shall be accountable for the cement issued to him on this notional weight only. No claim whatsoever will be entertained because of difference between theoretical and actual weight of the bags of cement. The empty cement bags duly accounted for against issue shall be the property of the contractor and the same shall be disposed by the contractor as per statutory regulation prevailing in the project. Proper storage area/ shed shall be constructed by successful bidder at his own cost.
- 1.13.1.1.3 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.
- 1.13.1.1.4 Bidder is responsible for unloading the cement as soon as the arrival of cement, either in silo, if received in bulker or in the weather proof cement storage sheds, if received bags. Bagged cement shall be stored in weatherproof 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 (BHEL/TSGENCO) 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

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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the sheds after the completion of the work is in the scope of bidder within the quoted price.

1.13.1.1.5 Bidder is responsible for sampling and testing of cement as per Indian Standard / Specification / approved quality plan in the testing laboratory established by the bidder.

1.13.1.1.6 Bidder is responsible for carrying out design mix as per IS 456/10262 Latest revision and specification, using the cement provided by BHEL and submit the design mix proportions for the approval of BHEL / TSGENCO. The design / trial mix shall be carried out time to time on change of brand / type of cement supplied by BHEL and suitable adjustments on the quantity of ingredients (sand, aggregates, admixture) of the concrete to get the required workability and durability, shall be the responsibility of the bidder without any extra cost to BHEL.

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

Sl. No.	ISSUE OF MATERIALS	MAX. QUANTITY IN CONTRACTOR'S STORE
1.	Cement	Requirement of one month

### 1.13.1.2 RETURN OF CEMENT

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

Cement once supplied at silo will not be taken back by BHEL. Contractor shall take care of the requirement of cement in the last phase of the work and order shall be given to BHEL judiciously for the balance works.

### 1.13.1.3 CEMENT CONSUMPTION AND WASTAGE

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

- For design mix concrete as per approved design mix.
- For nominal mix concrete work, as per minimum cement as specified or as approved by Engineer-in-charge.

For item of works, where volume mix is permitted in writing by BHEL, for masonry works, plaster other miscellaneous items, the cement consumption

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

shall be governed by the "Statement of Cement Consumption" attached to the Delhi schedule of Rates of CPWD-DSR- LATEST REVISION unless otherwise specified in the specifications or the drawing of contract or mutually agreed by Engineer-in-charge and contractor.

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

### 1.13.1.4 CEMENT WASTAGE

Allowable wastage: One and half percent (+1.5%) of theoretical consumption of cement unless specified otherwise in the technical specification.

For any material issued by BHEL to the contractor free of cost, and which is not accounted by the contractor to BHEL, then recovery for such material shall be effected at penal rates.

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

### 1.13.2 STEEL MATERIAL

#### 1.13.2.1 ISSUE OF STEEL

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

Sl. No.	Description	Basis
(a)	Structural Steel	Weighment basis (Unit – MT)
(b)	Reinforcement Steel and Earthing rod (MS round)	Weighment basis (Unit – MT)

1.13.2.1.2 All the steel (structural scrap, reinforcement, earthing MS rod) issued by BHEL shall be properly accounted for. The total quantity of steel required for the work will be calculated from the approved Bar Bending schedule, fabrication drawings, approved laps, chairs and lugs. The measurement for payment as well as for accounting shall be based on the sectional weights as indicated in the following IS specifications. No rolling tolerances shall be accepted in any case for issue, return of materials, reconciliation and payment purposes.

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IS: 808 (Latest revision)	Beams, Channels and Angles
IS: 1730 (Latest revision)	Plates, Sheets and Strips / Flats
IS: 1732 (Latest revision)	Rounds including deformed high yield strength bars
IS:1786 (Latest revision)	Reinforcement steel

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

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

SL. No.	ISSUE OF MATERIALS	MAX. QTY IN CONTRACTOR'S STORE.
1	Reinforcement Steel & Earthing rod MS round	Requirement of one month

- 1.13.2.1.7 Bidder to note that steel materials required for foundation bolts, embedded items etc. other than those supplied by BHEL, shall be supplied by the bidder. However, Bidder shall use the scrap materials for their use (if issued by BHEL) in the permanent works as embedment/ inserts etc. after necessary store issue formalities and shall be accounted for monthly reconciliation.

### 1.13.2.2 RETURN OF MATERIALS

- All surplus steel and all wastage materials will be taken back on weighment basis.
- Surplus, unused and untampered steel shall be sorted section-wise and

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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returned separately to a place directed by BHEL / Engineer within the project area. Return of such materials will not be entitled to any handling and incidental charges.

- c) All wastage / scrap (including melting scrap, wastage, and unusable scrap) shall be promptly returned to the stores and a receipt obtained for material accounting purposes. Return of such material will not be entitled to any transportation and incidental charge.

### 1.13.2.2.1 **SCRAP & SERVICEABLE MATERIALS:**

- a) All Structural steel of length above 2 M except M.S. Plate shall be considered as serviceable materials provided the materials is in good and acceptable condition. Structural steel in length less than 2 M shall be treated as scrap.
- b) Plates having both sides greater than 1 Metre OR if any side is less than 1 M but greater than 0.5 M and the total area is equal or greater than 2 Sq. Metre shall be considered as serviceable.
- c) All pipes measuring 2 metre and above in length shall be considered as serviceable materials provided the materials are in good and acceptable condition. Pipe in less than 2 metre length shall be treated as scrap.
- d) All TMT measuring 3 metre and above in length shall be treated as serviceable materials provided they are in good and acceptable condition. TMT in less than 3 metre length shall be treated as scrap.

### 1.13.2.3 **STEEL CONSUMPTION AND WASTAGE**

#### 1.13.2.3.1 **REINFORCEMENT AND EARTHING ROD MS ROUND STEEL CONSUMPTION AND WASTAGE.**

##### a) CONSUMPTION.

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

- Actual consumption = Issue – Surplus.
- Surplus = Un-tampered & unused quantity of steel and serviceable materials as stipulated under clause “Scrap and Serviceable Materials (Refer Clause 1.13.2.2.1 above)” returned by the contractor to BHEL store along with relevant documents.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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•Wastage = Actual consumption – Theoretical consumption.

b) WASTAGE:

ALLOWABLE WASTAGE: (+3%) (Three percent) of the theoretical consumption shall be considered as allowable wastage. Invisible wastage (max limit to 0.5%), if any, shall be considered to be included in the specified 3 % allowable wastage.

SI. No.	CONSUMPTION OF REINFORCEMENT STEEL & EARTHING ROD, MS ROUND	BASIS OF ISSUE & PENAL RECOVERY
R-1	Theoretical consumption (without considering any wastage and scrap or loss) as per spec. and drg.	Free
R-2	Wastage being limited to plus THREE percent (+3%) of aforesaid theoretical consumption (R-1) towards allowable wastage including invisible wastages (invisible wastages limited to 0.5% of theoretical consumptions).	Free
R-3	Wastage beyond THREE percent (+3%) of the theoretical consumption above (R-1).	Penal Rate

1.13.2.3.2 **STRUCTURAL STEEL, (ROLLED SECTION, PLATES ETC.) CONSUMPTION & WASTAGE:**

A) CONSUMPTION: -

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

i) Actual consumption = Issue – Surplus.

ii) Surplus = Un-tampered, unused, uncut quantity of steel and Serviceable materials as stipulated under clause “Scrap and Serviceable Materials (Refer Clause 1.13.2.2.1 above)” returned by the contractor to BHEL store along with relevant documents.

iii) Wastage = Actual consumption – Theoretical consumption.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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### B) WASTAGE

Allowable wastage: - 4% (FOUR percent) of the theoretical consumption shall be considered. Wastage shall be considered as cut pieces and scrap material, measured as per actual weightment basis. Invisible wastage (max limit to 0.5%), if any, shall be considered to be included in the specified 4 % allowable wastage.

SI.No.	CONSUMPTION OF STRUCTURAL STEEL (ROLLED SECTION, PLATES)	BASIS OF ISSUE & PENAL RECOVERY
S-1	Theoretical consumption (without considering any wastage, scrap or loss) as per spec. & drg.	Free
S-2	Wastage limited to plus Four percent (+4%) of the aforesaid theoretical consumption (S-1) towards allowable wastage including invisible wastages (invisible wastages limited to 0.5% of theoretical consumptions)	Free
S-3	Wastage beyond Four percent (4%) of the aforesaid theoretical consumption (S-1).	Penal Rate

### 1.13.2.3.3 RECONCILIATION OF MATERIALS

- The contractor shall submit a reconciliation statement of steel issued to him with each RA Bill.
- 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 materials are available with contractor's custody at site.
- At the time of submission of bills by the contractor, 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.
- The reference drawings for actual material consumption to be used for the purpose of reconciliation shall be drawings prepared by the BHEL and drawings approved by BHEL for fabrication works and such other drawings approved by BHEL. This shall also include the bar bending schedule prepared by the contractor and approved by BHEL.

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### 1.13.3 RECOVERY OF MATERIAL

If wastage exceeds the specified limit, the recovery of excess wastage shall be made from monthly RA Bill at the Penal Rate.

The penal rate shall be as follows:

Sl. No.	Description	Penal Rate
A.	<b>REINFORCEMENT STEEL</b> Cold rolled steel, high strength deformed bar or mild steel round bars including earthing rod MS round	Rs. 36,908/- per MT + GST and/ or other taxes and duties.
B.	<b>STRUCTURAL STEEL</b> MS plates, MS flats, rolled steel joists, channels and angles, MS pipes, Chequered plates etc in sizes and lengths as available	Rs. 45,486/- per MT + GST and/ or other taxes and duties.
C.	<b>CEMENT (OPC/ PPC/ PSC)</b>	Rs. 5,578/- per MT + GST and/ or other taxes and duties.

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## VOLUME-IA PART-II CHAPTER-1

### **CORRECTIONS / REVISIONS IN SPECIAL CONDITIONS OF CONTRACT, GENERAL CONDITIONS OF CONTRACT AND FORMS & PROCEDURES**

#### **Sl.No.: 1**

Clause 4.1.11 of SCC is deleted.

#### **Sl. No.: 2**

#### **OCCUPATIONAL HEALTH, SAFETY & ENVIRONMENT MANAGEMENT/ QUALITY ASSURANCE PROGRAMME**

The following clauses in Occupational Health, Safety & Environment Management / Quality Assurance Programme published in Chapter-IX of Special Conditions of Contract (Volume I Book-II) is revised as under.

#### **Chapter IX Clause 9.1 is modified as below:**

Contractor will comply with HSE (Health, Safety & Environment) requirements of BHEL as per the "HSE Plan for Site Operations by Subcontractor" (Document No. HSEP: 14 Rev 01) enclosed.

Chapter IX Clause 9.1.1 to 9.1.25 stands deleted.

Chapter IX Clause 9.2 to 9.62 stands deleted.

#### **Sl No.: 3**

#### **Clause No. 10.5 on RA Bill Payments, in Special Conditions of Contract (SCC), Volume- IB, Book- II, is revised as under:**

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

#### **Sl No.: 4**

#### **Earnest Money Deposit (EMD) clause 1.9 in General Conditions of Contract (GCC) (Volume I Book-II) is revised as under.**

#### **1.9 EARNEST MONEY DEPOSIT**

- 1.9.1 Every tenderer shall submit the prescribed amount of Earnest Money Deposit (EMD) to BHEL PSSR, only in the following forms: -
- i. Electronic Fund Transfer credited in BHEL account (before tender opening)
  - ii. Through Online EMD payment portal of BHEL with SBI (before tender opening) by following steps as below:-

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1. Visit [www.onlinesbi.com](http://www.onlinesbi.com) -> Go to State Bank Collect (In the tab section)
  2. Click Check box to proceed for payment -> Click on Proceed
  3. Under State of Corporate/ Institution -> Select Tamilnadu
  4. Under Type of Corporate/ Institution -> Select PSU – Public Sector Undertaking -> Go
  5. Under PSU – Public Sector Undertaking Name -> Select BHEL PSSR CHENNAI and Submit
  6. Under Select Payment Category -> SCT TENDER EMD & TENDER FEES
- iii. Banker's cheque or Pay order or Demand Draft in favour of 'Bharat Heavy Electricals Limited' (along with offer) and payable at Chennai.
- iv. Fixed Deposit Receipt (FDR) issued by Scheduled Banks/ Public Financial Institutions as defined in the Companies Act (FDR should be in the name of the Contractor, a/c BHEL) along with the offer.
- v. In case EMD amount is more than Rs. Two Lakhs, Tenderer has the option to submit Rs. Two lakhs in the forms described above in clause no. 1.9.1. (i) to (iv) and the remaining amount over and above Rs. Two Lakhs in the form of Bank Guarantee from Scheduled Bank (along with the Offer).

**Note:**

- a) Proforma of Bank Guarantee (in lieu of Earnest Money)- Form WAM 23 is enclosed with this Tender.
- b) The Bank Guarantee shall be valid for at least six months from the due date of tender submission mentioned in the Notice Inviting Tender.
- c) Date of Expiry of Claim shall be as given in Proforma of Bank Guarantee (in lieu of Earnest Money)- Form WAM 23.

**Bank Details for the purpose of Taking EMD**

Name and Address of Beneficiary:	Bharat Heavy Electricals Ltd. EVR Periyar Building, 690, Anna Salai, Nandanam, Chennai - 600035
Name of Bank:	State Bank Of India
Bank Branch Address:	SBI Saidapet Branch, EVR Periyar Building, Nandanam, Anna Salai, Chennai - 600035
IFSC Code :	SBIN0000912
Account No. :	10610819499

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## Details for SFMS (Structured Financial Messaging System) transmission of BG

Bank and Branch	SBI TFCPC Branch
Branch Code	5056
IFSC Code	SBIN0005056

- 1.9.2 EMD shall not carry any interest.
- 1.9.3 EMD by the Tenderer will be forfeited as per NIT Conditions, if:
- i. After opening the tender and within the offer validity period, the Tenderer revokes his tender or makes any modification in his tender which is not acceptable to BHEL.
  - ii. The Contractor fails to deposit the required Security deposit or commence the work within the period as per LOI/Contract.
- 1.9.4 EMD given by all unsuccessful tenderers will be refunded normally within 15 days of award of work.
- 1.9.5 EMD of successful tenderer will be retained as part of Security Deposit.
- 1.9.6 EMD by the tenderer shall be withheld in case any action on the tenderer is envisaged under the provisions of extant" Guidelines on Suspension of Business dealings with suppliers/contractors" and forfeited / released based on the action determined under these guidelines.

## **SI No.: 5**

### **SECURITY DEPOSIT**

The **SECURITY DEPOSIT** (SD) clause 1.10 published in General Conditions of Contract (Volume I Book-II) is revised as under.

#### **1.10 Security Deposit:**

- 1.10.1 Upon acceptance of Tender, the successful Tenderer should deposit the required amount of Security Deposit for satisfactory completion of work, as given below:
- 1.10.2 The total amount of Security Deposit will be 5% of the contract value. EMD of the successful tenderer shall be converted and adjusted towards the required amount of Security Deposit.
- 1.10.3 The Security Deposit should be furnished before start of the work by the contractor.
- 1.10.4 Modes of deposit:
- 1.10.4.1 The balance amount to make up the required Security Deposit of 5% of the contract value may be furnished in any one of the following forms

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- i. Cash (as permissible under the extant Income Tax Act)
  - ii. Local cheques of Scheduled Banks (subject to realization)/ Pay Order / Demand Draft/ Electronic Fund Transfer in favour of BHEL
  - iii. Bank Guarantee from Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The Bank Guarantee format for Security Deposit shall be in the prescribed formats.
  - iv. Fixed Deposit Receipt issued by Scheduled Banks / Public Financial Institutions as defined in the Companies Act. The FDR should be in the name of the contractor, A/C BHEL, duly discharged on the back.
  - v. Securities available from Indian Post offices such as National Savings Certificates, Kisan Vikas Patras etc. (Certificates should be held in the name of Contractor furnishing the security and duly endorsed / hypothecated / pledged, as applicable, in favour of BHEL and discharged on the back)
- (Note: BHEL will not be liable or responsible in any manner for the collection of interest or renewal of the documents or in any other matter connected therewith)
- 1.10.5 At least 50% of the Security Deposit including the EMD should be deposited in any form as prescribed **before start of the work** and the balance 50% of the Security Deposit will be recovered by deducting 10% of the gross amount progressively from each running bills of the contractor till the total amount of the required Security Deposit is collected.
- 1.10.6 The recoveries made from running bills (cash deduction towards balance SD amount) will be released against submission of equivalent Bank Guarantee in the prescribed formats, but only once, before completion of work.
- 1.10.7 The Security Deposit shall not carry any interest.
- 1.10.8 If the value of work done at any time exceeds the contract value, the amount of Security Deposit shall be correspondingly enhanced and the excess Security Deposit due the enhancement shall be immediately deposited by the Contractor or recovered from payment/s due to the Contractor.
- 1.10.9
- 1.10.9.1 The validity of Bank Guarantees towards Security Deposit shall be initially upto the completion period as stipulated in the Letter of Intent/Award + 3 months, and the same shall be kept valid by proper renewal till the acceptance of Final Bills of the Contractor, by BHEL.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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1.10.9.2 Date of Expiry of Claim shall be as given in the prescribed formats for Bank Guarantee towards Security Deposit.

1.10.10 BHEL reserves the right of forfeiture of Security Deposit in addition to other claims and penalties in the event of the Contractor's failure to fulfill any of the contractual obligations or in the event of termination of contract as per terms and conditions of contract. BHEL reserves the right to set off the Security Deposit against any claims of other contracts with BHEL.

1.10.11 Penalty for Delayed Remittance of Security Deposit

If the contractor fails to furnish SD before start of work, in line with 1.10.3 above, Simple Interest against delayed remittance of the Security Deposit shall be deducted from the sub-contractor at the rate of SBI PLR + 2% on the value of 50% SD of the contract, for the delayed period (i.e., period between start of work and date of remittance of Initial SD, i.e., atleast 50% of SD). In case, the delayed period has different SBI PLR rates, Simple Interest shall be calculated based on different rates by considering the corresponding time period. On similar lines Penalty shall be levied for delayed remittance of Additional Security Deposit (if applicable).

Note: - Bank details & SFMS details provided above in Sl. No. 04 Earnest Money Deposit) may be used for the purpose of arranging Bank Guarantees towards Security Deposit / Additional Security Deposit also.

**Sl. No.: 6**

**Clause 2.7.2 and 2.7.3 in GCC regarding Rights of BHEL is revised as under:**

**2.7.2.**

2.7.2.1 To terminate the contract or withdraw portion of work and get it done through other agency, at the risk and cost of the contractor after due notice of a period of 14 days' by BHEL in any of the following cases:

- i. Contractor's poor progress of the work vis-à-vis execution timeline as stipulated in the Contract, backlog attributable to contractor including unexecuted portion of work does not appear to be executable within balance available period considering its performance of execution.
- ii. Withdrawal from or abandonment of the work by contractor before completion of the work as per contract.
- iii. Non-completion of work by the Contractor within scheduled completion period as per Contract or as extended from time to time, for the reasons attributable to the contractor.

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- iv. Termination of Contract on account of any other reason(s) attributable to Contractor.
- v. Assignment, transfer, subletting of Contract without BHEL's written permission.
- vi. Non-compliance to any contractual condition or any other default attributable to Contractor.

### **Risk & Cost Amount against Balance Work:**

Risk & Cost amount against balance work shall be calculated as follows: Risk & Cost Amount=  $[(A-B) + (A \times H/100)]$

Where,

A= Value of Balance scope of Work (\*) as per rates of new contract

B= Value of Balance scope of Work (\*) as per rates of old contract being paid to the contractor at the time of termination of contract i.e. inclusive of PVC & ORC, if any.

H = Overhead Factor to be taken as 5

In case (A-B) is less than 0 (zero), value of (A-B) shall be taken as 0 (zero).

\* Balance scope of work (in case of termination of contract):

Difference of Contract Quantities and Executed Quantities as on the date of issue of Letter for 'Termination of Contract', shall be taken as balance scope of Work for calculating risk & cost amount. Contract quantities are the quantities as per original contract. If, Contract has been amended, quantities as per amended Contract shall be considered as Contract Quantities.

Items for which total quantities to be executed have exceeded the Contract Quantities based on drawings issued to contractor from time to time till issue of Termination letter, then for these items total Quantities as per issued drawings would be deemed to be contract quantities.

Substitute / extra items whose rates have already been approved would form part of contract quantities for this purpose. Substitute / extra items which have been executed but rates have not been approved, would also form part of contract quantities for this purpose and rates of such items shall be determined in line with contractual provisions.

However, increase in quantities on account of additional scope in new tender shall not be considered for this purpose.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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NOTE: In case portion of work is being withdrawn at risk & cost of contractor instead of termination of contract, contract quantities pertaining to portion of work withdrawn shall be considered as 'Balance scope of work' for calculating Risk & Cost amount.

### **LD against delay in executed work in case of Termination of Contract:**

LD against delay in executed work shall be calculated in line with LD clause no. 2.7.9 of GCC, for the delay attributable to contractor. For limiting the maximum value of LD, contract value shall be taken as Executed Value of work till termination of contract.

Method for calculation of "LD against delay in executed work in case of termination of contract" is given below.

- i). Let the time period from scheduled date of start of work till termination of contract excluding the period of Hold (if any) not attributable to contractor = T1
- ii). Let the value of executed work till the time of termination of contract = X
- iii). Let the Total Executable Value of work for which inputs/fronTS were made available to contractor and were planned for execution till termination of contract = Y
- iv). Delay in executed work attributable to contractor i.e.  $T2 = [1 - (X / Y)] \times T1$
- v). LD shall be calculated in line with LD clause (clause 2.7.9) of the Contract for the delay attributable to contractor taking "X" as Contract Value and "T2" as period of delay attributable to contractor.

2.7.2.2 In case Contractor fails to deploy the resources as per requirement, BHEL can deploy own/hired/otherwise arranged resources at the risk and cost of the contractor and recover the expenses incurred from the dues payable to contractor. Recoveries shall be actual expenses incurred plus 5% overheads or as defined in TCC.

### 2.7.3 **Recoveries arising out of Risk & Cost and LD or any other recoveries due from Contractor**

Following sequence shall be applicable for recoveries from contractor:

- a) Dues available in the form of Bills payable to contractor, SD, BGs against the same contract.
- b) Demand notice for deposit of balance recovery amount shall be sent to contractor, if funds are insufficient to effect complete recovery against dues indicated in (a) above.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- c) If contractor fails to deposit the balance amount to be recovered within the period as prescribed in demand notice, following action shall be taken for balance recovery:
  - i) Dues payable to contractor against other contracts in the same Region shall be considered for recovery.
  - ii) If recovery cannot be made out of dues payable to the contractor as above, balance amount to be recovered, shall be informed to other Regions/Units for making recovery from the Unpaid Bills / Running Bills / SD / BGs / Final Bills of contractor.
  - iii) In-case recoveries are not possible with any of the above available options, Legal action shall be initiated for recovery against contractor.

### **Sl. No.: 7**

**In addition to clause 2.7.9 of General Conditions of Contract (GCC), a New clause 2.7.9.1 is added as below.**

#### **2.7.9.1 Penalty for Intermediate Milestones**

- 2.7.9.1.1 M1 and M2 shall be intermediate Milestones for this work.
- 2.7.9.1.2 In case of slippage of these identified Intermediate Milestones, Delay Analysis shall be carried out on achievement of each of these two Intermediate Milestones in reference to Form 14.
- 2.7.9.1.3 In case delay in achieving M1 milestone is solely attributable to the contractor, 0.5% per week of executable contract value\* limited to Maximum 2% of executable contract value will be withheld.
- 2.7.9.1.4 In case delay in achieving M2 milestone is solely attributable to the contractor, 0.5% per week of executable contract value\* limited to maximum 3% of executable contract value will be withheld.
- 2.7.9.1.5 Amount already withheld, if any, against slippage of M1 milestone, shall be released only if there is no delay attributable to contractor in achievement of M2 milestone.
- 2.7.9.1.6 Amount required to be withheld on account of slippage of identified intermediate milestone(s) shall be withheld out of respective milestone payment and balance amount (if any) shall be withheld @10% of RA Bill amount from subsequent RA Bills.
- 2.7.9.1.7 Final deduction towards LD (if applicable), on account of delay attributable to contractor shall be based on final delay analysis on completion / closure of contract. Withheld amount, if any due to slippage of intermediate milestones shall be adjusted against LD or released as the case may be.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- 2.7.9.1.8 In case of termination of contract due to any reason attributable to contractor before completion of work, the amount already withheld against slippage of intermediate milestones shall not be released and be converted in to recovery.

Note: \* Executable contract value-value of work for which inputs/fronfs were made available to contractor and were scheduled for execution till the date of achievement of that milestone.

### **Sl. No.: 8**

The OVERRUN COMPENSATION (ORC) clause 2.12 published in General Conditions of Contract (Volume I Book II) is revised as under.

#### **2.12 OVERRUN COMPENSATION (ORC)**

- 2.12.1 **ORC during original contract period:** No ORC shall be applicable during the original contract period.
- 2.12.2 **ORC during extended period for the reasons solely attributable to contractor:** No ORC shall be applicable during the extended period granted for the reasons solely attributable to contractor and work executed during this period shall be paid as per original contract rates.
- 2.12.3 **ORC during extended period for the reasons not attributable to contractor:** ORC shall be payable as per following procedure:
- 2.12.3.1 For initial period of twelve months of extended period, ORC rate applicable over executed value shall be 5%. For every subsequent period of twelve months, ORC rate shall be further increased by 5% over the previous rate. For example, ORC rates applicable for initial period of 12 months and subsequent period of 12 months are given below.

Sl. No.	Extended Period for the reasons attributable to BHEL	ORC rate applicable over executed value
1	First 12 months	5%
2	13 <sup>th</sup> - 24 <sup>th</sup> month and so on	10.25% $\{[(1.05 \times 1.05)-1] \times 100\}$

This process of increasing ORC rate for each subsequent period of 12 months shall continue till applicability of ORC.

- 2.12.3.2 On completion of original contract period as well as on completion of each subsequent period of twelve months i.e. at the time of change in applicable ORC rate, Delay Analysis shall be carried out and percentage shortfall attributable to both BHEL & Contractor shall be calculated.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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2.12.3.3 For the purpose of calculation of ORC, executed value of work in the month shall be divided in Part-1 and Part-2 in proportion of percentage shortfall attributable to BHEL and contractor respectively, based on the last delay analysis as worked out in 2.12.3.2.

ORC shall be payable only on Part-1 and no ORC shall be payable on Part-2.

Value of Part-1 shall be further limited to the value of actual inputs provided by BHEL i.e. "Plan - Shortfall attributable to BHEL" for the month, as per Form-14 for calculation of ORC.

2.12.3.4 Payment of ORC amount shall be further regulated as follows:

- (i) 50% of the ORC is allocated for deployment of matching resources (with weightages) agreed as per the joint programme drawn vide 2.11.4. ORC Payment against resources shall be calculated in proportion to percentage of resources actually deployed w.r.t. planned resources, as per Form-14.
- (ii) 50% of ORC is allocated for achieving of planned progress agreed as per the joint programme drawn vide 2.11.4. ORC Payment shall be reduced in proportion to percentage shortfall attributable to contractor w.r.t. "Plan - Shortfall attributable to BHEL" for the month, as per Form-14.

2.12.3.5 The maximum amount of ORC payable for the month shall be limited to Rs. 5,00,000/-.

2.12.3.6 In case, there is no shortfall attributable to contractor for the month and also contractor has deployed the resources as agreed in Form-14 but ORC amount payable for the month worked out as per procedure mentioned in clause 2.12.3.3, 2.12.3.4 and 2.12.3.5, is less than Rs.1,00,000/-, then ORC amount payable for the month shall be Rs.1,00,000/- otherwise ORC amount payable for the month shall remain same.

2.12.3.7 In case execution is on **HOLD** (Other than Force Majeure), ORC shall be payable as per following:

- i). Contractor has not been permitted by BHEL to de-mobilize
  - a) ORC amount of Rs. 1,00,000/- per month shall be applicable during the period of HOLD provided resources as planned are deployed (not demobilised) during the period of hold.
  - b) Subsequent to lifting of HOLD, Period of HOLD shall not be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
- ii). Contractor has been permitted to demobilize and to remobilize after lifting of HOLD
  - a) No ORC shall be payable to contractor for the period of HOLD.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- b) Subsequent to lifting of HOLD, Period of HOLD shall not be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
- 2.12.3.8 In case **Force Majeure** is invoked:
- (i) No ORC shall be applicable during the period of Force Majeure.
  - (ii) Subsequent to revocation of Force Majeure, period of Force Majeure shall be excluded in calculation of period for deciding applicable ORC rate as per clause 2.12.3.1.
- 2.12.4 Applicability of ORC: ORC shall not be applicable for following activities.
- (i) Area cleaning, removal of temporary structures and return of scrap.
  - (ii) Punch list points / pending points liquidation pending due to reasons attributable to contractor
  - (iii) Submission of "As built Drawing"
  - (iv) Material Reconciliation
  - (v) Completion of Contract Closure formalities like HR Clearance/ No dues from various dept./ Statutory Authorities etc.
- 2.12.5 Total Over Run Compensation shall be limited to 10% of the cumulatively executed contract value till the month (excluding Taxes and Duties if payable extra). For this purpose, executed contract value excludes PVC, ORC and Extra/Supplementary Works.

### **SI No.: 9**

#### **Clauses 2.13.1, 2.13.6, 2.13.7 in GCC on Interest Bearing Recoverable Advances are revised as under**

Clauses 2.13.1, 2.13.6 & 2.13.7 in GCC are revised as under:

Clause 2.13.1 in GCC is revised as "Normally no advance payment shall be payable to the contractor. Mobilization advance payment in exceptional circumstances shall be interest bearing and secured through a Bank Guarantee and shall be limited to a maximum of 5% of contract value. This 'Interest Bearing Recoverable Advance' shall be payable in not less than two installments with any of the installment not exceeding 60% of the total eligible advance".

Clause 2.13.6 in GCC is revised as "The rate of interest applicable for the above advances shall be the Base rate of State Bank of India prevailing at the time of disbursement of the advance + 6%, and such rate will remain fixed till the total advance amount is recovered".

Clause 2.13.7 in GCC is revised as "Unadjusted amount of advances paid shall not exceed 5% of the total contract value at any point of time. Recovery of advances shall be made progressively from each Running Bill such that the advance amounts paid along with the interest is fully recovered by the time the

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

contractor's billing reaches 90% of contract value."

### **Sl. No.: 10**

**Clause 2.14.1 in GCC regarding Quantity Variation in Genreal Conditions of Contract (GCC), Volume-1C, Book- II is revised as under:**

2.14.1 "The quantities given in the contract are tentative and may change to any extent (both in plus side and minus side). The derived item rates for individual items shall remain firm irrespective of any variations in the individual quantities. No compensation becomes payable in case the variation of the final executed contract value is within the limit of Minus (-) 30% of awarded contract value."

### **Sl. No.: 11**

#### **PRICE VARIATION COMPENSATION (PVC)**

The PRICE VARIATION COMPENSATION (PVC) clause 2.17 published in General Conditions of Contract (Volume I Book-II) is revised as under.

#### **2.17 PRICE VARIATION COMPENSATION**

2.17.1 In order to take care of variation in cost of execution of work on either side, due to variation in the index of LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS, Price Variation Formula as described herein shall be applicable (only for works executed during extended period, if any, subject to other conditions as described in this section).

2.17.2 **85%** component of executed Contract Value shall be considered for PVC calculations and remaining 15% shall be treated as fixed component. The basis for calculation of price variation in each category, their component, Base Index, shall be as under:

Sl. No.	CATEGORY	BASE INDEX	PERCENTAGE COMPONENT ('K')				
			CIVIL PACKAGES (See Note A/B/C)			MECHA NICAL PACKA GES	Electrical, C&I, Material Management / Handling and other labour oriented packages
			A	B**	C		
i)	LABOUR (ALL CATEGORIES)	'MONTHLY ALL-INDIA AVERAGE CONSUMER PRICE INDEX NUMBERS FOR INDUSTRIAL WORKERS' published by Labour Bureau, Ministry of Labour and Employment, Government of India. (Website: labourbureau.nic.in)	40	25	30	65	80

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

ii)	HIGH SPEED DIESEL OIL	Name of Commodity: HSD Commodity code: 1202000005 ( <b>See Note E</b> )	5	3	5	5	5
iii)	WELDING ROD	Name of Commodity: MANUFACTURE OF BASIC METALS Commodity code: 1314000000 ( <b>See Note E</b> )				15	
iv)	CEMENT	Name of Commodity: ORDINARY PORTLAND CEMENT Commodity code: 1313050003 ( <b>See Note E</b> )		20	30		
v)	STEEL (Structural and Reinforcement Steel)	Name of Commodity: MILD STEEL: LONG PRODUCTS Commodity code: 1314040000 ( <b>See Note E</b> )		25			
vi)	ALL OTHER MATERIALS (Other than Cement & Steel)	Name of Commodity: ALL COMMODITIES Commodity code: 1000000000 ( <b>See Note E</b> )	40	12	20		

**Note: A) Cement & Steel: Free Issue (BHEL Scope)**

**B) Cement & Steel: In Contractor Scope**

**C) Cement in Contractor Scope, and Steel is Free Issue (BHEL Scope)**

**D) For Composite packages (i.e. Civil + Mechanical + Electrical and / or CI or Civil + Mechanical or Mechanical + Electrical and / or CI), the Component ('K') for various categories shall be as per respective packages as above**

**E) As per the 'MONTHLY WHOLE SALE PRICE INDEX' for the respective Commodity and Type, published by Office of Economic Adviser, Ministry of Commerce and Industry, Government of India. (Website: [http://www.eaindustry.nic.in/download\\_data\\_0405.asp](http://www.eaindustry.nic.in/download_data_0405.asp)). Revisions in the index or commodity will be re adjusted accordingly.**

### 2.17.3 Void

2.17.4 Payment / recovery due to variation in index shall be determined on the basis of the following notional formula in respect of the identified component ('K') viz LABOUR, HIGH SPEED DIESEL OIL, WELDING ROD, CEMENT, STEEL, MATERIALS.

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

Where

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

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

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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

$X_N$  = Revised Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials for the billing month under consideration

$X_o$  = Index for Labour, High Speed Diesel Oil, Welding Rod, Cement, Steel and Materials as on the Base date.

**2.17.5 Base date shall be the calendar month of the schedule completion date (i.e. Actual Start date + Scheduled Contractual Completion period as per Letter of Intent / award and / or work order).**

2.17.6 PVC shall not be payable for the ORC amount, Supplementary / Additional Items, Extra works. However, PVC will be payable for items executed under quantity variation of BOQ items under originally awarded contract.

2.17.7 The contractor shall furnish necessary monthly bulletins in support of the requisite indices from the relevant websites along with his Bills.

2.17.8 The contractor will be required to raise the bills for price variation payments on a monthly basis along with the running bills irrespective of the fact whether any increase / decrease in the index for relevant categories has taken place or not. In case there is delay in publication of bulletins (final figure), the provisional values as published can be considered for payments and arrears shall be paid / recovered on getting the final values.

2.17.9 PVC shall be applicable only, during extended period of contract (if any) after the scheduled completion period and for the portion of work delayed/backlog for the reasons not attributable to the contractor.

However, the total Quantum of Price Variation Amount payable/recoverable shall be regulated as follows:

- i) For the portion of shortfall/backlog not attributable to contractor, PVC shall be worked out on the basis of indices applicable for the respective month in which work is done. Base index shall be applicable as defined in clause 2.17.5
- ii) In case of Force Majeure, the PVC shall be regulated as per (a) or (b) below.
  - a) Force Majeure is invoked before “Base Date” / “revised base date” (as explained below) OR immediately after “base date” / “revised base date” in continuation (i.e. during the period when PVC is not applicable):
    1. Base date shall be revised: Revised Base date = Previous base date + duration of Force Majeure.  
No PVC will be applicable for the work done till revised base date.
    2. PVC will be applicable for the work done after “base date”/” revised date” as the case may be (during extended period when delay is not attributable

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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- to contractor). PVC shall be worked out on the basis of indices applicable for the respective month in which work is done with base index as on “base date”/ “revised base date” as the case may be.
- b) Force Majeure is invoked after “base date”/ “revised base date” as the case may be (during extended period when delay is not attributable to contractor).
1. PVC shall be applicable for the work done after revocation of Force Majeure.
  2. PVC for the work done after revocation of Force Majeure shall be worked out on the basis of indices applicable for the respective month on which work is done excluding the effect of change in indices during total period of Force Majeure(s) invoked after “base date” / “revised base date” as the case may be. Base index shall be taken as on “base date” / “revised base date” as the case may be.
- iii) The total amount of PVC shall not exceed 15% of the cumulatively executed contract value. Executed Contract value for this purpose is exclusive of PVC, ORC, Supplementary / Additional items and Extra works except items due to quantity variation.

### **Sl. No.: 12**

**Clause 2.21 “ARBITRATION” of GCC has been amended as follows:**

#### **2.21 ARBITRATION & CONCILIATION**

##### **2.21.1 ARBITRATION:**

2.21.1.1 Except as provided elsewhere in this Contract, in case Parties are unable to reach amicable settlement (whether by Conciliation to be conducted as provided in Clause 2.21.2 herein below or otherwise) in respect of any dispute or difference; arising out of the formation, breach, termination, validity or execution of the Contract; or, the respective rights and liabilities of the Parties; or, in relation to interpretation of any provision of the Contract; or, in any manner touching upon the Contract (hereinafter referred to as the ‘Dispute’), then, either Party may, commence arbitration in respect of such Dispute by issuance of a notice in terms of section 21 of the Arbitration & Conciliation Act, 1996 (hereinafter referred to as the ‘Notice’). The Notice shall contain the particulars of all claims to be referred to arbitration in sufficient detail and shall also indicate the monetary amount of such claim. The arbitration shall be conducted by a sole arbitrator to be appointed by the Head of the BHEL Power Sector Region issuing the Contract within 60 days of receipt of the complete Notice. The language of arbitration shall be English.

The Arbitrator shall pass a reasoned award.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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Subject as aforesaid, the provisions of Arbitration and Conciliation Act 1996 (India) or statutory modifications or re-enactments thereof and the rules made thereunder as in force from time to time shall apply to the arbitration proceedings under this clause. The seat of arbitration shall be Chennai (the place from where the contract is Issued). The Contract shall be governed by and be construed as per provisions of the laws of India. Subject to this provision 2.21.1.1 regarding ARBITRATION, the principal civil court exercising ordinary civil jurisdiction over the area where the seat of arbitration is located shall have exclusive jurisdiction over any DISPUTE to the exclusion of any other court.

2.21.1.2 In case of Contract with Public Sector Enterprise (PSE) or a Government Department, the following shall be applicable:

In the event of any dispute or difference relating to the interpretation and application of the provisions of commercial contract(s) between Central Public Sector Enterprises (CPSEs)/ Port Trusts inter se and also between CPSEs and Government Departments/Organizations (excluding disputes concerning Railways, Income Tax, Customs & Excise Departments), such dispute or difference shall be taken up by either party for resolution through AMRCD (Administrative Mechanism for Resolution of CPSEs Disputes) as mentioned in DPE OM No. 4(1)/2013-DPE(GM)/FTS-1835 dated 22-05-2018 as amended from time to time.

2.21.1.3 The cost of arbitration shall initially be borne equally by the Parties subject to the final allocation thereof as per the award/order passed by the Arbitrator.

2.21.1.4 Notwithstanding the existence of any dispute or differences and/or reference for the arbitration, the Contractor shall proceed with and continue without hindrance the performance of its obligations under this Contract with due diligence and expedition in a professional manner unless the dispute inter-alia relates to cancellation, termination or short-closure of the Contract by BHEL.

### **2.21.2 CONCILIATION:**

If at any time (whether before, during or after the arbitral or judicial proceedings), any Disputes (which term shall mean and include any dispute, difference, question or disagreement arising in connection with construction, meaning, operation, effect, interpretation or breach of the agreement, contract), which the Parties are unable to settle mutually, arise inter-se the Parties, the same may, be referred by either party to Conciliation to be conducted through Independent Experts Committee (IEC) to be appointed by competent authority of BHEL from the BHEL Panel of Conciliators.

Notes:

1. No serving or a retired employee of BHEL/Administrative Ministry of BHEL shall be included in the BHEL Panel of Conciliators.

## TECHNICAL CONDITIONS OF CONTRACT (TCC)

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2. Any other person(s) can be appointed as Conciliator(s) who is/are mutually agreeable to both the parties from outside the BHEL Panel of Conciliators.

The proceedings of Conciliation shall broadly be governed by Part-III of the Arbitration and Conciliation Act 1996 or any statutory modification thereof and as provided in Procedure 2.3 to this GCC. The Procedure 2.3 together with its Formats will be treated as if the same is part and parcel hereof and shall be as effectual as if set out herein in this GCC.

The Contractor hereby agrees that BHEL may make any amendments or modifications to the provisions stipulated in the Procedure 2.3 to this GCC from time to time and confirms that it shall be bound by such amended or modified provisions of the Procedure 2.3 with effect from the date as intimated by BHEL to it.

Note: Procedure 2.3 that forms the part of Forms and Procedures is published as Chapter 12 in Volume 1A Part II of this booklet (Volume-I Book-I).

### **2.21.3 No Interest payable to Contractor**

Notwithstanding anything to the contrary contained in any other document comprising in the Contract, no interest shall be payable by BHEL to Contractor on any moneys or balances including but not limited to the Security Deposit, EMD, Retention Money, RA Bills or the Final Bill, or any amount withheld and/or appropriated by BHEL etc., which becomes or as the case may be, is adjudged to be due from BHEL to Contractor whether under the Contract or otherwise.

### **SI No: 13**

Procedure 2.3 that forms the part of Forms and Procedures is published as Chapter 12 in Volume 1A Part II of this booklet (Volume-I Book-I).

### **SI. No.: 14**

Existing format on Monthly Plan Review with Contractor, as available in Form No F-14 of Volume ID Forms and procedure stands Deleted. Form No.- F-14 (Rev 01) is enclosed as Volume IA Part II Chapter 08.

### **SI No.: 15**

Existing format on Monthly Performance Evaluation of Contractor, as available in Form No F-15 of Volume ID Forms and procedure stands Deleted. Form No.- F-15 (Rev 02) is enclosed as Volume IA Part II Chapter 09.

### **SI No: 16**

**Clause 2.22 in GCC regarding Retention Amount is revised as under:**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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## 2.22 Performance Security Deposit

2.22.1 After award of work, Vendor shall submit 5% of the contract value towards Performance Security Deposit, in the form of (a) or (b) below.

(a) CASH (DD/ Online payment), 5% of the contract Value towards Performance Security Deposit, before commencing the contract

(or)

(b) Recovery 5% from Each Running Bill towards Performance security deposit.

(Note: Subcontractor has to choose either Option (a) or (b) before issue of Detailed LOI).

(c) However, Performance Security Deposit on part of PVC will be recovered at the rate of 5% from every running bill towards performance security deposit.

2.22.2 Refund of Performance Security Deposit:

a) 50% of Performance Security Deposit shall be released along with the final bill.

b) Balance 50% will be released after completion of Performance Guarantee Period (i.e., after expiry of Guarantee period), provided all the defects noticed during the guarantee period have been rectified to the satisfaction of BHEL Site Engineer/ BHEL Construction Manager, and after deducting all expenses/ other amounts due to BHEL under the contract/ other contracts entered into by BHEL with them. This portion of Performance Security Deposit, amount can be released on commencement of the Guarantee Period, on submission of equivalent Bank Guarantee.

### **Sl. No.: 17**

The chapter Reverse auction procedure published in 'Forms and Procedures' of Volume I Book-II stands deleted (Explanation: Reverse auction is not applicable for this Tender).

### **Sl. No.: 18**

Existing format on BANK GUARANTEE FOR SECURITY DEPOSIT as available in Form No F-11 (Rev 00) of Volume ID Forms and Procedure stands deleted. Refer Proforma of Bank Guarantee (in lieu of Security Deposit)- Form WAM 22 provided as Volume IA Part II Chapter 11.

### **Sl No.: 19**

Existing format for Integrity Pact, as available in Volume ID Forms and procedure stands Deleted. Revised Format is enclosed as as Volume IA Part II Chapter 13.

### **Sl No.: 20**

Existing format on No Deviation Certificate, as available in Form No F-03 of Volume ID Forms and procedure stands Deleted. Revised Format is enclosed as Volume IA Part II Chapter 14.

### **Sl. No.: 21**

# TECHNICAL CONDITIONS OF CONTRACT (TCC)

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## **PRICE BID OPENING**

**Clause 1.6 (v) in General Conditions of Contract (Volume IC Book-II) regarding Price Bid opening is revised as under.**

1.6 (v) Price Bids submitted in E-Procurement portal <https://www.bhel.abcpurchase.com> by the shortlisted bidders only shall be opened.

## **SI No.: 22**

Clause 2.15.5 of GCC in Extra Works is revised as under:

**2.15.5:** After eligibility of extra works is established and finally accepted by BHEL engineer / designer, payment will be released on competent authority's approval at the following rate.

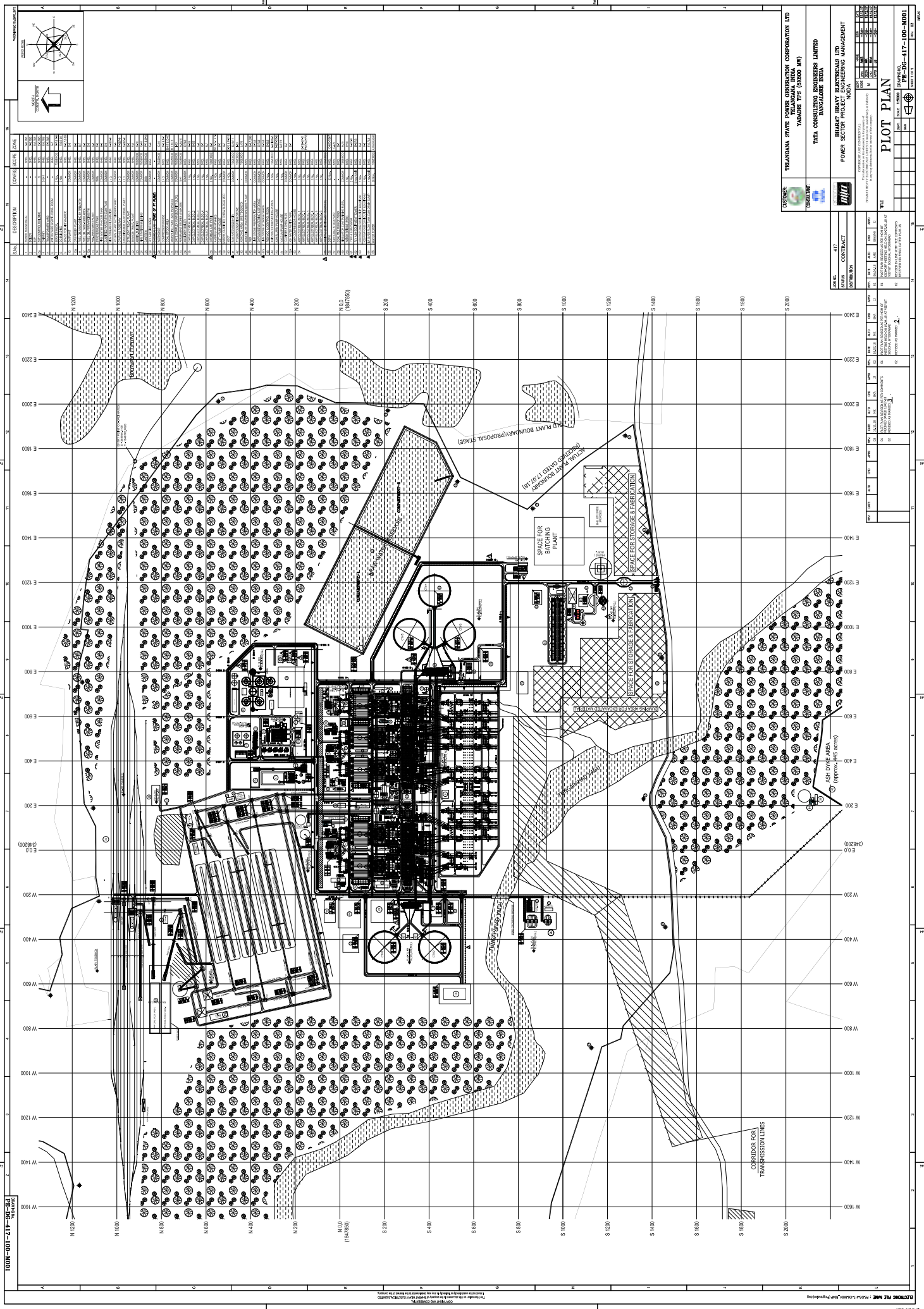
### **MAN-HOUR RATE FOR ELIGIBLE EXTRA WORKS:**

Single composite average labour man-hour rate, including overtime if any, supervision, use of tools and tackles and other site expenses and incidentals, consumables for carrying out any major rework / repairs / rectification / modification / fabrication as certified by site as may arise during the course of erection, testing, commissioning or extra works arising out of transit, storage and erection damages, payment, if found due will be at Rs 108/- per man hour.

**VOLUME-IA PART – II**  
**CHAPTER 2 to 14**

Chapter 2 to 14 in next 1252 pages as below

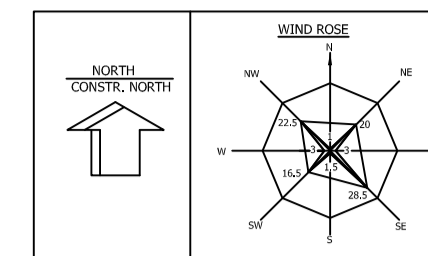
Chapter 2	Drawings	04 pages
Chapter 3	Bore Log Data Sheet	45 pages
Chapter 4	Technical Specifications	1063 pages
Chapter 5	Technical Specification and drawings for Labour Colony	10 pages
Chapter 6	T&P Hire Charges	14 pages
Chapter 7	“HSE Plan for Site Operations by Subcontractor” (Document No. HSEP: 14 Rev01)	82 pages
Chapter 8	Format for Form no.: F-14 (Rev 01); Monthly Plan and Review with Contractors	05 pages
Chapter 09	Format for Form no.: F-15 (Rev 02); Monthly Performance Evaluation of contractor	06 pages
Chapter 10	Proforma for Bank Guarantee (in lieu of Earnest Money)	03 pages
Chapter 11	Pro forma for Bank Guarantee (in lieu of Security Deposit)	03 pages
Chapter 12	Procedure 2.3 of Arbitration & Conciliation	11 pages
Chapter 13	Integrity Pact	05 pages
Chapter 14	No Deviation Certificate	01 page

[illegible]

08 MO.	417	CONTRACT	
STATUS		CONTRACT	
DISTRICT		CONTRACT	
REC.	DATE	ACTD	APPD
01	01/01/15	01/01/15	01/01/15
02	02/01/15	02/01/15	02/01/15
03	03/01/15	03/01/15	03/01/15
04	04/01/15	04/01/15	04/01/15
05	05/01/15	05/01/15	05/01/15
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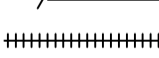
ELECTRONIC FILE NAME : F500-4







S.No.	DESCRIPTION	CONFIG
30	COAL STOCK AREA	COMMON
31	MARSHLING YARD (M/S TSGENCO)	COMMON
35	CHP ELECTRICAL BLDG. 1	1 No.
	CHP ELECTRICAL BLDG. 2	1 No.
	CHP ELECTRICAL BLDG. 3	1 No.
	CHP ELECTRICAL BLDG. 4	1 No.
	CHP ELECTRICAL BLDG. 5	1 No.
46	LIME STONE PREPARATION AREA	COMMON
47	GYPSUM DEWATERING & STORAGE	COMMON
47A	LIMESTONE STORAGE SHED	COMMON
56	DSPH	03 Nos.
57	RAW COAL STOCKYARD (EACH SHED DMN 225MX50MX23M)	
57A	DRIVE HOUSE	
58	COAL PILE RUN OF POND	01 No.

1. ALL DIMENSIONS AND CO-ORDINATES ARE IN METER UNLESS NOTED OTHERWISE.
2. THE FINISHED FLOOR LEVEL (FLL) OF POWER HOUSE BUILDING GROUND FLOOR IS EL. + 0.00M WHICH CORRESPONDS TO RL. 81.5M, I.E., 0.5M ABOVE FGL (RL81.0M) IN MAIN PLANT AREA.
3. CUSTOMER GRIDS HAVE BEEN CONVERTED TO PLANT GRIDS. REFERENCE POINT HAS BEEN INDICATED.
4. THE APPROACH ROADS & PIPE SUPPORTING STRUCTURES SHOWN IN THIS DRAWING ARE INDICATIVE ONLY. THE SAME WILL BE FURTHER UPDATED BASED ON FINALIZATION OF RESPECTIVE FACILITIES /BUILDINGS.
5. LOCATION AND SIZES OF VARIOUS BUILDINGS AND FACILITIES SHOWN ARE PRELIMINARY. THE SAME WILL BE FURTHER UPDATED BASED ON FINALIZATION OF RESPECTIVE FACILITIES /BUILDINGS.
6. ALL ROADS, DRAINS AND RESPECTIVE EMBANKMENTS ARE IN TSGENCO SCOPE; FOR NON PLANT BUILDINGS SCOPE/TPC DEMARCATION SHALL BE AS PER TECHNICAL MOM DATED 04/10/2017 & REVISED LOI ED/TPC/SE-III/EME-9/YADADRI APS , D.NO.102/17 dt. 17/10/2017.
7. IN ACCORDANCE TO THE REVISED LOI DATED 17/10/2017, THE REVISION 'R02' OF THE EARLIER DEVELOPED PLANT PLAN (ON THE BASIS OF MEETINGS/DISCUSSIONS HELD WITH THE CUSTOMER ON 02/11/15 AT YADADRI SITE AND ON 06/11/15 AT KAKATYIA SITE) HAS BEEN NOW SUPERCEDED WITH THE FRESH REVISION 'R00'.
8. GREEN BELT (CUTTER SCOPE) IS SHOWN INDICATIVELY.
9. RIVER WATER INTAKE UPON INFLANT RESERVOIR IS IN CUSTOMER SCOPE.

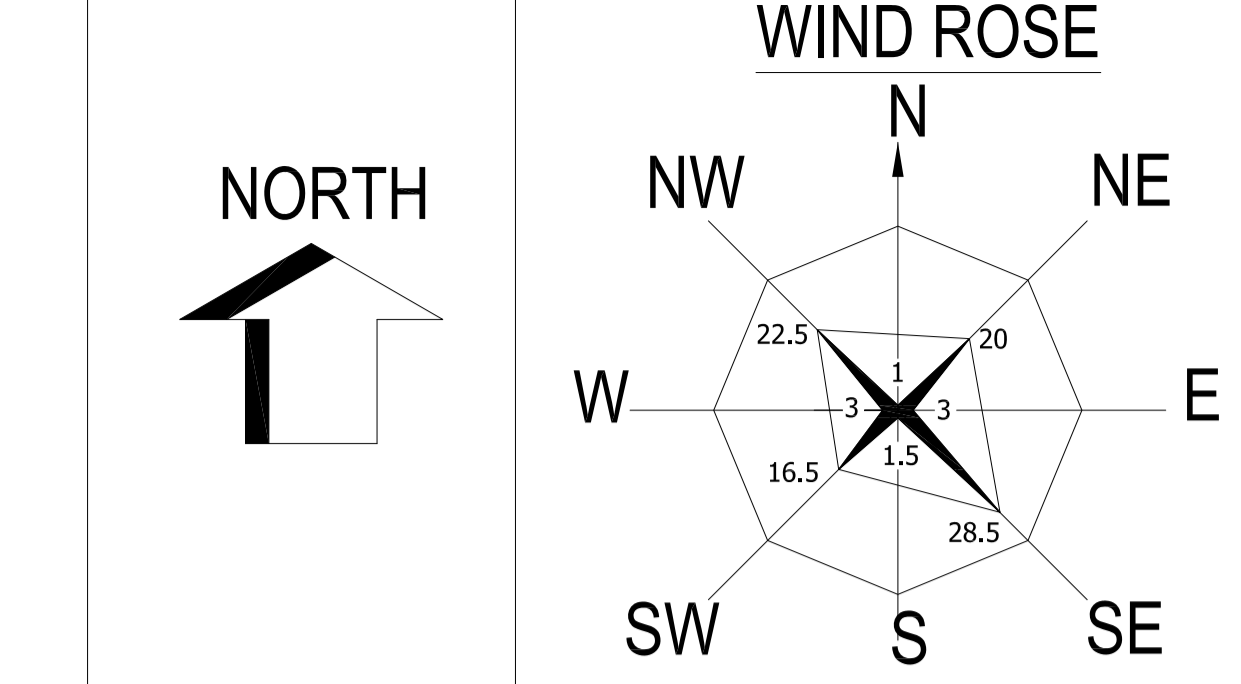
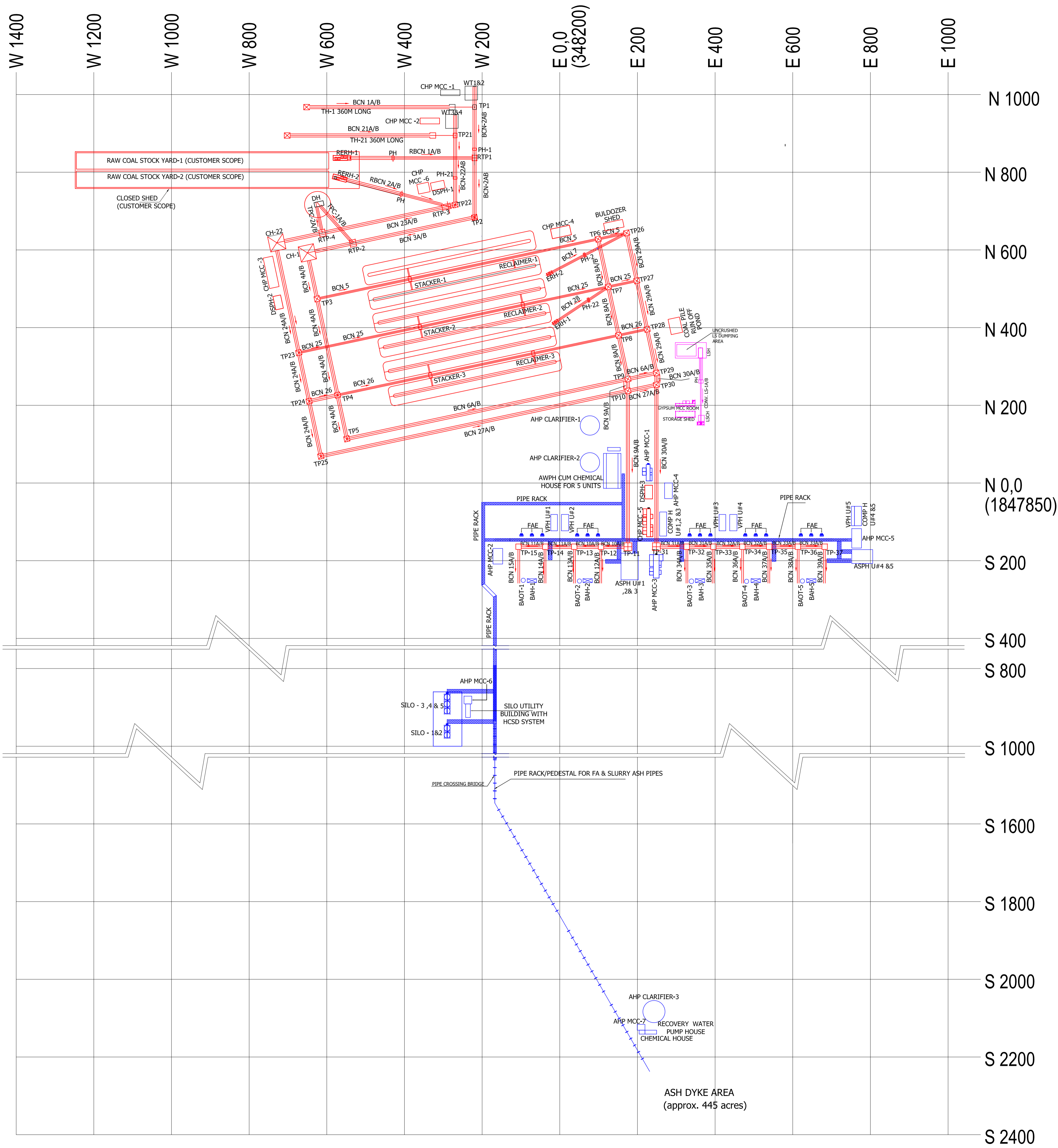
1. TENDER STAGE PLOT PLAN:TSGENCO\NLG\RF\VRPM\01
2. CONTOUR PLAN DRG
3. CHP FLOW DIAGRAM.

LEGEND	
RIVER	
ROAD	
RAILWAY TRACK	
GREEN BELT	

1. CABLE TRETTLE : \_\_\_\_\_

OWNER:	 TELANGANA STATE POWER GENERATION CORPORATION LIMITED																				
CONSULTANT:	 HYDERABAD, TELANGANA STATE TATA CONSULTING ENGINEERS LIMITED BANGALORE INDIA																				
PROJECT :	TSGENCO-YADRADRI TPS 5X800 MW AT VEERLAPALEM VILLAGE,DAMERACHERLA MANDAL NALGONDA DISTRICT, TELANGANA STATE																				
EPC CONTRACTOR:	BHARAT HEAVY ELECTRICALS LIMITED																				
CHP CONTRACTOR:	 BHEL-INDUSTRIAL SYSTEMS GROUP ISC-BANGALORE		<table><tr><td>DRN</td><td>NAME</td><td>SIGN</td><td>DATE</td></tr><tr><td>OUT</td><td></td><td></td><td>21.05.18</td></tr><tr><td>CHD</td><td>PR/SJR</td><td></td><td>22.05.18</td></tr><tr><td>APP</td><td>JS/RTR</td><td></td><td>22.05.18</td></tr></table>			DRN	NAME	SIGN	DATE	OUT			21.05.18	CHD	PR/SJR		22.05.18	APP	JS/RTR		22.05.18
DRN	NAME	SIGN	DATE																		
OUT			21.05.18																		
CHD	PR/SJR		22.05.18																		
APP	JS/RTR		22.05.18																		
PPD	 TITLE : GENERAL PLANT LAYOUT OF COAL HANDLING SYSTEM		NO. OF SHEETS SHEET. NO.																		
SCALE	BHEL JOB NO. IS-1-15-2001	BHEL-ISC DWG. NO. IS-0-PL-699-100-M001																			

01	04.12.18	Revised as per comments dtd.25.10.18	DUT	JS
R.No:	DATE	BRIEF RECORD	BY	A
REVISIONS				



**LEGENDS:**

**CHP (SHOWN IN RED)**




CHP -- COAL HANDLING PLANT  
TP -- TRANSFER POINT  
RTP -- RAW COAL TRANSFER POINT  
BCN -- BELT CONVEYOR  
RBCN -- RAW COAL BELT CONVEYOR  
TPC -- TAPPING CONVEYOR  
CH -- CRUSHER HOUSE  
DSPH -- DUST SUPPRESSION PUMP HOUSE  
WT -- WAGON TIPPLER  
DH -- DRIVE HOUSE  
RERH -- RAW COAL EMERGENCY RECLAIM HOPPER  
ERH -- EMERGENCY RECLAIM HOPPER  
TH -- TRACK HOPPER  
PH -- PENT HOUSE

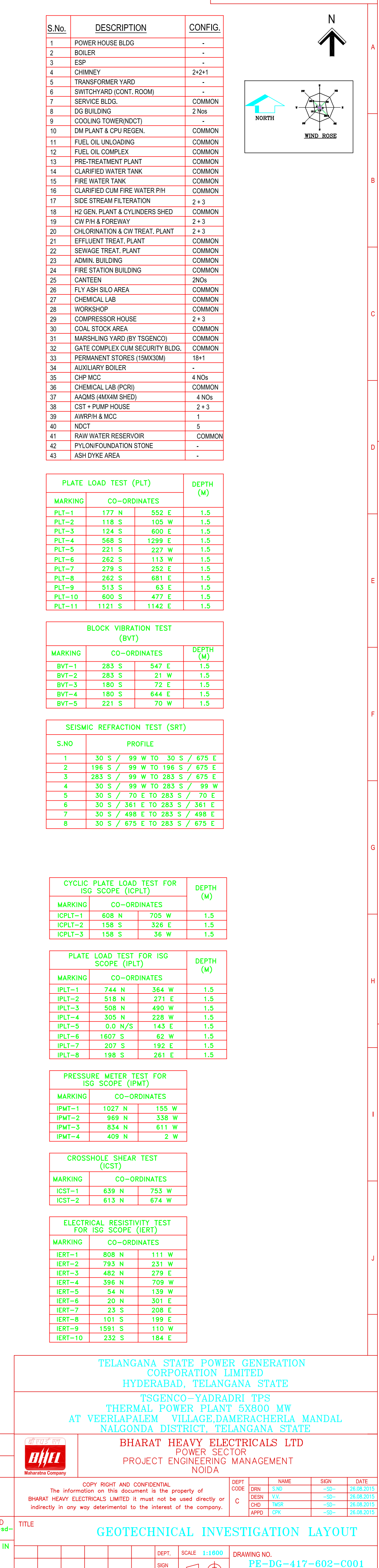
**AHP (SHOWN IN BLUE)**

AHP -- ASH HANDLING PLANT  
COMP H -- COMPRESSOR HOUSE  
ASPH -- ASH SLLURY PUMP HOUSE  
VPH -- VACCUM PUMP HOUSE  
FAE -- FLY ASH EQUIPMENT TOWER  
AWPH -- ASH WATER PUMP HOUSE  
BAH -- BOTTOM ASH HOPPER  
BAOT -- BOTTOM ASH OVERFLOW TANK  
AWPH -- ASH WATER PUMP HOUSE

**LHP & GHP ( SHOWN IN MAGENTA)**

LHP -- LIMESTONE HANDLING PLANT  
GHP -- GYPSUM HANDLING PLANT  
LSCH -- LIME STONE CRUSHER HOUSE  
LSH -- LIME STONE HOPPER

	CUSTOMER		TELANGANA STATE POWER GENERATION CORPORATION LTD.							
			HYDRERABAD – TELANGANA INDIA							
PROJECT		5X800MW YADADRI THERMAL POWER STATION UNIT # 1 TO 5								
 Maharashtra Company	BHARAT HEAVY ELECTRICALS LTD		DEPT CODE C	NAME	SIGN	DATE				
	POWER SECTOR			DRN	PRASHANTH	-S-	23.03.2018			
	PROJECT ENGINEERING MANAGEMENT			DESIN	SUSHANTH	-S-	23.03.2018			
	NEW DELHI			CHD	REDDY	-S-	23.03.2018			
				APPO	SANJAY	-S-	23.03.2018			
TITLE		CHP – AHP – LHP & GHP LAYOUT								
					DEPT.	SCALE	DRAWING NO.			
					SIGN					
					DATE					
	4			3			SHEET	01 OF 01	REV.	0



SIZE